

SOME LEGAL PROBLEMS CONCERNING GROUND WATER MANAGEMENT

An outline of a talk to be given by
Dr. Thomas R. Walenta, Bovay Engineers,
and Report Consultant to the
Puget Sound Task Force
at a Ground Water Symposium Presented by
the American Water Resources Association
in San Francisco on November 6, 1967

1. The need to classify all ground waters as public waters and subject to the regulation and control of the state.
 2. Problems associated with the determination of critical ground water areas.
 3. Should the prior appropriator be protected in his means of extracting ground water from a basin or aquifer.
 4. The artificial recharge of ground water areas and their use for storage purposes.
 5. The control and abatement of ground water pollution - The need for water quality programs.
 - * 6. Cooperation between state and federal agencies in development of all our water resources - a new form of creative federalism.
- * At some future time I hope to develop this last portion of the talk into another paper.

TRW

SOME LEGAL PROBLEMS CONCERNING GROUND WATER MANAGEMENT

A talk to be given by
Dr. Thomas R. Walenta, Bovay Engineers,
and Report Consultant to the
Puget Sound Task Force
at a Ground Water Symposium Presented by
the American Water Resources Association
in San Francisco on November 6, 1967

I am honored to have been invited here to speak to you about some legal problems concerning ground water resource management. Before proceeding with the discussion, it is only fitting that I introduce myself. I am a professor of law emeritus from the University of Idaho where I taught courses in water and related land resources for many years. I am now employed by the Bovay Engineers, Inc., working out of their Spokane, Washington, offices as a report consultant to Mr. Alfred T. Neale, Co-Chairman of the Puget Sound Task Force, now engaged in a Comprehensive Study of the Puget Sound and Adjacent Waters. The responsibility for my talk today is solely mine and in no manner is it intended to reflect the thoughts or opinions of either Mr. Neale or the Bovay Engineers, Inc..

The one recurring theme in the world today is resource development and planning. Thus we have programs for the development of outer space, of the under-developed nations of Africa and Asia, of anti-poverty projects at home as well as for the development of water programs not only for a state, but for a region and the nation. Development requires planning. Thus groups of experts, scholars, organizations at both the state and national level have dedicated themselves to this new art and science with a fervor born of the conviction that time is growing short to solve many of our problems connected with water and related land resources. Problems

have been generated by an ever expanding population with its consequent needs for water far beyond any before contemplated for this limited resource.

The results of this planning become the regulations and controls which a state or nation exercises over its water resources and constitutes its water policy. The success or failure of such a policy is measured by its ability to promote the most beneficial development, conservation, and optimum use of our water resources in the common interest. A program so broad requires the participation of experts from many fields, including but not limited to the hydrologist, engineer, political scientist, economist, sociologist and the lawyer.

The lawyer occupies an unique position in the matter of making water policy. This is true because the water policy of the state or nation is a statement of its water law. This fact becomes evident when one realizes that the law of water is in general a statement of the rules of conduct which governs persons, whether public or private, in their relationships with each other with respect to water. Water law so conceived thus becomes the water policy of a people as expressed by their customs, legislatures and courts. It is, therefore, the specific objective of the lawyer to guide water resource planning so that it will not fail by proposing a policy which is contrary to our system of laws and constitutions whether state or federal. In other words, water policy is not self-executing but requires a body of laws to make it function. It must fit within the legal framework of our state and federal governments so that our laws will remain orderly and rational with respect to all persons.

What then are some of the problems with respect to ground water management? I should like to take a moment of our time to list those problems which seem most important for our purposes:

1. The need to classify all ground waters as public waters and subject to the regulation and control of the state.
2. Problems associated with the determination of critical ground water areas.
3. Should the prior appropriator be protected in his means of extracting ground water from a basin or aquifer.
4. The artificial recharge of ground water areas and their use for storage purposes.
5. The control and abatement of ground water pollution - The need for water quality programs.
6. Cooperation between State and Federal agencies in development of all our water resources - A new form of creative federalism.

The need to classify all ground waters as public waters and subject to the regulation and control of the state.

