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By far the most important piece of water legislation enacted by a state which reflects the most recent stage in the evolution of the doctrine of prior appropriation is the Alaska Water Act of 1966. Presenting a detailed examination of the Act from the aspect of its history, scope and shortcomings, Dean Trelease believes basically that the Act may have value as a guideline for those states desiring legal protection of water uses and orderly procedure for the resolution of conflicts in the area of conservation of water resources.

ALASKA'S NEW WATER USE ACT

*Frank J. Trelease**

AMERICA'S 49th state, its next to newest, enacted the newest state water use law on April 1, 1966.[1] With the renaissance of interest in water resources law, a review of the statute may be of interest to students, governments and the people of other states, both eastern and western. From the standpoint of the states of the arid West, the new law is the most recent stage in the evolution of the doctrine of prior appropriation, which had its genesis in 1849[2] and its last major mutation in 1890.[3] The states of the more humid Midwest and East may view it as a water law for a water rich country, enacted before competing uses have created crises but in a time of growing demand that may soon produce competition for water. And all of America is suddenly conscious of "conservation" and will look with interest at the solutions chosen in a state where recreation vies with development, where streams produce both salmon and gold, and where vast open spaces challenge both the wilderness lover and the settler.

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1. ALASKA STAT. §§ 46.15.010-.270 (1966). The effective date was July 1, 1966. Further references to the act will be by section number only.
2. McGowen, *The Development of Political Institutions on the Public Domain*, 11 WYO. L.J. 1 (1956).
3. Wyo. Sess. Laws 1890-91 ch. 8 [now WYO. STAT. §§ 41-1 to -512 (1957)]. See Lasky, *From Prior Appropriation to Economic Distribution of Water by the State—Via Irrigation Administration* (pts. 1-2), 1 ROCKY MT. L. REV. 161, 2 *id.* 35 (1929).

The statute's suitability for export as a package may be debatable but it may have value as a model. A law for Alaska is shaped by that state's unique physical setting, history and government and by its current economic and demographic condition. The state did not need a law to put a stop to present undesirable practices and activities. The law is not enacted under the pressures of emergency to patch up a bad situation. In other states it is quite possible that specific problems of varying degrees of urgency now exist. In these situations haphazard and piece-meal treatment is often urged by special interests, and legislation resulting from such pressures can be unfair either in its preferential treatment of particular activities or in restrictions placed on some with disregard of others of a similar nature. While Alaska's act is seen by its proponents as a forward-looking law designed to prevent emergencies from happening and to protect the people from even the beginnings of harm, the statute may have relevance to problem areas as a system giving legal protection to present and future water uses and providing a procedure for the orderly solution and adjustment of conflicts as they arise.

I. THE BACKGROUND

A. The Setting

Alaska is a civilized American state. It is the largest, yet it has the smallest population. But most of these people live in one small metropolitan area centering around Anchorage and in five or six small cities, under conditions that differ from those in "the lower 48," within about the same range that separates New England from Southern California. The rest are for the most part spread thinly in small towns and hamlets throughout the coastal region, the "rail belt" from Anchorage to Fairbanks and the shores and islands of the southeastern panhandle that hugs Canada.

With the decline of gold production, a more stable economic basis is slowly developing. Most Alaskan industries are based upon her natural resources. The principal ones are fisheries, forest products, mining and agriculture. Other sources of wealth are federal activities (principally military),

tourism, transportation, sales and services. Potentials for development are great. Packing and processing of fish and seafood and greater use of timber resources for pulp, paper and processed lumber seem most immediate. Large reserves of petroleum and gas have been discovered. Deposits of iron, copper, tungsten and other strategic materials await only small increases in value or new methods of production to make them exploitable. The undeveloped water power potential, with or without the great Rampart Dam on the Yukon, is enormous, with literally hundreds of sites available on great rivers and canyon streams. In one way or another, all of Alaska's industries are dependent upon water. Expansion of industries and growth of cities will increase the demands on water. New uses by one sector of the economy will affect the others. But a shortage of water, in any absolute sense, is improbable.

Alaska does not lack for water. The Yukon is one of the great rivers of America. The land is laced with streams. Thousands of lakes dot the map, one larger than any in America save for the Great Lakes. Glaciers store a supply from thousands of years in the past. Vast areas of land are marshes; huge glacial deposits are aquifers.

Nevertheless, a net annual surplus of water over the total area of Alaska does not mean that there are no water shortages in the state. In 1959 the Department of the Interior submitted to the Senate Select Committee on National Water Resources the most recent survey of Alaska's waters.[4] A few excerpts from that document show the nature of Alaska's water supply problems:

> In general, there is an abundance of water, but during parts of each year it may become almost unavailable. The reason for the temporary shortage varies with location. In the southeastern region where stream flow is the only feasible source of water supply, a short drought may result in the drying up of streams not receiving lake outflows because there is such a lack of alluvium for natural storage. In the interior during the long cold winters small streams and shallow lakes freeze solid, and water is made available only by melting snow or ice over

4. SENATE SELECT COMM. ON NAT'L WATER RESOURCES, 86TH CONG., 2D SESS., WATER RESOURCES OF ALASKA (Comm. Print No. 19, 1960).

> a fire. Because the portion of the year with temperatures below freezing is longer and more severe [in the coastal region than in the southeast] the decline in stream flow during the winter and the increase in flow during the period of melt-runoff makes a wider variation in surface water supplies.[5]

In some areas, the report notes shortages, not in total supply, but of water of good quality.

> Glacial flour is so fine that clarification of water for domestic and some industrial uses is very costly . . . . In many places in the Tanana Valley the ground water is high in iron or organic matter, or both. Most of the shallow wells around Anchorage also yield water with high iron content . . . . The southeastern part of the Copper River Basin is a specific area of poor quality ground water . . . .The difficulty of obtaining ground waters of suitable quality in this area is pronounced. Limited quantities have been developed that receive water primarily from seepage or surface drainage. This water is subject to contamination from sewage, cesspools, and other sources.[6]

Several problems faced by cities were identified.

> Water for communities in Alaska will be supplied only by surmounting several problems that are characteristic of the different regions of the State. All of the problems are natural with the exception of a small part of the pollution problem. Four major problems will hinder development of good [ground] water supplies: (a) Freezing conditions, (b) quality conditions, (c) ground water conditions in southeast Alaska, and (d) winter pollution.[7]

What used to be southeastern Alaska's river valleys are now fjords, arms of the sea.

> Impervious consolidated rocks prevail in southeastern Alaska. However, in isolated areas unconsolidated alluvial or glacial deposits may exist. In general these would yield moderate supplies of ground water. The big problem will be finding them close to the cities where water is needed to supplement supplies withdrawn from streams.[8]

5. *Id.* at 4, 5.
6. *Id.* at 6.
7. *Id.* at 6.
8. *Id.* at 8.

Irrigation is likely to expand. Alaska receives an average annual precipitation of about 54 inches, but this is the product of wide extremes. The Southeast has rain forest conditions produced by 150 inches of "liquid sunshine." Kotzebue above the Artic Circle receives only 6 inches, less than Phoenix in the Arizona desert. In the areas with the greatest potential for agriculture, Anchorage receives 14 inches, Matanuska 15, and Fairbanks 12—within the same range as the high plains of eastern Colorado and Wyoming. Nevertheless, these are not arid lands, for aridity is not determined solely by precipitation but by the relation of that factor to potential evapo-transpiration. Long frozen winters and cool summers reduce the latter factor and most of Alaska is wet under foot much of the time. The main problem is that as in most places nature and man differ as to the most desirable time for precipitation, and the driest part of the year comes in the principal growing season. The report states:

> Significant crop benefits through use of sprinkler irrigation have been demonstrated on plot studies in the Matanuska Valley. Irrigation has in general been found to be beneficial during the first part of the growing season, usually May, June and early July .... In 1958 there were only 21,515 acres of active crop land in the State [only 358 of which were reported as irrigated] .... [I]t is estimated that by the end of the next half century at least 50,000 acres will be under irrigation.[9]

Development of hydroelectric power may bring conflicts between storage and free flow.

> Practically all of the streams in Alaska have a very pronounced seasonal variation .... Storage to equalize the streamflow is a requisite for any feasible power development. There are few, if any, streams in Alaska on which a run-of-river installation would be satisfactory.[10]

So even young, undeveloped and water-wealthy Alaska could feel the need for a water use law. Whenever one of these temporary or local shortages occurs, there is need to define water rights and give the protection of law to the

9. *Id.* at 9.
10. *Id.* at 13.

people who have developed water uses and built an enterprise dependent upon the water. A miner, manufacturer or irrigator wants a firm right that can be given legal protection against the acts of others who might interfere with the use. Even the first water user on a stream needs a definite right that will identify his property. There can be a shortage of water even though the stream or lake is bank full. A scarcity of water exists at any time or place when all demands upon the source cannot be met. If some people want to divert or dam a stream, if others want the full flow to carry away wastes of cities or industries, if still others want the stream in its natural state for fishing and recreation, these demands cannot be met all at the same time. Water becomes a scarce commodity whose use must be regulated. Ideally, the state should allocate the water to the use which will produce the greatest benefits for its people. Perhaps it can adjust the rights of the parties so that all interests can be accommodated. Perhaps a clear choice must be made between such values as hydroelectric power and preservation of fishing and recreational values. Alaska saw the need for a mechanism for making such adjustments and choices on a wise basis after careful balancing of various interests, and her Water Use Act is the result.

