

WATER ALLOCATION: BENEVOLENT CZAR OR CRYSTAL PITCHER APPROACH

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INTRODUCTION

Water management in some parts of the United States tends to rely most heavily on restrictions of water use and to underutilize other water management techniques. Allocation or permitting systems are a way of life in the intermountain west and are even being embraced by some water rich eastern states in an effort to address increasing competition over water. Arkansas is a water rich state with plentiful rainfall, numerous surface streams and rivers and vast groundwater reserves. Yet the recent droughts of 1980 and 1983 caused severe economic hardship and real concern among state residents.

Arkansas is a riparian rights doctrine state with reasonable use of both ground and surface water. The state is presently empowered to allocate water in times of shortage, but has not much utilized this power as yet. During the last legislative session, a comprehensive water code mandating allocation of both ground and surface waters failed to pass. A new water code is expected to be introduced and may again incorporate major elements of the prior appropriation doctrine with state allocation of water (Benevolent Czar Concept). An alternative approach of water information sharing within local/substate water districts (Crystal Pitcher Concept) appears better suited to effective water management in Arkansas.

Extensive allocation/permitting programs do not create another drop of water but do produce a costly flood of administrative paper work. Information sharing within local/substate water management districts (the crystal pitcher approach) allows both users and professional water managers to more clearly visualize the water resource and to make informed decisions regarding its use. The approach may be used in conjunction with various institutional arrangements, but requires legislative and/or judicial action for adoption in most states, including Arkansas.

A brief generalized overview of the development of existing types of water law systems and their influence on the emergence of centralized regulatory water management is presented. A discussion of the benevolent czar and the crystal pitcher is followed by a short evaluation of the effectiveness of the different approaches.

OVERVIEW

In the United States we have historically had two major and distinct trends in the development of surface water law, one for the east and one for the west. In the humid eastern part of the United States where surface water is relatively plentiful, settlers established the riparian rights doctrine based on the old English common law. Under riparian rights, the right to use of water is a part and parcel of the land. All riparian landowners (those with lands immediately adjacent to a source of surface water) shared a coequal right to use the water.

Originally, the settlers were restricted by the natural flow rule which required that the river or stream remain virtually unchanged in quality or quantity. Uses such as irrigation were not legal. Only the water required for household needs, such as washing, drinking, and watering of livestock raised for home consumption were legally permissible. Gradually the courts in most states have modified the natural flow rule to allow "reasonable use" of riparian waters. Under the reasonable use rule, riparian users may make reasonable use of the water as long as they do not unreasonably interfere with the reasonable use of the resource by other riparian users.

When conflicts arise, the courts decide which uses are reasonable and which are unreasonable. This case by case examination is extremely time consuming and becomes increasingly tedious as the number of conflicts rises due to natural shortages or greater demand. In an effort to overcome some of these difficulties, several eastern states have established allocation systems of one kind or another requiring permits for some water uses.

In the more arid western states where relatively few surface streams flow and where rainfall is scant, the riparian doctrine would have required that the vast majority of the land remain undeveloped. Miners and others established, instead, the doctrine of prior appropriation. Under prior appropriation, water rights are based on a first come, first served basis. First in time, first in right is the rule. The person who first diverted water and put it to beneficial use established the right to use the water whether or not he owned lands immediately adjacent to his source of water. The first appropriator had the right to use as much of the water as he needed for a beneficial purpose even up to the total flow of the stream. After the first appropriator's needs had been met, the second appropriator might use as much as he needed out of the remaining water, and so on. Obviously, junior appropriators could be left without water during dry years.

As the west became more settled, keeping all the appropriators straight became more and more difficult. To insure fairness, most western states established the requirement that users file a form giving such information as where, how much, when, etc. concerning any proposed or existing diversion. Seniority of rights has usually been preserved in this process. After all senior appropriators have secured their allocation of water, new users may apply for whatever is left. Typically, a central state agency or state engineer allocates water and decides if there is sufficient water for the requested use and either issues a permit or denies the request.