The law has never been known as an exact science. Where the engineer uses a "T" square and a "triangle", the lawyer is more at home with a French curve. This is true in part at least by the fact that the law prescribes guide lines to regulate the relationships between persons with respect to things in order to promote the common good. Thus, water law is concerned with the relationships of persons to water.

At common law, water was classified as being navigable or non-navigable, public or private, surface water or water beneath the surface of the land as the facts of the matter to be decided demanded. Ground waters were divided into two categories: (1) percolating waters, which oozed or seeped through

the subsoil and were said to be the absolute property of the overlying land owner (Acton v. Blundell, 12 Mees. & W. 324, 152 Eng. Rep. 1223 (1843)); and (2) underground streams or lakes, which were treated like surface streams, and subject to the common rights of all the overlying land owners. This common right of use was characterized as being the law of riparian rights (Chasemore v. Richards, 7 H. L. Cases 349, 11 Eng. Rep. 140 (1859)).

This attempt to classify ground waters as either percolating water or as subterranean streams was not based upon an understanding of the unity of all water in the hydrologic cycle. Although great progress has been made in recent years in abolishing this distinction in ground waters, the old classifications still linger on in many states (Canada v. City of Shawnee, 179 Okla. 53, 64 P2d 694 (1936)).

The modern difficulty with ground water law is found not alone in the common law classifications thereof but in the concept of their public nature. It is common knowledge that in most of the western states surface water has been declared to belong to the public and subject to the power of the state to regulate its use for the common good. In the beginning, California, Oregon, and Washington adopted a dual system of water rights. The riparian and appropriation doctrines were both recognized. Ground water was actually more or less neglected.

Oregon was the first western state to forego in part the common law doctrine applicable to ground water and adopted a ground water code which subjected ground water to appropriation under the control of the state (Chapter 419, Oregon Laws of 1927). New Mexico passed a comparable act in the same year (Chapter 182, Laws of 1927) but due to litigation it was caused to be re-enacted in 1931. Since then all the states west of

The Mississippi River have passed ground water statutes or codes more or less effective in declaring ground waters to be public and subject to the police power of the state.

Time does not permit a detailed analysis of the ground water legislation of each state. The Idaho Supreme Court was among the first to see the futility of trying to classify ground waters as either constituting percolating waters or underground stream and lakes with definite beds and channels (Hinton v. Little, 50 Idaho 371, 296 Pac. 582 (1931)). In this case the court resolved a series of conflicting prior decisions which had wavered between adopting the common law of ground waters or its equivalent known as the correlative rights doctrine of California, and held that all ground waters whether they be percolating or underground streams are public waters and subject to appropriation for a beneficial use under the laws of Idaho.

Among the western states which have provided in their ground water legislation that all ground waters, including percolating waters, are public waters and subject to regulation by the state are the following: New Mexico (N.M.S. 75-11-19 (1953)), Idaho (I.C. 42-226 (Supp. 1966)), Kansas (K.G.S.A. 82a - 702 (1961)), Oklahoma (Okla. S.A. Title 82, Section 1002 (1963)), North Dakota (N.D.R.S. 61.01.01 (1966)), Oregon (O.R.S. 537.515 (1966)), Alaska (Alaska Statutes, 46.15.060 (1966)) and Washington, with some exceptions, (RCW 90.44.035 (1964)). Arizona, California, Colorado and Montana statutes do not seem to indicate a total commitment to this principle.

The eastern states of the United States have made substantial progress in the enactment of water codes for the management of their water resources. The Model Water Use Act adopted by the Uniform Law Commission in 1958 has been a substantial factor in this movement. The Model Act

could be studied with profit in many western states. The Act provides that all water resources except atmospheric water, are subject to the control and regulation of the state although attempting to distinguish between percolating and underground streams on a physical basis.

Iowa adopted a modern water code in 1959. All ground waters are without distinction public waters and subject to appropriation under state control (Iowa Statutes, 454A. 1, 2 (1962)). Indiana (Ind. A.S. 27-1115 to 1123 (1960)), Florida (Fla. Stat. 373.072 - 182 (1963)), New Jersey (N.J.R.S. 58.1 et. seq.), and Minnesota (Minn. Stat. 105.41 - .47 (1961)) have adopted statutes requiring permits to appropriate ground waters.

