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WRESTLING WITH WATER QUANTIFICATION IN WESTERN STATES

Fresh water is the most basic of all resources. Particularly in the arid west, frugality with available water is increasingly necessary. Nineteen states have adopted various types of state administered water distribution systems.[1] Their goal is to achieve maximum efficiency in water usage.

The theory is simple. Within the geographical boundaries of each state there is a certain quantity of water. The state professes ownership of these waters. Those desiring use of water apply to the state through an administrative system. The state then apportions the available waters among the applicants in some equitable manner.

The practicalities in administration are complicated. Each state uses a slightly different approach to decide just who can use particular water rights. But more pressing is the lack of comprehensive quantification. Each state must decide exactly how much water it has to distribute. Since flows vary from year to year, states must be careful to avoid over-appropriation. The cooperation of all water users is frequently needed to refine the estimates of how much water exists within a given basin. Those users that do not cooperate voluntarily can usually be forced into water right adjudication suits either by other water users or by the state itself. Information is also accumulated through various reporting procedures.

The state water administrative bodies are plagued by one very unpredictable water user. By using water whether the state approves or not and apparently applying for permits in a somewhat random manner, and rarely reporting water use, this user is a real threat to comprehensive water planning. Yet the states neither revoke outstanding permits nor seek to control this detrimental behavior by court action. Such behavior is particularly significant in terms of the large portions of western lands involved.[2] The reason for the lack of

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1. Seventeen are listed in 5 Waters and Water Rights § 400 at 7 (R. Clark ed. 1972). They are Ariz., Cal., Colo., Idaho, Kan., Mont., Neb., Nev., N.M., N.D., Okla., Ore., S.D., Tex., Utah, Wash., and Wyo. To this list must be added Alaska and Hawaii which have both adopted appropriation schemes, *see* notes 11 and 25, *infra*.

2. U.S. Dep't. of Commerce, Statistical Abstract of the U.S. 196 (1973) lists the following percentages of federally owned land in the nineteen states: Alaska, 96.7; Ariz., 43.9; Cal., 44.9; Colo., 36.0; Idaho, 63.8; Hawaii, 9.7; Kan., 1.3; Mont., 29.6; Neb., 1.4; Nev.,

sanction, of course, is that the user in question is the United States Government.

This obstacle to effective quantification by state government is an outgrowth of two landmark decisions, *Winters v. United States*[3] and *Arizona v. California.*[4] The cases essentially say that whenever Congress sets aside land for a particular purpose, an unspecified quantity of water is reserved for whatever use the federal government may later decide to make of it. This extreme stand has been modified by the McCarran Amendment,[5] which was enacted to allow states to include U.S. water interests whenever a water rights adjudication of a complete basin was conducted. Although the federal government had hoped this amendment would be strictly interpreted to include only those rights which the federal government had acquired under state law, the Court allowed Colorado to include all federal reserved water rights in even a supplemental basin adjudication.[6]

The United States lacks a realistic coordinated water rights plan. Although federal officials seem to favor eventual quantification, compiling a complete inventory of federal water rights is an enormous task that will be accomplished only with great difficulty and expense.[7] Perhaps this is the reason an attempt to include compulsory federal water quantification in the McCarran amendment failed to pass the Senate despite a favorable committee recommendation.[8] In any case, each agency is left on its own to cope with water rights problems as they arise, armed only with the basic weapon of federal supremacy.[9]

Hydrologist and water rights advisor Victor A. Berte of the National Park Service has explained that his bureau dealt with each state on an individual basis since the systems vary considerably from state to state.[10] The policy is basically one of cooperation. As a matter of comity, the Park Service will advise an individual state on water usage, if asked to do so. A caveat[11] is inevitably attached to

86.5; N.M., 33.3; N.D., 5.0; Okla., 3.4; Ore., 52.4; S.D., 6.7; Tex., 1.9; Utah, 66.1; Wash., 29.4; and Wyo., 48.1.

3. 207 U.S. 564 (1908).

4. 373 U.S. 546 (1963).

