

# Marketing the West's Life Blood

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Everyone knows that water is necessary for life, but those who live in the arid American West probably realize this fact more acutely than others. The stark landscape of much of the West is ample testament to the region's lack of water. From Colorado to California and from Montana to Arizona, it is impossible not to recognize how dramatically important water can be. John Wesley Powell, the nineteenth-century explorer and geologist, told the Montana constitutional convention of 1889, "The great values of this region [will] ultimately be measured by you in acre-feet" (quoted in Babbitt 1986). Ever since Powell's time, the important issue has never been whether water is valuable, but rather whether the value of competing water uses would be determined in markets, legislatures, or courts.

Mark Twain is commonly attributed with the remark that, in the West, "whiskey is for drinkin' and water is for fightin'." It would be difficult to find a statement that more accurately characterizes the history of water in the West. Fights over water have been common, to say the least, ranging from disputes between individual farmers over irrigation water to the battle between Arizona and California over water from the Colorado River. The Arizona-California fight lasted for decades, resulted in two U.S. Supreme Court cases, and at one point nearly caused a civil war when Arizona called out its National Guard to prevent Southern California's Metropolitan Water District from constructing diversion works on the Colorado River (Hundley, 1986; Reisner, 1986). That there have been serious fights over water in the West should come as no surprise. Whenever anything valuable is up for grabs, people will fight to get it, whether they use guns, attorneys, or lobbyists to do their fighting. The key to reducing the fighting is to assign ownership rights and provide an orderly means of transferring ownership. This is exactly what water marketing is about.

In market systems, where ownership rights are well specified, resource owners have incentives to seek the most valuable use of their property, because they will receive the benefits that result whenever resources are reallocated from lower to higher valued uses. Furthermore, when there is a well understood, low cost means of transferring ownership, resource owners will not be alone in their search for more valuable uses of their property. Anyone who finds a more valuable use for a resource can receive a share of the benefits from improved resource allocation by buying or renting the resource from the owner and transferring it to the more valuable use. The difference in the value of the resource in its old use and its value in the new use makes possible the

"gains from trade" that are shared by the buyer and the seller. Market systems reduce the fighting over valuable resources because owners and potential owners cooperate to obtain the gains from trade.

In spite of the advantages of using markets to allocate resources and in spite of the fact that people in the West obtain most of their goods through market trades, until recently, water in the West has seldom been considered a commodity for trade. Rather, western states have chosen to allocate water through a complicated system of laws, regulations, and interstate compacts. Policy makers have shunned market allocation of water, citing the fact that water is a necessity and that low income individuals will not be able to compete in markets. Often, however, these arguments only serve to mask the real reasons why water marketing remains unpopular: special interests believe they can get their share of water more cheaply by fighting in legislatures and courts and bureaucrats are unwilling to give up their power to control water allocation. Though both the special interests and the bureaucrats have thrived on the system of governmental water allocation that is used today in the West, this political allocation has all but destroyed water use efficiency, and its negative effects on the environment have been phenomenal.

Prior to the heavy involvement of the government in water distribution in the West, a different system evolved to allocate water among competing uses. Because the common law riparian doctrine of water rights did not allow diversion of large amounts of water from the stream, miners and irrigators on the American frontier found the riparian doctrine inappropriate for the arid West. They developed a water allocation system that gave individuals the right to appropriate water. A person gained an appropriative water right by constructing diversion works and using the diverted water. By and large, this prior appropriation doctrine, as it came to be called, evolved before formal governments were established (Anderson, 1983). What was important about the system was that it made clear to water appropriators how much water they could use and allowed them to transfer their water rights to others.

As territorial and state governments developed, constitutions and statutory law replaced the customary and often unwritten rules that had governed water ownership and use (Dunbar 1983, 86-132). Although many of the states and territories adopted much of the prior appropriation doctrine into their water laws, there were important changes that came to have dramatic results. Perhaps the most important

change was the explicit declaration by states that all unappropriated waters were owned by the public. For instance, the Colorado constitution declared that "The water of every natural stream, not heretofore appropriated, within the State of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the State, subject to appropriation as hereinafter provided" (Dunbar 1983, 78-9). This declaration avoided the question of who owned water already appropriated, but it clearly established that the state would be the source of future water rights.

Despite the move toward public ownership of water, there was originally no mandate for heavy state involvement in restricting either the number of water rights holders in a water basin or the amount of water each could claim. So long as appropriators with earlier claims did not object, a person could claim as much water as he could put to "beneficial" use. When water rights disputes could not be settled through private negotiations, judges were called on to make a final adjudication (Anderson 1983, 25-34). To clarify definition of water rights, western states required that claims be recorded with local courthouses and in some cases, with the state engineer's office. Recognizing that additional claims might create conflicts as demand increased, the writers of the Wyoming constitution gave state government "the supervision of the waters of the state and of their appropriation, distribution and diversion . . ." (Dunbar 1983, 108). Wyoming's constitution also created the office of the state engineer, an office charged with determining the amount of water available and with granting rights to use water. Under the Wyoming system, not only did the state take ownership of the water, it took active control of how and to whom water rights would be allocated. Most other western states adopted some form of the Wyoming system, in many cases because the federal government tied construction of federal reclamation projects to state control of water allocation (Dunbar 1983, 113-32). Whether they fully incorporated the Wyoming system into their water laws, all western states declare in their constitutions or in statutes that ownership of the water rests with the state or with the people of the state (Gardner 1991, 1; Dunbar 1983, 113-32).