A water user may lose all or a portion of his water right for non-use. This "use it or lose it" philosophy encourages waste as water users make certain they use their full allocation. Senior appropriators have little incentive to conserve water because any "saved" water ordinarily reverts back to the state. (*Salt River Valley User's Association v. Kovacovich*, 3 Ariz. App. 28, 411 Pac. 2d, 201, 1966.)

Several states have a mixture of riparian rights and prior appropriation. Faced with increased conflict over water, state legislators have sometimes attempted to superimpose an allocation system, or prior appropriation system over existing riparian rights. Typically such legislation recognizes the validity of existing riparian uses and states that all future uses (riparian or otherwise) will be granted on a first come first served basis. The result is not a happy marriage. The two systems have very different foundations and are not compatible. (*Oklahoma Water Resources Bd. v. Central Oklahoma Master Conservancy Dist.*, 464 Pac. 2d, 748, 752, 1968.) Sorting out water rights of litigants is difficult enough when the law is consistent. When water rights granted under different legal systems are in question, the task of settling disputes becomes even thornier (Casbeer and Trock, 1969; Hutchins, 1971; Templer, 1976).

Arkansas is a riparian rights/reasonable use state for both surface and ground water use (*Harris v. Brooks*, 225 Ark. 436, 283 W.W. 2d 129, 1955; *Jones v. Oz-Ark-Val Poultry Co.*, 228 Ark. 76, 306 S.W. 2d 111, 1957.). Like most of her eastern sister states, Arkansas is water rich. With only two and a quarter million residents, an average of 120 billion gallons of precipitation per day and another 200 trillion gallons of ground water, Arkansas water law has dealt far more with disposal of excess water than with the right to use water. As a result of severe droughts in 1980 and 1983, Arkansans are investigating means of modifying the water law of the state to plan for future shortages and to provide for continued supplies in areas of heavy use.

THE BENEVOLENT CZAR VS. UNITED USERS

The inherent nature of water problems have almost universally given rise to two distinct approaches in man's efforts to manage water. These are: the centralized authority and the united water user approaches (Maass and Anderson, 1978). The centralized or "benevolent czar" approach is typified by a single individual who makes the major decision about water resources development and allocation. The benevolent czar's most common water management tools are regulatory in nature, i.e., allocation. Users are required to apply to the benevolent czar for the right to use ground or surface water and may lose that right for violations. The "united user" approach utilizes relatively autonomous local or substate user districts to determine most water policy. The United States has examples of each type of approach.

The centralization of authority over water is the rule rather than the exception in the arid intermountain states. In the western United States, the benevolent czar mode is in large part an outgrowth of the legal system which requires application to a state engineer or agency before water can legally be used. Furthermore, some have hypothesized that water users in inhospitable climates may be willing to sacrifice a large degree of autonomy in exchange for some security of the water right (Maass and Anderson, 1978, p.9). Third, the sheer distances involved in the massive water transport projects of the arid west lend themselves more readily to state and federal planning and financing than to local means (Peralta, A., 1982, p. 20).

There is no question that the benevolent czar is well able to construct large scale projects and to plan comprehensively, but there are serious questions about the effectiveness of central authority in day to day water management. Without the active participation and cooperation of the users, water management is not possible. Unfortunately, the benevolent czar approach is not well adapted to meaningful user participation in the decision-making process (Peralta, A., 1982, p. 20). After an extensive study of water use in six areas around the world (including areas within the United States), resource economists Arthur Anderson and Raymond Maass concluded that those who see central agency control as the way to go "have underestimated the farmers' capacities to organize collectively to avoid such a result and have overestimated the facility of top control" (Maass and Anderson, 1978, pp. 366-367). They invariably found

that users either disregarded or defied orders issued by higher authorities if they conflicted with the united preference of local users.

Even water management efforts in such rigidly controlled societies as the Roman Empire and the Peoples Republic of China confirm the inability of a czar (benevolent or not) to effectively control water use (Peralta, A., 1982, p. 21). Roman water users were required to get a "grant" (or permit) from Caesar to legally use water and could be executed if caught using water without authorization. And yet Frontinus, the Roman Water Commissioner, complained in AD 97 that fully half of the capacity of the vast Roman aqueduct system was being illegally siphoned off (Frontinus, 1913, p. 53). China likewise finds it unfeasible to "simultaneously develop strong organizational roots in the countryside without sacrificing adequate control from the centre" (Falkenheim, 1974, p. 514).