B. Territorial Water Law

The Water Use Act did not fill a complete vacuum. Alaska had a quite surprising amount of water law for so young and undeveloped a state. The territorial law was the doctrine of prior appropriation in almost its pristine form, as developed by the California miners in the Gold Rush in 1849. In Alaska as in California, miners competed for water needed to wash the gold from the sand and gravel of their placer claims. In 1855 the California court in one of the most spectacular examples of "American-born common law,"[11] adopted as law the customs of the miners and the regulations of the mining districts, their *de facto* governments, including "the rights of those who, by prior appropriation, have taken the waters from their natural beds, and by costly

11. Phillips, *The Doctrine of Appropriation*, ABA SECT. REAL PROP. L. 38 (Proceedings 1939).

artificial works have conducted them for miles over the mountains and ravines, to supply the necessities of gold diggers . . . ."[12] This doctrine spread to other western states and territories and arrived in Alaska via Oregon, whose laws relating to real estate were made applicable to the "District of Alaska."[13] Yet little land was in private ownership. The United States filled this gap and sanctioned prior appropriation of water on the public lands by the Act of 1866, which ceded much authority over mining law to the states and territories, and provided:

> That whenever, by priority of possession, rights to water for the use of mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and the decisions of the courts, the possessors and owners of such vested rights shall be maintained and protected in the same . . . .[14]

Although this language seems to confirm past acts, its intent was to recognize state and territorial laws of appropriation as a system of acquiring water rights.[15] The act became applicable to Alaska in 1884.[16]

An early leading case, *Noland v. Coon*,[17] applied both the rules of the local mining districts and the law of Oregon, which coincided on the law of prior appropriation, to settle a dispute arising out of conveyances of mining claims, ditches and water rights. Common law rules of the doctrine were applied in fairly routine fashion in cases involving priority between appropriators,[18] ditch rights,[19] changes in the point of diversion,[20] beneficial use[21] and quantity.[22] Alaska did

12. Irwin v. Phillips, 5 Cal. 140, 146 (1855).
13. Revenue Mining Co. v. Balderston, 2 Alaska 363 (1905). Alaska did not become a territory with power to enact her own laws until 1912.
14. Ch. 262, § 9, 14 Stat. 251, 253 (1866).
15. Basey v. Gallagher, 87 U.S. 670 (1875).
16. Revenue Mining Co. v. Balderston, *supra* note 13.
17. 1 Alaska 36 (1890).
18. Thorndyke v. Alaska Perseverance Mining Co., 164 Fed. 657 (9th Cir. 1908); McFarland v. Alaska Perseverance Mining Co., 3 Alaska 308 (1907); Anderson v. Campbell, 4 Alaska 660 (1913).
19. Noland v. Coon, *supra* note 17; Anderson v. Campbell, *supra* note 18; Miocene Ditch Co. v. Jacobsen, 146 Fed. 680 (9th Cir. 1906).
20. Miocene Ditch Co. v. Campion Mining & Trading Co., 3 Alaska 572 (1908); Eglar v. Baker, 4 Alaska 142 (1910).
21. Kernan v. Andrus, 6 Alaska 54 (1918).
22. *Ibid.*

not adopt elaborate procedures for acquiring and recording water rights like those enacted in other states. While Alaska decisions recognized the evidentiary value of notices posted at the point of diversion and claims recorded in the offices of the mining districts, the courts applied the general rule that such notices alone created no rights without actual appropriation to beneficial use[23] and that a valid water right could be acquired though no such notices had been posted or recorded.[24]

For a time it looked as though Alaska might become a "California doctrine" jurisdiction by giving effect to both appropriative rights and riparian rights. A very early case involving domestic uses, *Ketchikan Co. v. Citizens' Co.*,[25] indicated that possibly riparian law applied in the territory, but avoided a choice by observing that either doctrine permitted a judgment for plaintiff whose use was both reasonable and prior to the defendant's. A similar option presented itself in *Madigan v. Kaugarok Mining Co.*[26] but here a territorial judge indicated that the choice should go in favor of riparianism, on the ground that when Oregon's law of real property was made the rule in Alaska, Oregon's recognition of riparian rights was carried northward. A year later this was stoutly denied by another judge in *McFarland v. Alaska Perseverance Mining Co.*[27] and the matter was finally settled by the Circuit Court of Appeals for the Ninth Circuit in a 2-1 decision, *Van Dyke v. Midnight Sun Mining & Ditch Co.*[28] The common law doctrine of riparian rights was held inapplicable to Alaska and the territory was added to the list of "Colorado doctrine" jurisdictions which permit only appropriations as a means of acquiring a right to the use of water.

Yet apparently the miners of Alaska had become accustomed to regarding a claim of water as being included in a placer claim lying across a stream and in 1917 the territorial legislature gave the locator of any mining claim that included both banks of a stream the right to use as much water as

23. Hoogendorn v. Nelson Gulch Mining Co., 4 Alaska 216 (1910).
24. Kernan v. Andrus, *supra* note 21.
25. 2 Alaska 120 (1903).
26. 3 Alaska 63 (1906).
27. 3 Alaska 308 (1907).
28. 177 Fed. 85 (9th Cir. 1910).

needed for working the claim.[29] To this limited extent the statute enacted the law of riparian rights.[30] The courts gave it little sympathy. The only decisions construing it held that the act was not retroactive and did not apply to placer claims acquired before the date of the statute, and that the owner of a claim located prior to the statute could claim water only under the law of prior appropriation.[31]

Only one other case is significant for territorial water law. In *Trillingham v. Alaska Housing Authority*[32] a district judge stated, in a single sentence, that a complaint seeking to enjoin a defendant from diminishing plaintiff's supply of underground water for his well did not state a claim for relief "because percolating waters, being a part of the freehold, may generally speaking, be used by the owner as he sees fit." This is a statement of the English rule of "absolute ownership" of ground water.

The most important territorial statutory provision was the Water Pollution Control Act of 1947.[33] It was as modern as any state water quality law of its time, providing for advance approval of plans for sewage and industrial waste systems and treatment works, permits for the discharge of sewage and wastes into the waters of the territory, powers to abate existing sources of pollution and legal and administrative enforcement procedures, including authority to classify waters and set standards of purity and to develop comprehensive plans for pollution control.

The last major enactment was the fish and game law of 1959. Section 30 requires the builder of every dam or obstruction in a stream frequented by salmon or other fish to provide a fishway. If this is impracticable, the builder must pay compensation for the resulting loss into the Fish and Game Fund, or build a hatchery to replace the fish in kind.[34] Section 31 requires the approval of the Commissioner of Fish and Game for almost any act that might disturb waters

29. Alaska Sess. Laws 1917, ch. 5, § 1; repealed, Alaska Sess. Laws 1966, ch. 50, § 2.
30. Balabanoff v. Kellogg, 10 Alaska 11, 118 F.2d 597 (9th Cir. 1941).
31. *Ibid.*; see Stinson v. Murray, 8 Alaska 167 (1930).
32. 14 Alaska 202, 203, 109 F. Supp. 924, 925 (1953).
33. ALASKA STAT. §§ 46.05.010-.240 (1966).
34. ALASKA STAT. §§ 16.05.840-.860 (1962).

containing anadromous fish (salmon and cutthroat trout that migrate to and from the sea). Any person or governmental agency desiring to construct a "hydraulic project" or to use, divert, obstruct, pollute or change the flow of a stream or lake, or to use wheeled, tracked or excavating equipment in its bed, or use materials from the beds, must submit plans for the protection of fish and game.[35] Although this statute was adopted in the first session of the state legislature, it is mentioned here to complete the common law and statutory picture as it existed before the adoption of the Water Use Act of 1966.

C. The State Constitution

Impatient to shed its territorial status and to join the Union, Alaska pursued the "Tennessee plan" of setting up all the machinery and trappings of a full-fledged state, ready to spring into being at a word from Congress. With the aid of the Council of State Governments, a "twentieth century constitution" was drafted, adopted by a constitutional convention on February 1, 1956 and ratified by the people of the territory on April 24, 1956.

A notable feature of this document was Article VIII, a full eighteen sections devoted to natural resources. Those applicable to a system of water rights follow:

> *Section 1.* It is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest.
>
> *Section 2.* The legislature shall provide for the utilization, development, and conservation of all natural resources belonging to the State, including land and waters, for the maximum benefit of its people.
>
> *Section 3.* Wherever occurring in their natural state, fish, wildlife, and waters are reserved to the people for common use.
>
> *Section 4.* Fish, forests, wildlife, grasslands, and all other replenishable resources belonging to

35. Alaska Sess. Laws 1959, ch. 94, § 31; as amended, ALASKA STAT. §§ 16.05.870-.895 (1962).

the State shall be utilized, developed, and maintained on the sustained yield principle, subject to preferences among beneficial uses.

Section 5. The legislature may provide for facilities, improvements, and services to assure greater utilization, development, reclamation, and settlement of lands, and to assure fuller utilization and development of the fisheries, wildlife, and waters.

Section 7. The legislature may provide for the acquisition of sites, objects, and areas of natural beauty or of historic, cultural, recreational, or scientific value. It may reserve them from the public domain and provide for their administration and preservation for the use, enjoyment, and welfare of the people.

Section 13. All surface and subsurface waters reserved to the people for common use, except mineral and medicinal waters, are subject to appropriation. Priority of appropriation shall give prior right. Except for public water supply, an appropriation of water shall be limited to stated purposes and subject to preferences among beneficial uses, concurrent or otherwise, as prescribed by law, and to the general reservation of fish and wildlife.

Section 14. Free access to the navigable or public waters of the State, as defined by the legislature, shall not be denied any citizen of the United States or resident of the State, except that the legislature may by general law regulate and limit such access for other beneficial uses or public purposes.

Section 16. No person shall be involuntarily divested of his right to the use of waters, his interests in lands, or improvements affecting either, except for a superior beneficial use or public purpose, and then only with just compensation and by operation of law.

Section 17. Laws and regulations governing the use or disposal of natural resources shall apply equally to all persons similarly situated with reference to the subject matter and purpose to be served by the law or regulation.

Section 18. Proceedings in eminent domain may be undertaken for private ways of necessity to per-

> mit essential access for extraction or utilization of resources. Just compensation shall be made for property taken or for resultant damages to other property rights.

The ideal of maximum use of water resources is thus to be reached by the mechanism of prior appropriation and the creation of property rights in the appropriator. The prime mover in development is to be private enterprise and initiative. Nevertheless, the people are to be the recipients of the maximum benefits, and conservation, the public interest and the sustained yield principle are limits on private action. The reservations of Sections 3 and 13 are somewhat obscure, but leave no doubt that fish and wildlife are among the most important of the state's interests to be fostered by laws relating to water.

Still, these constitutional phrases are mere hortatory words of high purpose and fine ideals, and most of them are meaningless until implemented by legislation. They stood in limbo for three years, for statehood did not come until January 3, 1959. Five more years were to pass before the legislature fulfilled their mandate.

D. The Proposed Water Code

In 1961 the executive branch of the Alaska state government took the initiative. Governor William A. Egan called for a comprehensive code covering all aspects of water problems, before the problems arose.[36] At his direction the commissioners of four major departments, Health and Welfare, Natural Resources, Fish and Game, and Public Works employed the author as a consultant to draft a comprehensive water code to fit the state's needs. One of the most pleasurable duties imposed by the contract was a trip around the state to see the land, visit water use installations, interview people and officials and learn the state's problems. Many state officials, federal employees, city officials, lawyers, miners, industry representatives, citizens and members of the staff of the University of Alaska explained Alaska's water problems and made suggestions for the Code. At the

36. SENATE SELECT COMM. ON NAT'L WATER RESOURCES, 86TH CONG., 2D SESS., VIEWS AND COMMENTS OF THE STATES 3 (Comm. Print No. 6, 1960).

risk of injustice to many persons not named, particularly valuable assistance was given by Mr. Rodger Pegues, Director of the Division of Local Affairs, and Mr. James M. Wanamaker, Assistant Attorney General. Mr. Amos J. Alter, Chief of Sanitation and Engineering, Department of Public Health, deserves special commendation, not only for his helpful suggestions on water quality control, but for his diligence and energy in acting as the liaison between departments and consultants and in managing the project.