That all ground water should be classified as public water and its use made subject to state control and regulation appears to be logical. It is a necessity if we are to make a comprehensive state plan for the optimum use, conservation and development of our water resources in the common interest.

Many state legislatures have hesitated to change their laws with respect to the common law doctrine of riparian rights including the laws pertaining to ground water. The issue in question centers around whether a statute so enacted would be found unconstitutional on the ground that it would amount to a taking of property without due process of law (14th Amendment, U.S. Constitution and related state constitutions). There is perhaps an answer to this question. Under the statute there is no taking of property if the statute is a regulatory measure enacted by the legislature in the exercise of its police power. This sovereign power exists in the state so that it may protect the health, safety, and welfare of its citizens.

The experience of Kansas and Oregon bears out the above statement. Oregon, in 1909, enacted a comprehensive water code subjecting its surface waters to state regulation under the appropriation doctrine. Prior to that time the riparian doctrine prevailed in Oregon. A suit was brought to test the constitutionality of the statute upon the grounds that its enforcement would constitute a taking of property without compensation. The Oregon Supreme Court rejected this argument in *In re Willow Creek*, 74 Ore. 592, 144 Pac. 305 (1914), and held the statute constitutional. In another case testing the legality of the same act the statute was upheld (*California Oregon Power Co. v. Beaver Portland Cement Co.*, 73 F.2d 555 (C.C.A. 9, 1934)). The court pointed out that the statute applied only to future acquisition of water rights and that all riparians who had actually put water to a beneficial use before the passage of the act were protected in their vested water rights.

Kansas has had a somewhat comparable experience (*State v. Knapp*, 167 Kan. 546, 207 P.2d 440 (1949)). In *Bauman v. Sarha*, 352 U.S. 863 (1956) it was held that a land owner had no vested right in underground water underlying his land which he had not appropriated and put to a beneficial use before the statute was enacted. State regulation of a critical ground water area in Arizona was upheld in *Southwest Engineering Co. v. Ernst*, 73 Ariz. 403, 291 P.2d 754 (1955).

The State of Washington enacted such a statute in 1967 (Chapter 233, Laws of 1967) protecting vested riparian rights to water perfected by beneficial use before the Act became effective. The constitutionality of the statute has not been drawn in question. It is hoped that the courts will look favorably upon the issue.

The issue is not a settled matter in all states. See cases from North Dakota, California, and Nebraska for example.

Problems associated with the determination of critical ground water areas.

The determination of a critical ground water area presents a complex of many problems. Generally a critical ground water area is defined as "a basin not having sufficient ground water to provide a reasonably safe supply" for the existing uses "in the basin at the then current rate of withdrawal" (Idaho Code 42-235a (1982)). Arizona (Ariz. R. S. 45301) and Washington (RCW 90.44.180 1964) have comparable statutes. A Kansas statute dealing with the problem declares in substance that if the Water Resources Board finds that the quantity of water being pumped from the basin "exceeds the safe annual yield", then the Board shall order the excess pumping to cease. The persons with the junior priorities are the first to be cut off from pumping water from the basin until the safe annual yield is restored (Okla. Stat. Title 82, Section 1015 (1961)).

In Montana the test applied for determining a controlled or critical ground water area varies with the nature of the basin. Thus in the case of pumping developments, if the withdrawal is beyond the capacity of the aquifer to yield ground water within a "reasonable or feasible pumping lift" or in case of artesian developments, within a "reasonable or feasible reduction of pressure" the state engineer is authorized to declare the area critical or a "controlled" area (M.R.S. 829.2918 (1947)).