A large part of the difficulty with the benevolent czar approach appears to be an over-reliance on regulatory instruments (like allocation or permitting) and an underestimation and under-utilization of users in real water management decisions. The key to workable water management is to make the users a part of the management team, and to assess the utility of management practices on the basis of how well they meet needs. The utility of the benevolent czar approach for use in eastern states should be carefully scrutinized before adoption.

Allocation is a procedure that looks great on paper, but which is out of harmony with the realities of the hydrologic cycle. Water managers and legislators considering allocation or permitting schemes for riparian rights states might ask themselves how allocation will either decrease the demand for water or increase the supply of water. Besides creating mountains of paperwork (at great expense), adoption of allocation systems often appears to preclude the use of other management tools. Allocation of a quantified water right is rigid, granting a quantified perfected water right to users fortunate enough to be early in line, but can really do nothing to alleviate shortages or to deal with increased demand. Why bother to allocate if there is plenty of water for users? More to the point, what good is an allocation/permit if there is not enough water to meet the quantity promised?

Allocation has been called a lawyer's solution to an hydrologist's problem. It looks great in the law books, but does not address the physical system. Water managers need a system that is adaptable to the dynamic water cycle. Allocation systems are not designed to be responsive to technological innovations in water management or to increased information about the resource.

Examples of fairly successful management under benevolent czar allocation systems are more a testimonial to the ability of good personnel to rise above their legal and institutional shackles than an effective argument for implementing allocation systems in the eastern United States. As in any profession, well qualified people can make a terrible system look relatively good while incompetents can make an ideal system look pretty sad. Fortunately for the intermountain western states, there are numerous excellent administrators working to overcome the deficiencies of the benevolent czar approach.

The united user approach has the advantage of involving water users intimately in the water management process. But it has not been uniformly successful in the past. Historically, some of the biggest water boondoggles have been perpetrated by water user organizations. One inherent weakness in united user water management is, in many cases, a lack of comprehensive scope. User groups may form to deal with a single piece of the hydrologic system. Other groups form to deal with other pieces and the resulting overlap of authority and lack of communication can make water management impossible. The hydrologic cycle cannot be wrapped in distinct packages to be parceled out to this organization, or that one. In reality, the hydrologic system must be treated as a complete entity to make the best use of the resource. Single purpose user organizations also often lack the ability to plan or fund necessary projects to promote efficient water management. The big picture becomes a jigsaw puzzle

with so many divergent groups jealously guarding their pieces of the puzzle that no solution is possible.

The establishment of sub-state, multipurpose water management districts with fairly comprehensive management capabilities appears to be working well in Florida, Nebraska, and in parts of California. The Orange County (California) Water Management District is one example. Formed by special legislation in 1933, the district has received additional powers through further legislation. The district has been successful in providing users with needed water while providing for future needs as well. It has been successful because the appropriate powers and responsibilities needed to accomplish the objectives of protecting ground water resources and meeting water needs have been granted. No single purpose district could have coped with the challenges successfully addressed by the Orange County Water Management District.

THE CRYSTAL PITCHER OR WATER INFORMATION EXCHANGE APPROACH

If users must be an integral part of any long range water management, how can they be expected to govern themselves? The answer lies in the success of our republican form of government. We have a participatory democracy and water users can successfully utilize this form of government.

As James Madison observed:

What is the lesson? That because the people may betray themselves, they ought to give themselves up, blindfold...? Rather conclude that the people ought to be enlightened, to be awakened, to be united, that after establishing a government they should watch over it, as well as obey it. (Padover, S., 1953, p. 43)

The key is information. Even as a man holding a crystal pitcher can see how much water is available for use, and can further see if the water is clear or turbid, so too can users be informed enough to make correct water management decisions. In the crystal pitcher approach, the managers are all those who use water and/or affect water quality. A part and parcel of the crystal pitcher approach is the utilization of state-of-the-art technology and the wide and prompt dissemination of water data.