5. Act of July 10, 1952, Pub. L. No. 82-495, § 208(a)-(c), 66 Stat. 560, 43 U.S.C. § 666 (1964).

6. United States v. District Court In and For the County of Eagle, 401 U.S. 520 (1971).

7. Notes, *Federal Water Rights Legislation and the Reserved Lands Controversy*, 53 Geo. L.J. 750, 791 (1965).

8. S. Rep. No. 755, 82d Cong., 1st Sess. 1 (1951).

9. U.S. Const. art. VI, cl. 2.

10. Interview with Victor A. Berte, National Park Service, Dep't. of the Interior, in Washington, D.C., March 20, 1974.

11. The notice reads as follows:

This notice is given as a matter of comity, cooperation, and information. It

such reports so that there will be no question that the Park Service is voluntarily giving information rather than being forced to do so, and also so that the compliance cannot be construed as a waiver of sovereign immunity. Mr. Berte says that currently the Park Service has not had to quantify usage, although he believes such a quantification to be inevitable. The Park Service, for example, is charged with conserving ". . . the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."[12] Should the Park Service decide to comply with state schemes for water appropriations, it would find that a request would be treated within nineteen different administrative frameworks. By comparing the individual state reactions in classifying recreational or conservational uses as beneficial uses, the difficulty of the federal position is more easily understood.

Alaska has enacted statutes reserving all waters in a natural state for common use by the people and subjects them to appropriation.[13] In equitably distributing waters to particular appropriators, the state gives first preference to public water supplies and then to other foreseeable uses which constitute the most beneficial use.[14] Neither recreational nor conservational uses are specifically mentioned, and they would have to be interpreted in accordance with a declared state policy to promote environmental interest in accordance with overall economic and social well-being.[15]

In Arizona, "[b]eneficial use shall be the basis, measure and limit to the use of water."[16] Case law has placed a further limitation on beneficial use by requiring the performance of some physical act to divert waters before such waters are considered appropriated.[17]

Under California law, ". . . the general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable. . . ."[18] Already eliminated as possible beneficial uses are bathing, boating or hunting on a navigable

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does not indicate consent to the jurisdiction of the state in regard to the right of the United States to the use of this water described in this notice. This notice is not intended to affect previously vested rights under either federal or state law to the use of this water or any other water.

The background to the adoption of this notice is found in a memorandum from the Solicitor to the Secretary of the Interior, no. G-66-1136.3.

12. 16 U.S.C. § 1 (1970).
13. Alaska Stat. § 46.15.030 (1973); Alaska Const. art. VIII, § 13.
14. Alaska Stat. § 46.15.090 (1973).
15. Alaska Stat. § 46.03.010 (1973).
16. Ariz. Rev. Stat. Ann. § 45-101B (1956).
17. Arizona v. California, 283 U.S. 423 (1931).
18. Cal. Water Code § 100 (West 1968).

lake,[19] as well as pumping waters into basins to attract water fowl for hunting purposes.[20]

Colorado lists a sampling of beneficial uses within its statute, including such uses as bathing, bottling, irrigation, manufacturing and mining.[21] In terms of federal conservation purposes, however, it should be noted that recent reports charge the state with dewatering 2,830 miles of trout streams (one-third of the state's total) for diversion to other purposes.[22]

Idaho's commitment to appropriation for beneficial use[23] is strengthened by judicial statement, which declared state policy to be the maximum use and benefit of Idaho's water resources.[24]

Hawaii allows for beneficial use of ground water for such purposes as domestic, municipal, military, agricultural and industrial, based on a regard for the public interest in the proper utilization of water resources.[25]

Kansas law allows for all state waters to be appropriated for beneficial use subject to vested rights,[26] and further demands all vested rights be applied to some beneficial use.[27]

Montana's policy is stated in terms of beneficial use[28] with an emphasis on maximum usage with the least possible degradation of natural aquatic ecosystems.[29] Recreational use is considered a legitimate beneficial use.[30]

Nebraska lists specific preferences in designating its appropriators. Domestic use is first, followed by agricultural use, which is followed in turn by manufacturing use. Last are uses connected with power, such as turbines or impulse water wheels.[31]