The Oregon Ground Water Code at Section 537.730 provides the most comprehensive tests for the determination of a critical ground water area that has come to our attention. These tests we believe should serve as a guideline to other states:

Section 537.730 authorizes the State Reclamation Engineer to conduct a proceeding for the determination of a critical ground water area if he has reason to believe that:

- "a. That ground water levels are decreasing or have declined excessively; or
- b. The wells of two or more ground water claimants or appropriators within the area in question interfere substantially with one another; or
- c. The available ground water supply in the area in question is being or is about to be overdrawn; or
- d. The purity of the ground water in the area in question is being or is about to become polluted to an extent contrary to the public welfare, health, or safety."

The Model Water Use Act at Sections 501, 502 and Section 601 compares favorably with the Oregon water code in respect to providing tests for the determination of critical ground water areas.

There seems to be no provision in the Iowa Natural Resources Act (Iowa Code Section 455 A as amended by Iowa Laws of 1957, Chapter 229) with respect to the determination of critical ground water areas. Neither have we found such a provision in the water codes of North Dakota or Kansas which are otherwise very good.

Priorities: After the state engineer has found that the area in question constitutes a critical ground water area, the problem arises as to what should be done about it. As stated above, the Kansas legislature has provided that the junior appropriator should bear the loss. This is in keeping with the doctrine of appropriation: that the first appropriator in time is the first in right.

However, it would seem that more flexibility in procedure would be desirable. Some states permit the apportionment of the deficiency water among the pumpers on a pro rata basis depending on the amount of water each extracted from the basin. Rotation in time of pumping has been suggested. Agreements between the appropriators has been respected.

In Washington the junior appropriator must bear the loss unless an agreement is reached between the parties (RCW 90.44.180 (1964)). In the Oregon Code, Section 537.735 (1966), the entire matter of priorities and controls over critical ground water areas are in substantial accord with Kansas and Washington.

Mining of Ground Area - Non-recharging Ground Water Basins. It may well be the policy of the state to permit and encourage the depletion or mining of a critical ground water area, as in Arizona, New Mexico and Texas. In such cases the state engineer must proceed in an entirely different manner.

In a recent New Mexico case, *Mathers v. Texaco, Inc.*, 421 P2d 771 (1966, rehearing denied, 1967), the Supreme Court of that state upheld the order of the state engineer who in 1952 determined the amount of water in the basin and the amount that could be withdrawn and still leave one-third in storage at the end of forty years. Based upon these calculations the state engineer granted Texaco a water permit to extract water from the basin for forty years.

The case illustrates the flexibility of the New Mexico court in limiting a water right to forty years. The alternatives would be to give the first appropriator all the water, or to let everyone apply for the use of a limited quantity of water. The decision also illustrates that a water right need not be perpetual in duration.

Should the prior appropriator of ground water be protected in his means of extracting ground water from a basin or aquifer.

This problem has been the subject of many court actions and some ground water codes. A uniform rule has not been established.

In Idaho, the Supreme Court has held that the junior appropriator must bear the expense of the senior appropriator in lowering his well, increasing the diameter of the well or increasing the power of his pump occasioned by the operation of the junior appropriator's pumping equipment (Roh v. Stoner, 53 Idaho 651, 26 P2d 1112 (1933)). Arizona is in accord (Pima Farmer Co. v. Proctor, 30 Ariz. 96, 245 Pac. 369 (1926)). So also is the California Supreme Court (Lodi v. East Bay Municipal Utility District, 7 Cal.2d 316, 60 P2d 439 (1936)).

The legislative solution to the problem of replacing or protecting the senior appropriator's means of pumping or extracting ground water has taken a variety of forms.

The Utah statute has placed the burden of damages on the junior appropriator by permitting him either to supply water to the senior appropriator in the amount necessary to replace the water lost by reason of the junior appropriator's activities or causing the junior appropriator to pay the expenses of the senior appropriator in replacing or improving his well (Utah Code Ann. 73-3-23).

In Kansas, the statute provides that each permit issued is conditioned upon a reasonable raising or lowering of the static water level by other appropriators. In determining whether lowering or raising of the water level is reasonable the state engineer must take into account the economics of pumping water for the water uses involved (Kans. Ann. Code 82a-711a (1961)).