Preliminary drafts were prepared and submitted to other consultants, Professor Albert W. Stone of the University of Montana, Professor Ralph W. Johnson of the University of Washington, L. C. Binford, Esq., lawyer and water consultant of Portland, Oregon, Chester S. Wilson, Esq., lawyer and resources consultant of Stillwater, Minnesota and Professor Jacob H. Beuscher of the University of Wisconsin. All are nationally known experts in water law or some phase of it. With promptness and diligence each suggested many improvements and additions to the early drafts. These drafts were then circulated about the state and in hearings at Ketchikan, Juneau, Anchorage, and Fairbanks many constructive ideas and suggestions were received from citizens and officials. Amended drafts were submitted to the departments, and after some changes were approved by Commissioners Paul L. Winsor of the Department of Health and Welfare, Phil R. Holsworth of Natural Resources, Walter Kirkness of Fish and Game, and Richard A. Downing of Public Works, the drafts were recommended to Governor Egan. On January 12, 1962, the final report, *A Water Code for Alaska,*[37] was submitted. As an attempt at a truly comprehensive and coordinated single statute, it contained six articles: (1) Organization, Administration and Coordination, (2) Appropriation and Use of Water, (3) Water Pollution and Quality Control, (4) Conservation of Public Waters, (5) Drainage and Flood Control, (6) Water Conservancy Service Areas.

Copies of the *Code* were distributed to the Legislature and circulated widely throughout the state. The *Code* as

37. TRELEASE, A WATER CODE FOR ALASKA, A REPORT TO THE STATE OF ALASKA (1962). [Hereinafter cited as the CODE].

recommended, with minor editorial changes, was immediately reframed as a bill[38] and introduced at the request of the Governor. It failed to pass.

Perhaps one of its faults was that it was too comprehensive. The state already had a quite good pollution control law, the conservation and protection of streams for recreational and commercial fishing were already proceeding under Sections 30 and 31 of the Fish and Game Law. The need for drainage and water conservancy districts may have seemed distant. At any rate, a second attempt introduced in the following legislature[39] contained only the second article on appropriation and use of water (with minor editorial changes), and simplified procedures for coordinating applications which might affect water quality with the Department of Health and Welfare, and those which might affect fish and wildlife with the Department of Fish and Game. This too failed. A modified version met a similar fate in 1964.

The law which finally emerged in 1966 had been pared to a simple code for the appropriation and use of water, supplemented only by the addition of an advisory Water Resources Board charged with informing and advising the governor on the effect and adequacy of the new law and its enforcement, and with making studies of some of the matters which had been contained in the original comprehensive *Code.* But while the Act is considerably less than the law originally conceived by the state officials and recommended in the *Code,*[40] it is a modern law for the complete regulation and control of the use of water. What remains is the central core of the *Code,* the essential ingredient. Regulated prior appropriation in its most modern form, with much old baggage removed and many undesirable features eliminated, is made the state's law of water use.

38. Senate Bill No. 256, 2d Alaska Legis., 2d Sess. (1962).
39. House Bill No. 73, 3d Alaska Legis., 1st Sess. (1963).
40. In the remainder of this article, references to "the Act" and to "the CODE" are to the Alaska Water Use Act, *supra* note 1, and A WATER CODE FOR ALASKA, *supra* note 37, respectively.

II. THE ALASKA WATER USE ACT

A. Coverage

A series of definitions and regulatory provisions impose state control on practically all[41] substantial uses of all water, other than uses of water in place. The Act defines "water" in the broadest manner, repeating the constitutional language: "all water of the state, surface and subsurface, occurring in a natural state . . . ."[42] Any water that fits this description is subject to the regulations of the Act.

To recognize the unity of the hydrologic cycle by putting all water in one class is a modern scientific approach. Thus Alaska avoids the endless legal tangles that have resulted from other states' attempts to divide water into a number of legal classes and to apply different rules of law to different types of water occurance. Streams or "water courses" have been differentiated from "diffused surface waters,"[43] special rules have sometimes been applied to springs,[44] ground waters have been divided into "percolating water" and "underground streams,"[45] and the latter might include the "subflow of a surface stream."[46] Most of these classes were invented a century ago, and, in fairness, most had some practical or pseudo-scientific reason for their existence. But today the interrelationships between water in the different phases of the hydrologic cycle are well recognized, and Alaska avoids the mistake of perpetuating these old categories. Today they are worse than useless. They require the application of different rules of law to what is essentially the same thing, and they may put the control of different aspects of water into the hands of different agencies or put some forms of water outside the jurisdiction of an agency that is to regulate a closely related form.

41. For the major exception, see note 58 *infra*.
42. § 46.15.260(5). The definition does except "mineral and medicinal water." If a person seeks to extract minerals from water, he should proceed under the mining laws rather than the water laws. Deseret Livestock Co. v. State, 110 Utah 239, 171 P.2d 401 (1946). Whatever the procedure for developing a spa, the appropriation laws seem inappropriate.
43. State v. Hiber, 48 Wyo. 172, 44 P.2d 1005 (1935).
44. Deseret Livestock Co. v. Hooppiania, 66 Utah 25, 239 Pac. 479 (1925).
45. Maricopa County Municipal Water Conservation Dist. v. Southwest Cotton Co., 39 Ariz. 65, 4 P.2d 369 (1931).
46. Montecito Valley Water Co. v. City of Santa Barbara, 144 Cal. 578, 77 Pac. 1113 (1904).

Next, a "source of water" is defined as "a substantial quantity of water capable of being put to beneficial use."[47] A source of water is that which may be appropriated.[48] This definition substitutes a practical test for the old, hazy distinction between "diffused surface water" and "water in a water course." In other states the latter is appropriable, the former is the property of the landowner. A typical case is *State v. Hiber*[49] in which the court reviewed a number of definitions of a water course and their exceptions. When these are paralleled, the resulting "definition" is something like this: A water course is a stream of water (except that the water need not always flow)[50] in a definite channel, having a bed and banks (except that sometimes it may lack banks),[51] usually flowing in a particular direction (but lo, a slough is a water course, though it connects two rivers and changes its direction according to which is the higher)[52] and discharging itself into some other stream or body of water (except for creeks which disappear into sand dunes).[53] The court rejected a suggested substitute for the artificial and shadowy concept, that a water course is water in such shape as to make it susceptible to application for beneficial use. But it seems to have subconsciously applied this very test in deciding that a landowner might build a small stock-water dam across a swale draining occasional snow melt and rain from 300 acres. The practical question was whether a landowner might so improve his land for its principal use of grazing or whether the small amount of water involved should be regarded as preempted by his neighbor who wished it for the same purpose. In Alaska, as well, it still may be necessary to determine whether or not some small sources of water shall be subject to appropriation or shall be regarded as so inconsequential that they may be treated as a part of the land and their use or detention as a soil conservation practice rather than an appropriation.[54] Although the dis-

47. § 46.15.260(4).
48. § 46.15.260(1).
49. 48 Wyo. 172, 44 P.2d 1005 (1935).
50. Jaquez Ditch Co. v. Garcia, 17 N.M. 160, 124 Pac. 891 (1912).
51. Miller & Lux v. Madera Canal & Irr. Co., 155 Cal. 59, 99 Pac. 502 (1907).
52. Turner v. James Canal Co., 155 Cal. 82, 99 Pac. 520 (1909).
53. Medano Ditch Co. v. Adams, 29 Colo. 317, 68 Pac. 431 (1902).
54. *Cf.* CAL. WATER CODE § 1252.1 (West 1956), specifically stating that an appropriator cannot interfere with soil conservation practices on the watershed above his point of diversion.

tinction between water in water courses and diffused surface waters is eliminated, the problem involved in the distinction is not. It may still be necessary to decide whether a landowner may intercept on his land water which if left alone would reach the point of diversion of an appropriator. If the interruption results from land treatment practices that save topsoil and improve land use, the law should not require the upper owner to let his land deteriorate so that a neighbor might get some small quantity of water. If the upper owner captures a significant quantity and infringes on a valuable right, the law should protect the prior user. This section puts the decision on a rational rather than a metaphysical basis.

Similarly, distinctions between legal classifications of ground waters are abolished, and indeed those between ground water and surface water. The rule of appropriation is applied to all. The procedures for obtaining and declaring rights are the same.[55]

Any activity that involves a "diversion, impounding or withdrawal" of a significant amount of water is covered.[56] A permit is not needed to fish or swim in it or boat on it or pollute it. These acts do not constitute appropriations or create any rights under the Act.

The coverage of the Act is also as wide as possible in regard to the persons and agencies subjected to its controls. They include individuals, partnerships, associations, public or private corporations, state agencies, political subdivisions of the state, and the United States.[57] The inclusion of state agencies insures that water-related activities of state departments such as Fish and Game or Public Works, which would be appropriations if done by anyone else, will be fitted into the pattern of use and priority established by the Act. While the inclusion of the United States will certainly not mean that the Corps of Engineers will apply for a permit if Con-

55. DEP'T OF NATURAL RESOURCES, WATER USE REGULATIONS, Regs. Alaska Title 11, Natural Resources, Division 1, Lands, ch. 8 (1966) [hereinafter referred to as "Reg."]. It defines "ground water" and "well" in broad terms. Regs. 800.03, .06. It has also promulgated DL Form 242, a well driller's log that must be filed with an application for a certificate of appropriation of ground water.
56. §§ 46.15.260(1)(2), .180.
57. § 46.15.260(8).

gress authorizes the construction of Rampart Dam,[58] some federal laws require the government to proceed in accordance with state laws, for example, in constructing wildlife restoration projects.[59] If the Reclamation laws were extended to the state of Alaska, or if projects were authorized to be built in that state under Reclamation law, then the Secretary of the Interior would have to proceed in conformity with this state law relating to the appropriation, use and distribution of the water.[60] Licensees of the Federal Power Commission could not be required to take out a state permit, if the Commission chose to issue the federal license without it.[61] However, the Federal Power Act requires an applicant at least to attempt to meet the requirements of the laws of the state with respect to the appropriation, diversion and use of water for power purposes[62] and the state's wishes and views are important considerations for the Commission, which has seldom ridden roughshod over the states' interests.

The constitutional right of appropriation is limited by adding, "as provided in the chapter." No person can acquire a right to the use of water other than by complying with the Act and obtaining a permit, and all diversions, impoundments, withdrawals or uses of a significant amount of water without compliance are made criminal acts.[63] The Act clearly adopts the major feature of modern regulated prior appropriation, the rule of *Wyoming Hereford Ranch v. Hammond Packing Co.*,[64] that the statutory procedure must be followed, that obtaining a permit is the exclusive method of getting a water right. "A different decision would leave prevalent many of the acknowledged evils of the . . . system intended to be superseded by the system of state control." Alaska will not follow Idaho's mistake of neutralizing the statutory system by allowing a parallel system of unrecorded appropriations to be obtained by diversion and application to use.[65]

58. *Cf.* Arizona v. California, 283 U.S. 423 (1931) (navigable stream); Arizona v. California, 373 U.S. 546 (1963) (National Forests, national recreational areas, wildlife refuges); Nevada *ex rel.* Shamberger v. United States, 165 F. Supp. 600 (D. Nev. 1958) (military reservations).
59. 16 U.S.C. § 669 (1964).
60. 43 U.S.C. § 383 (1964).
61. First Iowa Hydro-Elec. Co-Op. v. FPC, 328 U.S. 152 (1946).
62. 16 U.S.C. § 802(b) (1964).
63. §§ 46.15.040(a), .180. The Act repeals the statute relating to water rights attached to mining claims. Alaska Sess. Laws 1966, ch. 50, § 2.
64. 33 Wyo. 14, 236 Pac. 764 (1925).
65. Nielson v. Parker, 19 Idaho 727, 115 Pac. 488 (1911).