When everyone has access to real time data concerning water quality and quantity, a number of benefits result:

- 1) Unlike rigid allocation systems, the crystal pitcher follows the water cycle of plenty and scarcity. Security is increased because realistic water rights may be established, and realistic planning can help provide safeguards against drought.
- 2) There is sufficient lead time to react effectively to the vagaries of nature. New or modified water management techniques may be employed as the state-of-the-art advances.
- 3) The decision making process is speeded up considerably by making the institutional setting more responsive to the physical system.
- 4) Conflict is lessened resulting in a decrease in the likelihood of lawsuits. As the system involves users in a meaningful way in the decision-making process, there is less misunderstanding.
- 5) Enforcement measures become the backup, rather than the first resort. This allows other management techniques to be used in their proper place.
- 6) Water uses can be classified in green, yellow, and red light categories, enabling users to know just where they stand vis-a-vis corrective regulatory action.

The crystal pitcher or the informed/united user approach involves a shift of emphasis. Instead of directing water management energies toward paper shuffling and regulation generation, the crystal pitcher

emphasizes information gathering and dissemination. Coupling the overview, planning and funding capabilities of the state government with the advantages of fairly autonomous user districts appears to make the best use of available resources and to be adaptable under a variety of legal arrangements. The research capabilities of the state and the ability to coordinate statewide water management enables user districts to better inform users of water management options and consequences.

The idea of informing users is certainly nothing new. The success of water management districts at the substate level depends in large part on information reaching users. As an example, the Texas High Plains Underground Water Conservation District No. 1 has had great success with education programs and information dissemination. Activities ranging from an informative monthly newspaper (The Cross Section) to county fair booths and puppet shows for children encourage water awareness. In addition, the district gives on site help to water users in evaluating the efficiency of water use practices and conservation methods.

Another example can be found in an innovative program of the Northwest Florida Water Management District to inform industries of areas with sufficient water to support future growth. District managers realized that ignoring development trends would probably result in the establishment of new industries in competition with existing uses. They predicted such competition would necessitate "some type of allocation of water by the District or the use of expensive methods to develop additional supplies from nearby areas" (McWilliams, 1980, pp. 8-9). To avert the impending problems, the district conducted a three year study evaluating potential sites for industrial expansion and is publicizing the results. Interested industries have the information needed to locate in areas where sufficient water supplies will minimize conflict with existing users.

The crystal pitcher approach is an idea whose time has come for Arkansas. Only by making the best information readily available to water users can water managers hope to be effective. After all, we do not really have "water" problems, per se. We have problems with how people react to and with the natural hydrologic cycle and how they attempt to intervene in the cycle. The creation of structures, regulations and other management tools are ineffective without informed water users. The crystal pitcher approach allows water users to stop being a part of the problem and become a part of the solution.

SUMMARY AND CONCLUSIONS

The creation of informed united user districts where needed is an attractive alternative for Arkansas. Such districts are not at variance with existing water law, although legislative action would be required for their creation. Substate level autonomous districts with state agency oversight and coordination combines the best of local and state water management.

The comprehensive allocation program suggested by some is not appropriate for use in Arkansas for a number of reasons:

- 1) Attempts to control water use from the top down is fundamentally unsound. History has proven that such control is impractical and all but impossible to enforce.
- 2) Allocation and permitting requirements for the waters of the state is a very different proposition when water is scarce, as in the intermountain west than it would be for Arkansas. The sheer volume of water available for regulation in Arkansas makes permitting unattractive.
- 3) Arkansas is water-rich but economically less prosperous. The cost of a comprehensive allocation program is just not worth the money.
- 4) Allocation is out of tune with nature. When there is plenty of water, why worry about permits? When water is unavailable, what good does a piece of paper guaranteeing a water right?

- 5) Tourism is important to Arkansas. Instream values are more difficult to protect when water users are forced to "use" water or "lose" the right to use it in the future.
- 6) Water allocation is only needed during times of drought when most everyone needs it at the same time. The burden on the regulatory agency would be over-whelming and there aren't enough "water cops."
- 7) Before making sweeping changes in the basic water rights system, legislators should look at less radical alternatives.

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