In Washington the prior appropriator is protected if he can show that the operation of the subsequent well would cause "an unreasonable or unfeasible pumping lift" or in case of artesian wells, "an unreasonable or unfeasible reduction of pressure" (RCW 90.44.070 (1964)).

Oregon requires the state engineer to establish and maintain reasonably stable ground water levels (Ore. R.C. 537.525 (7)), and interpose a settlement when there are declining ground water levels or an interference among wells (Ore. R.C. 537.525 (9)).

In such circumstances, if the senior appropriator has sunk his well to a "stable water level" and has adequate pumping machinery, the state engineer will protect him in his means of diversion. Absent either or both of these factors, the probabilities are that the senior appropriator must bear the cost of alteration.

This seems to be the proper rule having in mind the need to advance the economic development of the state.

The artificial recharge of ground water areas, and their use for storage purposes.

The artificial recharging of ground water basins is a necessity in many areas of the West. Mr. Warne, Director of the state Department of Water Resources in California, stated in a rather recent article (2 Natural Resources Journal 248 (1962)) that (1) the annual runoff of stream water in California is about 71 million acre feet, (2) that the annual use in that state exceeds 16 million acre feet with (3) a predicted increase to 28 million acre feet by 1975, and (4) an annual overdraft of ground water in excess of 5 million acre feet. This is a critical condition that will require your best efforts to solve.

A brief review of some pertinent statutes has been made: California has declared that the use of surplus surface water for recharge purposes is a beneficial use of such water (Calif. Water Code 1242). Ground water recharge is carried on extensively in California. It serves many useful purposes in integrating ground and surface water management. Water Replenishment Districts have been created to carry out recharging programs over a wide area with a power to levy a pumping tax to finance their activities. The number and magnitude of law suits that have resulted from such practices would indicate a lack of state supervision and control--specifically a lack of adequate machinery for the adjudication of water rights in the basin.

In the state of Washington the statutes are not entirely clear upon the extent of permissible ground water recharge. In RCW 90.44.035 artificially stored ground water appears to be limited to water stored "intentionally or incidentally to irrigation and that would otherwise have been dissipated by natural waste". No mention is made in the Washington Code of appropriating public surface water for recharging purposes nor is such use characterized as beneficial under Chapter 233, Laws of Washington (1967).

The Washington Revised Code at Section 90.44.130 requires the owner of artificially stored water (such waters are not public waters unless abandoned) to file a declaration of claim so as to identify such water and to prevent the abstraction of public ground water.

In Oregon, a permit is authorized to appropriate surplus surface water for recharging a ground water basin (Ore. Rev. Stat. 537.13 (1965)). The section further provides that the permit is limited to those waters which the state engineer has determined to be "surplus waters and which

if not diverted would run to waste". This statement would appear to afford the appropriator for ground water recharging purposes little or no protection. This view is substantiated by another statement in the same section to the effect that, "Permits issued under this section shall not establish priority of right against future appropriations of surface water for beneficial uses". Provision is made for effective supervision of the artificial recharge by requiring the appropriator to seek a permit to withdraw such waters, provided he can satisfy the state engineer that it is available over and above the natural ground water therein. In other words, the appropriator must be able to identify the recharge water at least by quantity. It would seem that upon further reflection the Oregon legislature may provide protection to the ground water recharger in his right to use surface ground water for recharge purposes against future use of such waters for purposes other than recharging.

Other states have made provision for ground water recharge: Utah (Utah Rev. Code Section 73-3-2 (6)); Texas (Texas Revised Civil Statutes, Article 7380 - C); Oklahoma (Okla. Rev. Stat., Title 82, Section 455 - conservation of water as a public necessity).

Idaho has no statute authorizing the use of surface water for recharge purposes. The author prepared a statute for legislative consideration next year based primarily on the Oregon Code.

The Iowa Water Code provides for the diversion of surface water for recharge purposes through its permit system (Iowa Code Section 455 A - 16 (1955)). Although the Model Water Use Act of 1958 does not specifically provide for recharge of ground water aquifers, it does not prohibit such

practices. Section 102 of the Act refers to "storage" of water as a beneficial use thereof. It would seem fair to assume that "storage" in this connection would include ground water storage or recharge.