The Alaska Act further provides that "No right to the use of water either appropriated or unappropriated shall be acquired by adverse use or possession."[66] This is borrowed from the statutes of Utah and Nevada,[67] whose courts both permitted unrecorded and unregulated water rights to be acquired in this fashion,[68] and whose lawmakers reacted immediately with legislative reversals of these decisions. This phrase also spares Alaska from troubles that have beset Idaho and Montana, the interminable series of attempts by upstream junior appropriators who claim to have upset record priorities and obtained better rights than seniors by their long continued unlawful uses.[69]

B. Organization and Coordination

The Act authorizes the Commissioner of Natural Resources to establish a Division of Water in that department, and to assign to the division the responsibility for carrying out its provisions.[70] Instead, the Commissioner made a more modest start and established a Branch of Water Resources within the existing Division of Lands.[71]

While the *Code* was under preparation, state officials were much concerned with coordinating the work of the Department of Natural Resources in regulating water rights with that of the Department of Health and Welfare in administering the pollution control laws and of the Department of Fish and Game in controlling disturbances to streams. The *Code* accordingly set up fairly elaborate provisions for concerted and joint action, exchange of information and appearances of one department before another.[72] Disputes or disagreements between departments were to be referred to a cabinet level council consisting of these Commissioners and the Commissioner of Public Works and the Director of the

66. § 46.15.040(a).
67. UTAH CODE ANN. § 73-3-1 (1953); NEV. REV. STAT. § 533.060 (1960).
68. Hammond v. Johnson, 94 Utah 20, 66 P.2d 894 (1937); Application of Filippini, 66 Nev. 17, 202 P.2d 535 (1949).
69. See Mountain Home Irr. Dist. v. Duffy, 79 Idaho 435, 319 P.2d 965 (1957); Note, *Prescriptive Rights to the Use of Water in Montana*, 3 MONT. L. REV. 135 (1942).
70. § 46.15.020(a)(3).
71. The Chief of the Water Resources Branch is Mr. Marvin A. Kuentzel, whose headquarters are at the Anchorage office of the Division of Lands.
72. CODE §§ 105, 109, 403(b), 404(b).

State Division of Planning.[73] Appeals from the council could be taken by requesting instructions from the Governor, who under Alaska's strong executive form of government would have the power to direct his commissioners to take the action he felt desirable.[74]

Although these provisions had the approval of the executive departments and of the Governor when the *Code* was submitted to the legislature, the Act in its final form is considerably less comprehensive and explicit. The Commissioner of Natural Resources is ordered to cooperate with, assist, advise and coordinate plans with federal, state and local agencies in matters relating to the appropriation, use conservation, quality, disposal or control of waters and related activities.[75] In adopting his regulations, he must take into consideration the responsibilities of the Department of Health and Welfare and the Department of Fish and Game.[76] An application for a permit to appropriate water shall be considered as having been simultaneously filed with those two departments.[77] Notice of hearings on objections to permits to appropriate must be served on them.[78] In determining whether the public interest will be furthered by a proposed appropriation, the Commissioner must consider the effect of an appropriation on fish and game resources and public recreational opportunities, the effect on public health and the effect upon access to navigable or public waters.[79] In issuing permits, he may subject them to terms and conditions necessary to protect these interests.[80] All this is in the one direction, from the Natural Resources Department to the others, and there are no explicit requirements for communication in the other direction.

Many proposed uses of water, such as the appropriation of a small amount of ground water for irrigation, the construction of a dike on a remote stream by a lumber company, or the disposal of a creamery's wastes, will involve only one

73. CODE §§ 103, 106.
74. ALASKA CONST. art III, § 24: "Each principal department shall be under the supervision of the governor."
75. § 46.15.020(b)(3).
76. § 46.15.020(b)(1).
77. § 46.15.040(c).
78. § 46.15.070(b).
79. § 46.15.080(b).
80. § 46.15.100.

department, and the permit, approval or license will not effect the operations of or be of interest to others. On the other hand, a prospective manufacturer may desire to appropriate water for use in his plant, he may need to dispose of the water after it has picked up foreign matter from his processes, and the effluent may have an effect on salmon. Such a person will require three different types of departmental approval, and the action of one department may affect the action taken by another. Many uses of water may require action by only one department but may affect another. Two agencies with different objectives and policies might find themselves unable to agree. In such case, the apparent procedure under the Act will still be an appeal to the Governor, but without the intermediate step of a review by the council of department heads.

One other form of coordination of a sort exists in the requirement that a state agency seeking to appropriate water must apply for a permit like a private person or organization.[81] The Department of Public Works might desire to appropriate water for park purposes, or the Department of Fish and Game for a hatchery. Such appropriations would be private rights to the use of water, although owned by the state. They would not override prior rights held by citizens.[82] They should be fitted into the pattern of recording and administration. In view of the supervisory powers of the Governor, this would be another method of coordination, not the subjecting of one department of the state to the control of another.

C. Permits to Appropriate

The right to appropriate water is to be obtained by making an application to the commissioner for a permit to appropriate.[83] The permit system, invented in Wyoming in 1890, is the *sine qua non* of a modern water law. Although the Act is based on the premise that water resources should be developed very largely by private initiative, that initiative must be exercised in the public interest, and the permit

81. § 46.15.260(8).
82. ALASKA CONST. art VIII, § 16 requires compensation if the rights of citizens are divested for a superior public purpose.
83. § 46.15.040(b).

device gives the state the power to protect itself and others from undesirable uses. The need for regulation of water use is obviously greatest at the very beginning of the use.

Permits offer other advantages. Overdevelopment can be prevented by denying permission to begin uses if there is no unappropriated water and if future conflicts would be sure to arise. Underdevelopment can be prevented also, since one of the most important aspects of the permit system is the ability to reserve the water for other more beneficial purposes. These might be for use in place, nonappropriative uses such as recreation, fish habitat or waste disposal. Or the reservation might be exercised in favor of a prospective project offering greater benefits.

A permit will issue only after findings that four conditions are met. The first of these is that the rights of prior appropriators must not be unduly affected.[84] Since the rule of priority protects an existing appropriation from interference by a newly permitted use, there is seldom need to deny an appropriation on the ground that there is no unappropriated water in the source.[85] Occasionally a permit should be denied if the initial construction will damage a prior user, or if it is clear that there is no unappropriated water in the source or that a conflict would arise with an existing right and that harrassing litigation would be forced on the prior appropriator.[86]

The second condition to the issuance of a permit is that the proposed means of diversion or construction be adequate.[87] Here one consideration might be the protection of others and the public against unsafe works.[88] The requirement of adequate diversion works would most often protect an appropriator from his own folly in choosing equipment that will not do his job, or in drilling a well to a shallow depth in

84. § 46.15.080(a)(1).
85. Little Cottonwood Water Co. v. Sandy City, 123 Utah 242, 258 P.2d 440 (1953).
86. *Ibid.*
87. § 46.15.080(a)(2).
88. Under Reg. 802.02 the director may require modification of the plans and specifications of dams which affect the public health and safety, and may require the applicant to obtain an independent appraisal of the plans from a qualified engineer.

an area where development by other appropriators is certain to require the lowering of the water table.[89]

The third finding must be that the proposed use of water is beneficial.[90] Though beneficial use is the basic ingredient of all appropriations, the statutes of most states either assume that the term is a word of art whose meaning is well known, or simply list the types of things included within the term. Alaska's definition does the latter, but also attempts to state a general meaning: " 'Beneficial use' means a use of water for the benefit of the appropriator, other persons or the public, that is reasonable and consistent with the public interest, including, but not limited to, domestic, agricultural, irrigation, industrial, manufacturing, mining, power, public, sanitary, fish and wildlife, and recreational uses.' "[91] The Act does not include some subsidiary definitions recommended by the *Code*. One of these would have insured that public (municipal) uses included the use of water in excess of consumer needs in order to maintain a circulating or constantly flowing distribution system, and the use of water to maintain constantly flowing sewers—uniquely Alaskan needs to avoid freezing of water pipes and sewers.[92] It also would have expanded sanitary uses to include the impoundment of water for release into a stream during periods of low flow to dilute and transport licensed discharges of wastes.[93] Fish, wildlife and recreational uses got the fullest expansion in the *Code*. It recommended the authorization of impoundments of water for fish propagation, fish and wildlife habitat and feeding grounds, commercial fishing opportunities, sport fishing, hunting, boating and other recreational opportunities. It would have specified as beneficial the retention of minimum impoundments in multipurpose dams to protect and preserve fish and the impoundment of water for release during periods of low stream flow to protect the migration and habitat of commercial and sport fish.[94] Doubtless any Alaskan administrator or court would be im-

89. See text *infra* at note 148.
90. § 46.15.080(a)(3).
91. § 46.15.260(3).
92. CODE § 202(5).
93. CODE § 202(6).
94. CODE § 202(7).

pelled to agree that these practices and uses were beneficial and that the legislature simply omitted them as superfluous.

One other phrase of the Act is worthy of note. The use may be beneficial to "the appropriator, other persons or the public . . . ."[95] This avoids the rule of *Lakeshore Duck Club v. Lake View Duck Club*[96] which voided an attempted appropriation for an admittedly beneficial use, the production of food for wild water foul, on the ground that others might reap the benefit by shooting the ducks. The Utah court held that an appropriation must inure to the exclusive benefit of the appropriator and be subject to his complete dominion and control. No other state seems to have placed a similar limitation on appropriations, and it seems inconsistent with other cases[97] and certainly inappropriate for and undesirable in Alaska, where much public use of appropriated water for recreational purposes can be expected.

The last requirement is that the proposed appropriation must be "in the public interest."[98] This phrase appears in the laws of fourteen other western states,[99] but none spells out what is meant and very few courts have considered its meaning. The power to deny a permit on this ground has seldom been used, for the probable reason that most appropriations have been in the public interest. The pioneer Westerners who evolved the doctrine recognized that development in their private interests could also be development in the public interest. Water was used to produce wealth — minerals, crops, cattle, electricity, and manufactured products. The increase in the wealth of the citizens, the secondary effect of their purchasing power on spending in the community, employment and tax revenues, and the goods made available for use by others, all increased the wealth and developed the resources of the Western states and the nation.