Nevada declares its waters shall be apportioned with beneficial use as the basis, measure and limit of use,[32] and further expresses a preference for beneficial purposes appurtenant to the place of use.[33]

19. Los Angeles v. Aitken, 10 C.A. 2d 460, 52 P.2d 373 (1934).
20. *Ex parte* Maas, 219 C.A. 22, 27 P.2d 373 (1934).
21. Colo. Rev. Stat. Ann. § 148-2-3 (1963).
22. Gardner, *Goodbye Colorado,* 248 Harper's 18 (1974).
23. Idaho Code § 42-104 (1947).
24. Poole v. Olavason, 82 Idaho 496, 356 P.2d 61 (1960).
25. Hawaii Rev. Stat. § 177-2 (1968).
26. Kan. Stat. Ann. § 82a-703 (1969).
27. Kan. Stat. Ann. § 82a-701(d) (1969).
28. Mont. Rev. Codes Ann. § 89-866(1) (1947).
29. Mont. Rev. Codes Ann. § 89-866(3) (1947).
30. Stone, *Legal Background on Recreational Use of Montana Waters,* 32 Mont. L. Rev. 1, 15 (1971).
31. Neb. Rev. Stat. § 70-668 (1943).
32. Nev. Rev. Stat. § 533.035 (1973).
33. Nev. Rev. Stat. § 533.040 (1973).

New Mexico employs an appropriation system based on beneficial use and priority of application.[34] It has judicially included fishing and recreation as legitimate beneficial uses.[35]

North Dakota's waters belong to the public and are appropriated in accordance with beneficial use in the following order: domestic use, livestock use, irrigation and industry and finally fish, wildlife and other outdoor recreational use.[36]

Oklahoma law states that "[b]eneficial use shall be the basis, the measure and the limit of the right to the use of water. . . ."[37] The attitude of Glenn Sullivan, Assistant Executive Director of the Oklahoma Water Resources Board, is probably typical. He feels it is the Board's responsibility to protect both governmental and private water rights, but the Board must know what the rights are. He feels that when an agency does not apply for a permit, it says, in effect, that it does not want the Board's cooperation in protecting that right.[38]

Oregon does not list priorities, but it does charge its State Water Resources Board with conserving water in regard to purposes such as ". . . irrigation, domestic use, municipal water supply, power development, public recreation, protection of commercial and game fishing and wildlife, fire protection, mining, industrial purposes, navigation, scenic attraction or any other beneficial use to which the water may be applied for which it may have a special value to the public."[39]

South Dakota requires full beneficial use,[40] and further defines such use as that which is reasonable and useful, as long as it is consistent with the best statewide utilization of water supplies.[41]

Texas is very specific in ordering preferences. In decreasing order of priority they are: (1) domestic and municipal use, (2) industrial use, other than the development of hydroelectric power, (3) irrigation, (4) development of hydroelectric power, and (5) pleasure and recreation.[42]

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34. N.M. Stat. Ann. § 75-1-1 (1953).
35. State *ex rel.* State Game Comm'n v. Red River Valley, 51 N.M. 207, 182 P.2d 421 (1945).
36. N.D. Cent. Code § 61.01.01 (1960).
37. Okla. Stat. tit. 82, § 105.2 (Supp. 1973).
38. Interview with Glenn Sullivan, Assistant Executive Director of the Okla. Water Resources Bd. in Oklahoma City, July, 1972.
39. Ore. Rev. Stat. § 537.170(3)(a) (1971).
40. S.D. Compiled Laws Ann. § 46-1-4 (1967).
41. S.D. Compiled Laws Ann. § 46-1-6(6) (1967).
42. Tex. Water Code Ann. § 51.184 (Vernon 1954).