There is much to be done in this area of the law to provide for (1) the location of storage aquifers, (2) the establishment of reasonable and economic pumping lifts, (3) the measurement and flow of underground water, (4) and the establishment of reasonable water levels. Other pressing problems include (5) protection of the appropriators right to take surface waters for recharge and (6) the establishment of adequate administrative machinery for the adjudication of water rights involved in the ground water basin.

The control and abatement of ground water pollution - The need for water quality programs.

Quality as well as quantity of water has become a matter of public concern during the past decade. The increase in population, the growth of suburbs, lake resorts, use of cottage sites for summer homes, and the popularity of small boats all with their septic tanks and spreading fields have added heavily to the pollution of our lakes, streams and ground water sources.

The ingenuity of man is being taxed to find a means of disposing of solid, liquid and radio active waste without polluting our streams and ground water areas. The disposition of oil, gas and tar wastes resulting from the production and refining of oil cannot be solved by pumping them at random into our ground water aquifers.

There is also, of course, a natural build-up in the pollution of ground water supplies through excessive pumping resulting in a concentration of salts and ironoxides that render the water unfit for human consumption. All of these various forms of pollution present problems

primarily for solution by scientists, engineers and other experts in water pollution control and abatement.

Most states have enacted water pollution statutes and set up machinery for the abatement and control of pollution. Several of these statutes have been reviewed for the purposes of this discussion.

Under the Oklahoma Water Pollution Control Act of 1955 (Okla. Chapter 9, 1961 - Title 82) the state Water Resources Board was given wide powers and duties in enforcing the provisions thereof. The Act taken broadly is very good. Its provisions apply to all waters in the state including ground water.

In Washington the state Water Pollution Control Commission was entrusted with the enforcement of the Water Pollution Control Act (RCW 90.48.021 (1965)). The Act is modern and effectively administered by the Commission. While the Commission is an independent agency, coordination of state activity is secured by the variety of state agencies represented on the Commission--the Directors of the Departments of Water Resources, Fisheries, Game, Health, and Agriculture. Its chief executive officer is termed the Director of the Water Pollution Control Commission and is appointed by the Governor.

The Idaho Department of Health is charged with the enforcement of the water pollution control legislation in that state.

The Revised Statutes of North Dakota, 1966, provide for the creation of a Water Conservation Commission (Section 61-02-01) which is given complete supervision and control of water pollution in water courses (Section 61-02-14 (2)). Section 61-02-15 provides that the powers and duties of the State Health Department are not limited or deprived by

reason of the Act creating the Water Commission. The State Board of Health is required to declare that waters are polluted before the Water Commission may act. The entire Act is based upon the state's power to protect the health, safety, and welfare of its citizens. Other statutes pertaining to the pollution of public waters by reason of privies, slaughter houses, cemeteries, feeding pens, and the like are found at Section 61-01-14 (3).

The Federal Water Pollution Control Act, as amended (33 U.S.C.A. 465 et. seq.) (Supp. 1966), has given added impetus to the abatement and control of water pollution while still recognizing the primary responsibility of the state in this area of activity. The Federal Act provides for cooperation between federal, state and local agencies in water pollution control. To implement this policy, the Act provides for grants in aid of sewage systems, technical assistance, research, and training programs in water pollution abatement.

The recent request for each state to provide water quality standards together with an effective program of enforcement for all interstate and navigable streams and bodies of water within their borders has proven of inestimable value in bringing state programs to fruition.

Cooperation between state and federal agencies in development of all our water resources - a new form of creative federalism.

The Water Resources Planning Act of 1965 with its provisions for a Water Resources Council at the Cabinet level, and River Basin Commissions with state membership has made regional and state planning for the conservation, development and optimum use of our water resources a reality. Comprehensive state water resource planning is encouraged and supported by federal funds.

In the Puget Sound, Willamette River, and Columbia River basin studies water quality and the hydrology of ground waters have been given high priority.

These examples of creative federalism are worthy of support. With your help they will provide for and guarantee a finer future for our children.