The leading cases give an economic interpretation to the phrase. Where sponsors of two different projects compete for the same water, the project to be chosen is the one which

95. § 46.15.260(3).
96. 50 Utah 76, 166 Pac. 309 (1917).
97. Empire Water & Power Co. v. Cascade Town Co., 205 Fed. 123 (8th Cir. 1913); Scherck v. Nichols, 55 Wyo. 4, 95 P.2d 74 (1939).
98. § 46.15.080(a)(4).
99. All appropriation states except Colorado, Montana and Idaho.

will produce the most benefits.[100] Where a small single purpose project would cut the heart out of a large multipurpose project, it should be subordinated to the larger one that promises the greater benefits.[101]

This is no more than the maximization principal called for by the Alaska Constitution. But the constitution aims at "maximum benefit of the people"[102] and "maximum use consistent with the public interest."[103] It recognizes that there can be exploitation of water resources that brings large benefits to the individual but undesirable detriments to society as a whole. The courts have incorporated protection against unwanted side effects and social losses into the concept of appropriation in the public interest.[104]

The development of resources so as to produce from them the maximum benefits is a common goal. In practice, it is difficult to be sure that the goal has been reached. In general, people are content with the knowledge that if they are better off with a particular resource use than without it, they have at least taken a step toward achieving the maximum. The economists have evolved a useful device, the benefit-cost formula, which indicates that a project is desirable if the ratio of benefits to costs is favorable. If two people wish the same water for inconsistent uses, the benefit-cost formula can be used by a water administrator to determine the use that will produce the greater net benefits and come closer to the maximization ideal, hence the one that should receive the water. Where only one user seeks a right to water and his benefits exceed the costs, the project can be considered a step toward maximum use.

The benefit-cost approach need not be entirely concerned with dollar values such as the cost of cement and the prices of potatoes. Many intangibles can enter into the formula—the value of lives saved by flood control projects, the value of a strengthened state economy, the value of public health, the worth of public recreation. The last is a major factor

100. Young & Norton v. Hinderlider, 15 N.M. 666, 110 Pac. 1045 (1910).
101. Tanner v. Bacon, 103 Utah 494, 136 P.2d 957 (1943).
102. ALASKA CONST. art. VIII, § 2.
103. ALASKA CONST. art. VIII, § 1.
104. Big Horn Power Co. v. State, 23 Wyo. 271, 148 Pac. 1110 (1915); *In re* Martha Lake Water Co., 152 Wash. 53, 277 Pac. 382 (1929).

to be considered in a law for Alaskan water use. The state's officials and people desire to preserve the recreational opportunities which its citizens now have and to improve its reputation as a vacation land. A very large part of the outdoor recreation of both the Alaskan and the tourist depends upon water. Alaska's problem is to find a middle ground between the famous engineer's dictum that every drop of water that runs to the sea without returning a cash value is wasted, and the conservationist who feels that conservation is the opposite of beneficial use, that people must lock up their water resources and save them from economic exploitation. The benefit-cost approach affords a meeting ground for these views and a method of reconciling them. Some economists have tried to make the process easier by developing methods that value recreational opportunities in terms of dollars, attempts which quite often produce startlingly large values. Sometimes intangibles can at least be measured in terms of the cash benefits that must be sacrificed in order to obtain or retain them.[105] Even where the cash must be weighed against recreation only in subjective terms of value judgments, the device gives a means of reaching informed decisions after considering all factors.

In seeking maximization, in figuring benefits and costs, administrators must not fail to consider uncompensated adverse affects on other persons or the public. If there are no detrimental side effects to others and no social losses, and if benefits exceed costs, the project can be said to be in the public interest because it helps the state to achieve maximum use of the water resource. But even if the user's benefits exceeds his costs, someone must also count the costs he imposes on others. For instance, if some activity on an Alaskan stream muddies the water during spawning season so that millions of salmon eggs cannot hatch, the profits from such an operation are taken at least in part from the pockets of the salmon fisherman. Many times the persons who suffer such losses cannot be identified, and the losses are spread over a large number of people, but the losses are nevertheless real. On the other hand, the economic growth

105. Milliman, *Can People Be Trusted with Natural Resources?*, 38 LAND ECON. 199 (1962).

of the state must not be retarded by over zealous blocking of important projects in order to preserve other resources of comparatively slight value.

Furthermore, in determining the public interest and in seeking maximization, each proposed use must be weighed against other possible future uses that might be forstalled. "Foregone benefits" of alternative uses of the water are "induced adverse effects" of a project, to use the economist's language, and must be counted as costs.

The Alaska Water Use Act incorporates the benefit-cost approach into the statute. Following the example of some Wisconsin statutes, the Act lists the factors to be considered in determining the public interest:[106]

> (1) The benefit to the applicant resulting from the proposed appropriation;
>
> (2) The effect of the economic activity resulting from the proposed appropriation;
>
> (3) The effect on fish and game resources and on public recreational opportunities;
>
> . . . . .
>
> (5) The effect of loss of alternate uses of water that might be made within a reasonable time if not precluded or hindered by the proposed appropriation;
>
> (6) Harm to other persons resulting from the proposed appropriation; . . . .

This does not mean that the water resources of the state will be turned over to economists, or that formulae, push-button techniques and computers can give all the answers. The decisions will be difficult. No law can make them, no formula, no computer. They must be made by people. The balancing of benefits against cost must be performed by the exercise of judgment. All the law can do is direct the water administrators to consider all factors, to give each its proper weight, and to reach an informed judgment that will tend to put the state's resources to the maximum use consistent

106. § 46.15.080(b). The Wisconsin models, which deal with hydroelectric dams and use of streams for taconite mining and processing, are WIS. STAT. ANN. §§ 31.06(3), 107.05(3) (1964).

with the public interest, for the maximum benefit of all of its people.

The section relating to preferences continues this thinking. In many Western states, the legislatures have listed various uses of water in the order of their importance, and have given each use a preference over others further down on the list. There has been little agreement as to the relative importance of different uses. Usually these lists reflect the economic thinking of the period in which the statute was adopted or incorporate the desires of the then dominant pressure groups. The Alaska Constitution requires one preference, public water supply,[107] and authorizes the legislature to prescribe others. Instead, the Act provides that when there are competing applications for water from a source that is insufficient to supply all, the commissioner shall give preference first to public water supply, and "then to the use which alone or in combination with other foreseeable uses will constitute the most beneficial use."[108]

The public interest is not exclusively a matter of dollars and cents, and these benefit-cost factors are not the only considerations for the administrators. A use that might adversely affect the public health will receive a hard scrutiny.[109] Other state policies may bear on the question—access to navigable or public waters is mentioned in the Act[110] and public land policies have been considered in other states.[111] Investor protection may require an investigation of financial feasibility[112] and of "the intent and ability of the applicant to complete the appropriation . . . ."[113] A state may find that its public interest is furthered by favoring home use of the fruits of the appropriation.[114]

Outright denials of appropriations as contrary to the public interest are rare. More often an adjustment is made—a compromise is reached by which a harmful effect can be eliminated and both the water use and the public interest

107. ALASKA CONST. art. VIII, § 13.
108. § 46.15.090.
109. § 46.15.080(b)(4).
110. § 46.15.080(b)(8).
111. Cookingham v. Lewis, 58 Ore. 484, 114 Pac. 88, 115 Pac. 342 (1911).
112. Young & Norton v. Hinderlider, *supra* note 100.
113. § 46.15.080(b)(7).
114. Kirk v. State Bd. of Irr., 90 Neb. 627, 134 N.W. 167 (1912).

can be accommodated. The Alaska administrator "may issue a permit subject to terms, conditions, restrictions and limitations he considers necessary to protect the rights of others, and the public interest."[115]

Perhaps the real strength of the Act lies in procedures which will enable all viewpoints to be brought together and all factors considered, so that choices can be made on an informed basis. The Department of Natural Resources is given the authority to determine and adjudicate rights in the waters of the state and their appropriation and distribution, under procedures set out in the Act and supplemented by regulation.[116]

When the commissioner receives an application to appropriate, he prepares a notice containing pertinent information and giving 15 days to file written objections showing that the rights of the objector or the public interest might be adversely affected.[117] The notice is published in one issue of a newspaper of general distribution in the area and is served personally or by certified mail upon any appropriator, applicant or permit holder whose interests, as shown by the records, may be affected. He must also serve the notice upon the Department of Fish and Game and the Department of Health and Welfare, and he has discretion to serve it on any agency, public subdivision or person.[118] He might, for instance, give notice to organizations deemed to represent or be concerned with any public interest that may be involved. In some cases, notice to the Isaak Walton League might be appropriate, in others to an organization of municipalities or of representatives of a particular industry interested in cases which might set a precedent. If objections are filed, the commissioner may hold hearings after further notice. He must grant, deny or condition the application within thirty days after receiving the objections, or at the conclusion of the hearing.[119] If no objection is filed he makes his determination on the applica-

115. § 46.15.100.
116. §§ 46.15.020(b)(1), .020(b)(4), .040(b). See Regs. 802.01-.02, 806.01.
117. § 46.15.070(a).
118. § 46.15.070(b).
119. § 46.15.070(c).

tion.[120] Any person aggrieved may appeal to the superior court.[121]

These procedures could be unnecessarily burdensome in cases of minor importance. The commissioner may by regulation designate types of appropriations which are exempt from the notice and hearing procedures, and provide simplified procedures for these.[122] The initial regulations exempt appropriations of less than 5,000 gallons per day for domestic use, and indicate that at a later time all uses of water may be exempted in certain areas of the state.[123] This would certainly be in keeping with Alaska's great size and great diversity of climate, population, industry, water occurance and water problems. It may be that there will be no necessity for many years to regulate water rights from some sources, even though they may be fairly large in quantity.

Nevertheless, such exempted uses are to be recorded and fitted into the general water use pattern so that they may be protected as well as regulated. An application for a permit is still required, since the appropriator is exempted only from some procedural steps. The remaining procedures are simple, and should give him little trouble.

The Act's provisions for prosecution of the permitted project follow familiar lines. Time limits for beginning construction and for perfecting the appropriation may be included in the permit[124] with reasonable extensions permitted for good cause shown—presumably the traditional reasonable periods within which the works can be completed by the exercise of reasonable diligence.[125] When the works are completed and the use is begun in substantial accordance with the permit, the appropriation is then perfected and the permit holder is issued a certificate of appropriation.[126]

120. § 46.15.070(d).
121. § 46.15.070(e).
122. § 46.15.070(f).
123. Regs. 803.01-.03.
124. § 46.15.110.
125. See Campbell v. Wyoming Dev. Co., 55 Wyo. 347, 100 P.2d 124 (1940); City & County of Denver v. Northern Colo. Water Conservancy Dist., 130 Colo. 375, 276 P.2d 992 (1954).
126. § 46.15.120.