Utah's policy of beneficial use[43] is qualified by necessity of intent, actual diversion and application.[44]

The state of Washington has an appropriation system based on beneficial use.[45] Mere diversion and storage is insufficient beneficial use in this state.[46]

Wyoming also has beneficial use as the basis of its appropriation system[47] with specific preferential treatment. "First–Water for drinking purposes for both man and beast; Second–Water for municipal purposes; Third–Water for the use of steam engines and for general railway use, water for culinary, laundry, bathing, refrigerating (including the manufacture of ice), for steam and hot water heating plants, and steam power plants; and Fourth–Industrial purposes."[48]

It is not surprising that the federal government hesitates to document its rights under the various state programs. Whether or not federal uses would be considered beneficial would be subject to nineteen different interpretations. Moreover, since the federal government has not limited itself to strictly beneficial use of water, it would naturally be reluctant to restrict its reserved water property rights in such a manner. Should it do so, the added costs arising from multiple litigation to defend existing rights in each of the western states would be substantial. The Justice Department opposed the McCarran Amendment for this reason.[49] With the possibility of even greater volumes of litigation that would result from federal applications, the rationale would surely be the same. At least one writer suggests that federal agency actions will, by their very nature, ignore local solutions to water problems in order to avoid Congressional pressure for partisan treatment of certain states.[50]

However, the federal government is tending to standardize and quantify present water use. Such information could easily be shared with state agencies. One formula proposed for the Department of the Interior by the Bureau of Reclamation suggests that 0.5 acre-feet/acre/year be allocated to the first hundred acres, 0.2 acre-feet/acre/year be allocated to the next nine hundred acres with all excess acreage receiving 0.1 acre-feet/acre/year. While this leads to unifor-

43. McNaughton v. Eaton, 121 Utah 394, 242 P.2d 570 (1952).
44. Sowards v. Meagher, 37 Utah 212, 108 P. 112 (1910).
45. Wash. Rev. Code Ann. § 90.030.010 (1962).
46. Ickes v. Fox, 300 U.S. 82 (1936).
47. Wyo. Stat. Ann. § 41.2 (1957).
48. Wyo. Stat. Ann. § 41.3 (1957).
49. S. Rep. No. 755, 82d Cong., 1st Sess. 7 (1951). The Department of Interior opposed the McCarran Amendment on similar grounds. S. Rep. No. 755, 82d Cong., 1st Sess. 7, 8 (1951).
50. Ingram, *Politics in Water Resources*, 11 Natural Resources J. 102, 108 (1971).

mity, it is not realistic. For example, based on this formula the recently acquired Chamizal National Memorial Park on the Texas-Mexican border would only be allocated 27.5 acre-feet/year, although it now uses 250 acre-feet/year.[51] The better solution would be to accept the fact that usage will not be uniform, report the usage that is known and strive to quantify that which is unknown.

Nevertheless, some system of uniform reporting, if not uniform usage, would do a great deal toward alleviating federal-state tension concerning water rights. The state is most interested in discovering how much water it has and in equitably appropriating those waters. To do this it must discover what waters the United States will be using on the federal lands within state boundaries. The United States, on the other hand, is concerned lest many of its agencies be forced into numerous state proceedings that might inhibit effective national planning and annihilate some of its valuable water rights. Enhanced cooperation would help both the individual state and the federal government. The state would be aware of current federal planning. As quantification of a particular basin within a state approached completion, the federal scheme would already be available so that over-appropriation could be avoided. The federal government gains too as water users within a particular basin would be on notice as to impending federal projects.

A sample uniform federal form is suggested which would be simple and direct.

From: _____Federal Agency

To: _____State Water Board

Subject: Water Use for Previous Year

Land Area	*Quantified*	*Unquantified*	*Planned Future Use*
A breakdown of acreage controlled by the particular agency can be listed so that the state can fit each area within stated declared water basin.	Measured amounts of waters that were actually used on federal lands can be reported in an itemized fashion.	Known usage in which exact amounts are unknown, e.g., water released to the atmosphere through evaporation, present use unquantified due to budget limitations and unknown amounts used to maintain a particular local ecosphere.	Projected estimates for new water usage within the next few years can be listed when known, e.g., completion date for new campgrounds, installation of new federal facilities and conservation projects.

Such a method would not involve much of a commitment by the

51. Memorandum from Director, S.W. Region to Associate Director, Nat'l Park Sys. Management, Jan. 21, 1974.

federal government. It is merely an accumulation of information already known to each agency. Yet, it would greatly aid western states in planning and would eliminate the possibility of dreaded federal-state confrontations in water right adjudications. It can and should be implemented.

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