D. Existing Rights

The new system of regulated water rights is superimposed upon a pattern of territorial rights which were created by their owners' acts without any leave and without any need of notice or record. In such a situation a new law must of necessity contain a "grandfather clause" to confirm existing and vested rights, and a procedure for putting them on record.

It will be recalled that territorial law recognized three types of water rights: (1) appropriations of streams made under customary law and judicial decisions, (2) statutory quasi-riparian rights held by the locaters of mining claims which included both banks of the stream and (3) rights of landowners to capture underground water owned by them. To the extent that any right of any type is being put to use on the effective date of the Act (or has been used within the past five years, or is about to be used by works under construction) it is declared to be a lawful appropriation under the Act, subject to the Act's provisions and administrative regulation.[127]

This clause merely confirms territorial appropriations of stream water, but it changes the legal aspects of rights attached to mining claims and ground water rights in a marked fashion. Yet few if any of those rights are today in conflict with each other, and converting them into appropriations gives them priority over new rights initiated under the Act. This type of legal protection is probably as effective as would be an attempt to preserve the legal niceties of their original form.

The Act is somewhat ambiguous in relation to unused rights. Quite obviously the common law "ownership" rights to ground water under private lands (really rights to capture)[128] may no longer be exercised as such, and in the future a landowner who drills a well must go the appropriation route. Unused riparian mining rights apparently get the same treatment. The Act starts out by declaring that a "water right acquired by law" before the effective date is a lawful appropriation,[129] and this might be thought to include

127. § 46.15.060.
128. See Katz v. Walkinshaw, 141 Cal. 116, 70 Pac. 663 (1902).
129. § 46.15.060.

an unused right attached by law to a mining claim. However, the procedural provision for determining existing rights indicates that only persons putting water to beneficial use are entitled to certificates of appropriation, since it sets the priority of pre-statutory rights as of the date work was begun if due deligence was used, otherwise from the date the water was applied to the beneficial use.[130] This seems to leave no room for survival of a right that had never been put to use. The new regulations adopted under the Act accept this view of the law and recognize only the actual use of water by the holders of mining claims, and the forms distributed for declaring existing appropriations are applicable only to actual users.[131]

The abolition of unused riparian and ground water rights is sometimes thought to raise constitutional questions.[132] But statutes substituting the law of appropriation have given Western courts little trouble. The Oregon plan of recognizing only "vested" riparian rights (those in actual use) has been upheld.[133] The Supreme Court of the United States approved a statement that a state has the power either to modify or reject the doctrine of riparian rights because unsuited to the conditions of the state and to put in force a doctrine of prior appropriation, provided it recognizes valid existing rights. A landowner was not regarded as having a vested right in waters underlying his lands which he had not applied to beneficial use.[134] And in the face of a statutory declaration of ownership of underground water, the South Dakota court upheld a later statute substituting the rule of appropriation, holding that the legislature was justified in finding that the public welfare required the maximum protection and utilization of its water supply, and that the police power permitted

130. § 46.15.135(a).

131. Reg. 801.01, DL Form 236.

132. Lauer, *The Riparian Right as Property*, WATER RESOURCES AND THE LAW 131 (1958); King, *Regulation of Water Resources Under the Police Power*, WATER RESOURCES AND THE LAW 269 (1958); O'Connell, *Iowa's New Water Statute—The Constitutionality of Regulating Existing Uses of Water*, 47 IOWA L. REV. 549 (1962).

133. *In re* Hood River, 114 Ore. 112, 227 Pac. 1065 (1924); California-Oregon Power Co. v. Beaver Portland Cement Co., 73 F.2d 555 (9th Cir. 1934), *aff'd on other grounds*, 295 U.S. 142 (1935).

134. Baumann v. Smrha, 145 F. Supp. 617 (D. Kan. 1956), *aff'd.*, 352 U.S. 863 (1956).

the adoption of a statute imposing regulations not unreasonable or arbitrary.[135]

Today no one knows what water rights exist in Alaska. The records of some mining districts have disappeared. Many of the old mining rights have long been abandoned. Vested rights could exist though no claims to them were filed. Claims that were filed may never have ripened into appropriations by application of the water to use. A statutory procedure for filing claims with the commissioners of recording districts[136] was similarly permissive. Some water users, in apparent ignorance of the statute, filed claims with the Governor or with the U.S. Forest Service in the attempt to establish their rights. Records of mining claims seldom indicate whether both banks of a stream are included within them. It is doubtful that any records of wells and rights to ground water exist.

The determination of past rights is an essential step in inaugurating a controlled system of water rights. Most Western states have elaborate statutory procedures for court or administrative adjudication proceedings to which all claimants in an area or watershed are parties. The administrative procedure adopted by Alaska is considerably simpler. In its first section, the Act gives the Department of Natural Resources the power to determine and adjudicate rights in the waters of the state, and in their appropriation and distribution.[137] Claimants will file a declaration of appropriation with the Commissioner, which will be considered correct until a certificate of appropriation is issued or denied.[138] As soon as practicable, the Commissioner will issue orders setting a definite period for filing the declarations for specified areas or sources. Notice of the orders will be published in the affected area and sent by certified mail to any water user of whom the Commissioner can readily obtain knowledge and to each owner of a mining claim.[139] He will make such investigations of the rights asserted as he considers neces-

135. Knight v. Grimes, 80 S.D. 517, 127 N.W.2d 708 (1964).
136. Alaska Comp. Laws Ann. § 18-1-3 (1949), deleted as no longer applicable by the compilers of ALASKA STAT. (1962).
137. § 46.15.010.
138. § 46.15.135(a).
139. § 46.15.135(b).

sary, and determine them. A copy of his determination will be mailed to each person who has filed a declaration, and anyone adversely affected by the findings as to his own or another's right may request a hearing. Notice of the hearing will be sent to every person who has filed a declaration.[140] Certificates of appropriation will be issued in accordance with the final findings,[141] and any person aggrieved by the action of the Commissioner may appeal to the Superior Court.[142]

Most Western statutes provide that an appropriator forfeits his right if he does not file a claim in adjudication proceedings. The Alaska statute requires that a claimant of an existing right "shall file" a declaration, but does not explicitly state the effect of a failure to file.[143] A similar omission in a Wyoming statute was held to permit a person who had not appeared in the proceedings to later assert his rights.[144] Such late filings might to a large extent destroy the efficacy of the determination proceedings and it might be more desirable to find in the mandatory words of the state an implication that a failure to comply results in loss of rights.

E. Priority

Alaska's Constitution states flatly that "Priority of appropriation shall give prior right."[145] The Act repeats this language and dates all appropriations made under it as of the date of filing the application for a permit.[146] Priority of pre-existing rights date from the day work was begun on the appropriation if due diligence was used in completing the work; otherwise, from the day water was applied to the beneficial use.[147]

The Act adds an important proviso to the rule of priority:

> Priority of appropriation does not include the right to prevent changes in the condition of water occurance, such as the increase or decrease of stream flow,

140. § 46.15.135(c).
141. § 46.15.135(d).
142. § 46.15.135(e).
143. § 46.15.135(a).
144. Farm Inv. Co. v. Carpenter, 9 Wyo. 110, 61 Pac. 258 (1900).
145. ALASKA CONST. art. VIII, § 13.
146. §§ 46.15.050, .130.
147. §§ 46.15.130, .135.

> or the lowering of a water table, artesian pressure, or water level, by later appropriators, if the prior appropriator can reasonably acquire his water under the changed conditions.[148]

The extent of the protection to be afforded by priority has troubled many courts and legislatures. A prior water user may find that his ditch or pump or well must be replaced because latecomers have lowered the flow of a stream or the water table or artesian pressure in his well. He has suffered a loss and he is inclined to demand that the new use be stopped unless the new user pays his added costs. Some courts have stated as an absolute that the first user should be protected in his means of diversion.[149] Some legislatures have placed the burden of replacement on the latecomer.[150] But a number of modern ground water statutes have provided for a reasonable lowering of the water level by future appropriators[151] or have given the prior appropriator protection only within a reasonable or feasible pumping lift or reduction of pressure.[152] The Wyoming statutes give no protection to the means of diversion of large municipal, irrigation or industrial wells, but do require these large appropriators to replace water when their withdrawals interfere unreasonably with domestic or stock water wells.[153] Alaska adopts this rule of reason. "Reasonable" interference seems to exist where appropriators who enjoyed the "good fortune" of cheap diversion works are made to pay costs common to others similarly situated.[154] "Unreasonable" changes in the water conditions seem to be those in which later appropriators with superior economic capacity such as power companies or cities impose costs "beyond the economic reach" of smaller appropriators such as irrigators.[155]

148. § 46.15.050.

149. Pima Farms Co. v. Proctor, 30 Ariz. 96, 245 Pac. 369 (1926).

150. UTAH CODE ANN. § 73-3-23 (1953); see also Current Creek Irr. Co. v. Andrews, 9 Utah 2d 324, 344 P.2d 528 (1959); HANDBOOK OF THE NATIONAL CONFERENCE OF COMMISSIONERS ON UNIFORM STATE LAWS 208, MODEL WATER USE ACT § 409 (1958).

151. NEV. REV. STAT. § 534.110 (1960); KAN. GEN. STAT. ANN. §§ 82a-711a (1961).

152. WASH. REV. CODE ANN. § 90.44.070 (1950).

153. WYO. STAT. §§ 41-128 to -141 (1957).

154. *In re* Silvies River, 115 Ore. 27, 237 Pac. 322 (1925); Warner Valley Stock Co. v. Lynch, 215 Ore. 523, 336 P.2d 884 (1959).

155. State *ex rel.* Crowley v. District Court, 108 Mont. 89, 88 P.2d 23 (1939); City of Colorado Springs v. Bender, 148 Colo. 458, 366 P.2d 552 (1961).

Provisions for enforcement of priorities are meager compared to the elaborate machinery set up in states where irrigation is the major water use. Alaska is not likely to soon need an army of water commissioners and superintendents to distribute water according to priorities. The form of Alaska enforcement is left almost entirely up to the administrators. The Department of Natural Resources is given general authority to determine and adjudicate rights in the distribution of water.[156] Examples of the forms his exercise of authority might take are given by recital in the section declaring certain acts to be misdemeanors.[157] These include diverting, impounding, or using a significant amount of water without a permit or certificate, violation of an order of the Commissioner to cease and desist from preventing any water from moving to a person having a prior right to it, or to take steps to cause the water to so move, or the failure to install meters, gauges or other measuring devices or control works, or an order establishing corrective controls. Quite obviously, disputes over priorities and adjustments between appropriators in times of shortage will be made on an *ad hoc* basis.

F. Transfer, Change and Loss

Like other Western appropriations, Alaska water rights are to exist in perpetuity, at least so long as they are exercised and applied to beneficial use. The constitution provides that no person shall be involuntarily divested of his right to the use of waters except for a superior beneficial use or public purpose and then only with just compensation and by operation of law.[158] Although the Act allows the Commissioner to issue a permit subject to terms and limitations,[159] he may make it subject to termination only as provided in the Act—by abandonment, forfeiture or condemnation for public water supply.[160] Alaska follows the Western tradition of secure water rights that tend to encourage investment and thus lead to maximum use.

156. § 46.15.010.
157. § 46.15.180.
158. ALASKA CONST. art. VIII, § 16.
159. § 46.15.100.
160. §§ 46.15.140, .150.

Again following Western traditions, the right to use water under an appropriation or permit is appurtenant to the land or place where it has been or is to be beneficially used.[161] One exception that has always been applied in Alaska is that water supplied by one person to another's mine or mining claim is not appurtenant to that mine or claim unless the parties so intend.[162] This exception, broadened to refer to any property of another person, is retained in the Act.[163] Appurtenant water rights pass with a transfer of the land by conveyance or operation of law unless specifically excepted from a conveyance.[164]

The perpetual nature of Alaskan water rights and their attachment to particular lands will not mean that water use will be frozen forever in the pioneer pattern. The water right is not only perpetual, but transferable, and though appurtenant, it is severable. It is a property right that can move in response to economic forces. If competition for water becomes keen, if the easily available supply is fully appropriated, and if new or different uses promise greater benefits, the water, like land, can be sold to the user who will put it to more valuable employment. The Act makes all or part of an appropriation severable from the land and permits it to be sold, leased, or transferred for other purposes or to other lands.[165]

Only one form of involuntary transfer exists, that to a preferred user for public water supply.[166] A person claiming this status applies for a permit and for a preference over other appropriators if their uses will prevent or substantially interfere with his. He must agree to compensate the holders of such prior appropriations for any damages. The regulations require an applicant for a preferred use to file certified copies of agreements or court orders providing compensation to injured appropriators.[167]

161. § 46.15.160(a).
162. Stinson v. Murray, 8 Alaska 167 (1930).
163. § 46.15.160(a).
164. § 46.15.160(a).
165. § 46.15.160(b). The Act provides for recording of transferring instruments and the effort of recording. § 46.15.170.
166. § 46.15.150.
167. Reg. 804.02b.

Curiously, the Act omitted the recommended *Code* section setting out procedures for securing approval of changes. Approval was to be granted only if no injury would occur to other appropriators or to the public interest, or if the change could be made subject to conditions avoiding injury.[168] The Act merely requires the permission of the Commissioner. However, it has always been the law in Alaska as elsewhere that changes and transfers of water rights may not be made if such injury would result[169] and the permission of the Commissioner will no doubt depend upon the absence of injury. Similarly, the Act omits any references to changes in the point of diversion (which not infrequently occur without any change of use, user, or place of use) but this too was approved by the territorial courts[170] and may be regarded as a part of the common law of appropriation, not requiring statutory repetition.

From the beginnings of prior appropriation law, the water right was based on use and terminated on the cessation of use. Water rights can be lost by abandonment or forfeiture. Common law abandonment is the failure to use appropriated water, with the intention of abandoning it.[171] This concept is incorporated into the Act. Most Western states, because the mental element of the intention of the appropriator is often a matter of doubt, have adopted the quite different concept of forfeiture. Under this rule the mere nonuse of water for a period set by statute causes the appropriation to end. Since Alaska's Constitution proscribes the involuntary divestment of the right to the use of waters, it might be thought that this concept could not be applied in the state. However, even under the forfeiture statutes the nonuse must be a "voluntary act" and not the inability to receive water caused by conditions beyond the appropriator's control.[172] If he deliberately does not use his available water, knowing the consequences, it can hardly be said that he has been involuntarily deprived of his right. The Alaska Act incorporates this rule and forfeits an appropriation only if the appropriator

168. CODE § 232.
169. Eglar v. Baker, 4 Alaska 142 (1910).
170. *Ibid.*; Miocene Ditch Co. v. Campion Mining & Trading Co., 3 Alaska 572 (1908).
171. Noland v. Coon, 1 Alaska 36 (1890).
172. Ramsay v. Gottsche, 51 Wyo. 516, 69 P.2d 535 (1937).

voluntarily fails or neglects, without sufficient cause, to use his water for five successive years.[173] Appropriations abandoned or forfeited revert to the state, and the water becomes unappropriated water.[174]

In most states abandonment and forfeiture proceedings are brought by other appropriators, usually those injured by a resumption of use of the water. The Alaskan administrators have borrowed a page from Nebraska, in which the Department of Water Resources may examine ditches as often as necessary and initiate cancellation proceedings on its own motion.[175] The regulations require each holder of a permit or certificate to file, at five year intervals, a report of water use during the preceding five year period on a form supplied by the director, and further provide that failure to report will be considered evidence of nonuse and of intention to abandon.[176]

III. OMISSIONS, FUTURE TASKS

A Water Code for Alaska, as a response to a request for a comprehensive water statute covering all phases of water-related activities, contained six articles dealing with state organization, appropriation, pollution, conservation, flood control and drainage, and local agencies. The Water Use Act turns out to be principally Article II on appropriation with its sections reshuffled, its procedures simplified, and some language changed, and with a few thoughts thrown in from Article I on organization and coordination.[177] Questions that come naturally to mind are, what was left out of the *Code?* What was lost? How serious were the omissions? Why were they made?

There are no substantial differences between the Act and Article I of the *Code* on the organization of the state agencies. The *Code* recommended a Division of Water in the Department of Natural Resources and the Act authorizes it. The *Code* left untouched the jurisdiction of the Depart-

173. § 46.15.140(b).
174. § 46.15.140(a).
175. NEB. REV. STAT. § 46-229.02 (1960).
176. Reg. 805.01.
177. Article II was actually more than one-sixth of the CODE. It took up approximately one-third of its bulk.

ment of Health and Welfare over water quality and pollution control and of the Department of Fish and Game relating to the approval of acts that might damage fish and wildlife, though some changes were made in the substance and procedures of the laws so administered. The Act similarly does not restrict or enlarge the jurisdiction of these departments over the qualitative and biological aspects of water.

The *Code* had much more elaborate provisions for coordination of the actions and policies of these departments. It provided that the director of the new division would be the coordinator[178] directing cases to the proper officials, notifying departments where one might be concerned with the work of the other, arranging joint or successive hearings and orders, appearances by the personnel of one department before another.[179] Sponsoring officials foresaw the possibility of disagreements among these departments with their different programs and responsibilities. The *Code* therefore recommended a review board, really a subcommittee of the Governor's cabinet, to be called the Water Resources Policy Council and consisting of the Commissioners of the Departments of Natural Resources, Fish and Game, Health and Welfare, and Public Works, and the Director of the State Division of Planning.[180] The Council was to review actions or proceedings of one department when another disagreed or when affected citizens raised questions of state policy.[181] If the Council could not resolve the conflict, it was to report the matter to the Governor and await his recommendation.[182]

The Act does not spell out mechanisms and procedures for coordination, adjustment and settlement of interagency disputes. Apparently, the legislature was considerably less disturbed about the necessity for these than were the department heads who recommended and shaped the proposed Article of the *Code*. The Act merely directs the Commissioner of Natural Resources to coordinate his work with the other departments, and to notify Fish and Game and Health and

178. CODE § 104(b).
179. CODE § 105.
180. CODE § 103.
181. CODE § 106.
182. *Ibid.*

Welfare of applications for permits.[183] Doubtless disagreements will still arise; for instance, a likely one could be the issuance by Natural Resources of a permit for the appropriation of stream water simultaneously with a denial of approval of the project by Fish and Game on the ground that the diversion would interfere with the migration and spawning of salmon. Under Alaska's powerful Governor a stalemate is not likely to exist; he has the powers he needs to knock heads together to compel compromise or to decide a dispute by sustaining one department and overruling another.[184] Procedures in such cases will doubtless be informal and *ad hoc*.

The Act drops the idea of the Council, and creates instead the Water Resources Board, composed of seven members who are to have "a general knowledge of the use and requirements for use of the waters of the state and the conservation and protection thereof.[185] The duties of the Board are to inform and advise the Governor on all matters relating to the use and appropriation of water in the state.[186] The Commissioner of Natural Resources will act as the executive secretary of the Board and provide its clerical staff.[187] It must meet at least twice a year and it may hold public hearings to obtain public opinion on a water use problem or proposal.[188] But the Board will not fulfill the functions of the proposed Council, and it will oversee the work of the departments only in the most general sense. It has no powers of decision, action, regulation or even of coordination, though its studies and recommendations could be triggered by conflicts or aimed at eliminating their source.

The *Code* directed the Water Resources Policy Council to perform certain specific planning functions.[189] The Act does not hand direct responsibility for water resources planning to any person or group. Some planning is contemplated, since the Act directs the Commissioner of Natural Resources

183. §§ 46.15.020(b)(1), .070(c).
184. ALASKA CONST. art. III, § 24, quoted *supra* note 74.
185. § 46.15.190.
186. § 46.15.210. Members of the Board are appointed by the Governor subject to legislative confirmation and serve four year staggered terms. §§ 46.15.190, .200.
187. § 46.15.190.
188. §§ 46.15.220, .230.
189. CODE § 107.

to coordinate his plans with federal, state and local agencies.[190] Similarly, the Water Resources Board has no responsibility for planning, but it can make "studies of the state's water supplies and plans for future requirements."[191] It almost goes without saying that the formulation of good water resources policies and plans is not the result of statutory drafting, but depends upon the men who perform the functions and the support given to them. The lack of specific requirements for coordinated planning may be unimportant since realistic administrators are not likely to make unilateral plans unrelated to those of other agencies. As much or as little planning, as good or as bad, can happen under the Act as could have occurred under the *Code.*

Article III of the *Code,* Water Pollution and Quality Control, was one of the first to disappear when the compromise bills were drafted. The state already had a quite good pollution act. Adopted in 1947, drafted with the help of the United States Public Health Service, it resembled in many ways the 1950 Suggested State Water Pollution Control Act recommended by the Surgeon General of the United States.[192] While changing conditions and administrative experience have led to a revised version of the Suggested Act with some new techniques for water quality management, it cannot be said that Alaska has an urgent need for revision of its law. The *Code* recommended some modernization and strengthening of procedures, and some procedures for coordination with other departments. While these would have amounted to substantially more than gilding the lily, water quality was the one area in which Alaska's water law was most modern and least in need of improvement. It is not unlikely that the legislature felt that when improvement came, it should be based on studies in depth of Alaska's practical problems rather than on recommendation for an "ideal" act based on more or less theoretical legal considerations. At any rate, the Act assigns "the adequacy of state laws and regulations

190. § 46.15.020(b)(3).

191. It is not clear whether this is authority to make plans or to make studies of the State's plans.

192. FED. SECURITY AGENCY, SUGGESTED STATE WATER POLLUTION CONTROL ACT AND EXPLANATORY STATEMENT (Oct. 1950).

governing . . . the prevention of pollution . . . ." as a study topic for the Water Resources Board.[193]

Conservationists may mourn the loss of Article IV, Conservation of Public Waters. Many uses of water are not appropriations involving a diversion or damming or withdrawal of water, but are instead uses of water in place, of a stream or lake as such. In this class are uses for navigation, which may include pleasure craft as well as commercial transportation, for aircraft landing and takeoff, for migration and spawning of salmon, for fishing and hunting. For some purposes a minimum flow should be left in streams, to protect fish, to preserve a living stream to carry away irreducible minimums of sewage and waste, or to preserve a park or public recreation area. If waters are to be reserved for the public, access by the public must be provided and protected. Many beautiful Alaska lakes are already the sites of homes, summer cottages and resorts. Much of the value of such property could be lost if lakes are to be dried up or will fluctuate in height.

Article IV was directed to these problems. It contained definitions of navigable and public waters designed to give the state as wide an authority as possible for conservation programs, activities and regulations,[194] and to avoid the effect of restrictive definitions applied in some states.[195] The *Code* provided that the director of the Division of Waters might reserve any public waters from appropiration and use, at the request of the Department of Fish and Game for the protection of commercial and sport fishes, at the request of the Department of Health and Welfare for the maintenance of minimum sanitary flows, or at the request of the Division of Tourism and Economic Development for the preservation of scenic beauty, boating, parks and public recreation.[196] Having made such a reservation, the director might reject applications for permits to use the reserved water, or

193. § 46.15.210.
194. CODE § 401; *cf.* Muench v. Public Serv. Comm'n, 261 Wis. 492, 53 N.W.2d 514 (1952).
195. *Cf.* State v. Bollenbach, 241 Minn. 103, 63 N.W.2d 278 (1954).
196. CODE § 403.

issue them subject to conditions that would preserve and effectuate the reservation.[197]

Though the blanket withdrawals of the *Code* are not authorized by the Act, appropriations may still be denied on a case by case basis to preserve these values. In determining whether a proposed appropriation will further the public interest, the Commissioner must consider its effect on fish and game resources and on public recreational opportunities, the loss of alternate uses of the water and the harm to other persons that might result, as well as the effect on access to navigable and public waters and on public health.[198] Appropriations may still be subjected to terms, conditions, restrictions and limitations necessary to protect the rights of others and the public interest.[199] The *Code* version of this section suggested that such terms might include the release of minimum flows from reservoirs or the leaving of minimum flows in streams to protect and preserve the habitat, migration and spawning of fish, or the dilution and transportation of licensed discharges of sewage and wastes, and the retention of minimum impoundments to preserve fish life in reservoirs and the maintenance of water levels of reservoirs to protect riparian property values and recreational opportunities.[200] While these examples do not appear in the Act, they were merely illustrations of how the powers given by the Act might be exercised, and those powers may still be employed to reach these results when the public interest so dictates.

The *Code* would have revised and somewhat limited Section 31 of the Game and Fish laws regulating activities in streams. The law has since been modified by limiting regulation to specified streams and lakes of special value to anadromous fish.[201] It still stands on the books, so that except for some coordination procedures, the loss of this section of the *Code* creates no vacuum. And again, the protection of fish and game is made a subject of study for the Water Resources Board.[202]

197. *Cf.* IDAHO CODE ANN. §§ 67-4301 to -4303 (1947).
198. § 46.15.080(b).
199. § 46.15.100.
200. CODE § 212.
201. ALASKA STAT. § 16.05.870 (1962).
202. § 46.15.210.

Article IV continued with solutions to a number of problems which have vexed other states. It authorized the Division of Lands to classify some public lands on public waters as recreational and reserve them from private acquisition, and to reserve rights of way for access to public water from land sales and mining claims.[203] Public access to waters already surrounded by private lands could be condemned.[204] Harmful appropriations found to be no longer in the public interest might be condemned.[205] Lake and reservoir levels and outflows were to be subject to control to protect the waters for public enjoyment and provide flood control, protection of riparian property and property values, maintenance of fish and wildlife habitat and areas of natural beauty.[206] These are all problems in more populous states. Some of them were foreseen in Alaska as far back as 1956, for the constitution calls for reservation of recreation sites and free access to public water.[207] Perhaps they are not yet seriously felt in the vast open spaces of this last frontier. Whether Alaska and its people will be hurt if the state waits until serious disputes and emergencies arise must await the future.

The remaining two articles of the *Code* also attempted to take a forward look. Article V, relating to drainage and flood control, was an attempt to settle the law in advance of serious disputes, to save expensive and unnecessary litigation, and to prevent some problems from ever arising. In several small agricultural areas of Alaska existing farms may be improved and enlarged with land treatment and drainage. But Alaska has no drainage law settling the rights and obligations of those who wish to get rid of surplus water. The law in other states is not uniform. The *Code* attempted to find rules for drainage, dikes, cooperation among neighbors, easements and condemnation, using Midwestern precedents, to encourage landowners to improve their lands yet at the same time protect neighbors from unreasonable harm.[208] Flood control works were required to be coordinated and fitted into

203. CODE § 405.
204. CODE § 406.
205. CODE § 407.
206. CODE § 408.
207. ALASKA CONST. art. VIII, §§ 7, 14.
208. CODE § 503.

an overall plan.[209] The *Code* suggested a start at flood plain zoning—to control flood damage and eliminate loss of life by keeping people and buildings out of danger areas instead of building cities, factories and homes in the path of predictable floods, then constructing expensive protective works. Alaska is particularly fortunate in that she is now able to control the future use of most of her land. On floodways or restricted flood plains, the *Code* would have authorized the Division of Lands to withdraw certain lands from homestead, sale or claim, or allow only limited settlement subject to conditions and covenants restricting land use and permissible structures.[210] Damsites, reservoir sites or ditch rights of way might have been similarly reserved to avoid the costly destruction of built-up areas.[211] Construction in designated floodways was to be controlled to prevent structures which might constitute an unreasonable hazard to the safety of life or property.[212] Still another proffered technique toward flood plain zoning would not have restricted landowners in the use of their property, but would have restricted public agencies from building facilities such as roads, bridges, canals, buildings, docks, powerlines, pipelines, and landing fields in the path of predictable floods.[213] Restricted public construction would have a tendency to retard private construction. Though not enacted, these ideas in Article V were not completely rejected since the Act gives the topic of "lands which are or may be needed for dams, reservoirs, flood dams, flood ways, canals or ditches for the impoundment, storage, flow and control of waters" to the Water Resources Board for further study.[214]

The constitution encourages the legislature to "provide for facilities, improvements, and services to assure greater utilization, development, reclamation and settlement of lands, and to assure fuller utilization and development of . . . waters."[215] The sixth and last article of the *Code* dealt with water conservancy service areas, counterparts of the more

209. CODE § 504.
210. CODE § 505(a).
211. *Ibid.*
212. CODE § 505(b).
213. CODE § 505(c).
214. § 46.15.210.
215. ALASKA CONST. art. VIII, § 5.

familiar rural improvement districts conformed to Alaska's local government law. Other states have many forms of single purpose districts, for drainage, flood control, and irrigation but the model adopted was the multipurpose watershed or conservancy district that would have all those powers, flexible enough to be used for either a simple drainage operation or a substantial river basin organization. The present price of Alaska farmland and the costs of clearing forest land for farms offer attractive possibilities for fairly extensive land treatment and there are several large areas of land that offer possibilities of accommodating many farms if they can be improved by drainage projects similar to those which have reclaimed swamp lands and marshes in the Midwestern and Southern states. In other areas local agencies might take the initiative to provide water supply for municipalities, industries and irrigation, hydroelectric power, recreational facilities and general improvement of lands, soils and water. They might be needed to take advantage of the Reclamation laws[216] (if extended to Alaska) or of the Small Watersheds Act ("Public Law 566").[217] A wide variety of powers to construct and finance facilities for almost all types of water control was suggested. Perhaps there is no "need" for these organizations, in the sense that current projects are stymied by their lack. The thought was to provide tools with which to work—procedures and organizations which could be called upon and used when desired. Here again, the *Code's* recommendations are not rejected but are postponed and the question of participation of local governmental units in the management of water resources is given to the Water Resources Board for its consideration and advice.[218]

CONCLUSION

The Alaska Water Use Act seems a modern, flexible statute for regulating water use, without unnecessary and burdensome restrictions. It should encourage economic growth and permit all water-using activities to grow at their own speeds and in their own directions but always with some

216. 32 Stat. 388 (1902), as amended, 43 U.S.C. §§ 371-615 (1964).
217. 68 Stat. 666 (1954), 16 U.S.C. §§ 1001-06 (1964).
218. § 46.15.210.

consideration for other activities and interests. It calls for water development by the initiative and energy of the people, and it certainly seems to fit the demands of the state's constitution: "to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest . . ." and "for the utilization, development and conservation of all natural resources belonging to the State, including land and waters, for the maximum benefit of the people."[219]

Conservationists, those who feel that Alaska is our last wilderness, that her greatest wealth and brightest future lies in the sport and recreational values of her untamed waters, may be disappointed. The Act on its face seems quite utilitarian; the emphasis is on property rights and worldly goods. The loss of Article IV with its emphasis on protection of waters for recreation, beauty and fish and wildlife habitat may seem a legislative defeat by dollar minded developers. Not even Alaska seems willing to face up to recreation and nature as a top value of water.

But all is not lost. The omissions of language are not fatal and they may have been necessary to secure passage of the Act by practical legislators. The Fish and Game Law is still in effect, and where public recreation and fish and game resources do provide the best use of water, they will receive protection under the Act by denial or conditioning of appropriation permits in the public interest. Alaska now has more legal protection for its spostmen and nature lovers than perhaps any other state.

Further, the Act provides forums for discussion and proof, mechanisms for bringing all viewpoints together and for consideration of all factors and facets in the decision-making process. If the Department of Natural Resources fails in these functions, the Water Resources Board will review its work and "the effect and adequacy of state laws and regulations governing the establishment of water rights . . . ."[220] Though only a study and advisory commission, the Board's creation indicates a continuing interest of

219. ALASKA CONST. art. VIII, §§ 1-2.
220. § 46.15.210.

the people of Alaska in improvements and additions to water law and an intent to keep abreast of current conditions and new developments.

One writer has stated his views of the ultimate policy which legislatures and courts should try to achieve:

> Water law should provide for maximum benefits from the use of the resource, and this end should be reached by means of granting private property rights in water, secure enough to encourage development and flexible enough for economic forces to change them to better uses, and subject to public regulation only when private economic action does not protect the public interests . . . . This statement does not reject the "Conservationist" position and accept a purely "utilitarian" approach. Both are there.[221]

The Alaska Water Use Act seems to follow these precepts.

221. Trelease, *Policies for Water Law: Property Rights, Economic Forces and Public Regulation*, 5 NATURAL RESOURCES J. 1-2 (1965).