Because states have taken ownership of water, they have been able to adopt additional regulations to take more control over water allocation. Some of these regulations take the form of "public welfare" or "public interest" clauses. An 1890 Wyoming law, for example, prohibited water appropriations that were "detrimental to the public welfare" (Dunbar 1983, 109). Besides including "public interest" clauses in their laws, many western states require that state officials granting water rights consider a myriad of factors when granting water rights. For instance, Idaho requires that its officials consider "(1) the benefit to the applicant; (2) its economic effect, benefit, and detriments; (3) its effect on loss of alternative uses of water that might be made within a reasonable time if not prevented or

hindered by the proposed appropriation; (4) its harm to others; (5) its effect upon access to navigable or public waters; (6) the intent or ability of the applicant to complete the appropriation; (7) the assurance of minimum stream flows; (8) discouragement of waste; (9) encouragement of conservation; (10) public health and safety; (11) aesthetic and environmental ramifications; and (12) effect upon vegetation, fish, and wildlife" (Johnson and DuMars 1989, 357-8).

However noble the public interest criterion and the other more stringent requirements, the reality is that these restrictions have opened the door for political allocation of water, with its deleterious effects on water use efficiency. Because state officials are subject to a variety of political pressures from special interest groups, public interest is often little more than a smoke screen special interest groups use to further their own causes. Even if they were not subject to pressure from special interests, politicians and bureaucrats would still face the problem of accurately defining the public interest. As Hayek (1984, 212) notes, "the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess." Because it is not possible for one individual or group to possess all the required knowledge, it is impossible for state officials to know just what the "public interest" is.

Proponents of state allocation of water according to public interest considerations find support for their position in the 1983 court decision regarding the waters of Mono Lake in California. In *National Audubon Society v. Superior Court of Alpine County*, the California Supreme Court limited the right of the City of Los Angeles to divert water from tributary streams of Mono Lake, even though the city had been diverting water from the streams since 1941 (Kahrl 1982, 430). The court relied on the common law "public trust doctrine" that evolved to prevent governments from granting exclusive rights to navigable and fishable waters for fear that such rights would yield monopoly power. Though neither navigation nor fishing were issues in the Mono Lake case, the judges nevertheless invoked the public trust doctrine to limit water diversions in the interest of environmental protection. The decision held that it was in the public interest to provide sufficient water for the birds and aquatic life of Mono Lake that had been adversely affected by the diversions (Reisner and Bates 1990, 77; Wilkinson 1992, 58-9). By twisting the public trust doctrine into a public interest doctrine, the Mono Lake decision has had important ramifications for long established water rights by making private water rights subservient to public interests. Courts have used this new application of the public trust doctrine in other states. In Montana, for example, the public trust doctrine was invoked to allow public access to all state waters on the grounds that the water actually belongs to the public. Some contend that this same logic should be used to

guarantee instream flows, arguing that the water belongs to the people and that such flows are in the public interest.

The single aspect of a state's ability to control water allocation that probably results in the most waste is ironically the one that was specifically designed to discourage waste: the legal prohibition of water uses that are not "beneficial." The "beneficial use" requirement was adopted by all the prior appropriation states and, on the face of it, is appealing because it is supposed to discourage waste. Unfortunately, legal definitions of beneficial use can never be flexible enough to quickly identify new valuable uses of water. Because of this inflexibility, new, more valuable uses of water go lacking, while older, less valuable uses receive more water than necessary. When this occurs, water is being wasted.

To prevent persons from engaging in opportunistic claiming that might have given them monopoly control and to prohibit speculation in water rights, most western states included as part of their beneficial use doctrine a requirement that water rights claimants actually use the water they claim and forbids them to interrupt their use without risking forfeiture of their rights. This "use it or lose it" rule takes away much of the incentive to conserve water and encourages inefficient uses that people undertake only to maintain their water rights. For example, if a farmer were to line an irrigation canal or use other methods to reduce the amount of water lost through seepage or evaporation, he might lose his right to the "saved" water, which would no longer be beneficially used in the legal sense (Goldfarb 1988, 35-6). The "use it or lose it" rule also fails in its goal of prohibiting speculation, and actually encourages only inefficient speculation (Williams, 1983). The only way that a potential water user can establish rights for future uses is to invest in diversion works and divert the water immediately. Even if the use is economically inefficient at the time the water is initially diverted, this "race for the pumphouse" is the only legitimate way for a person to claim a right today in the hope of profiting in the future.

Because of the inflexible nature of the beneficial use and "use it or lose it" requirements, courts have been reluctant to grant rights to instream flows, now recognized as important uses of water (Anderson and Johnson, 1986). By requiring that water be diverted, states could more easily establish that a person was in fact using water beneficially because presumably, only those with legitimate uses for water would go to the expense of building diversion works (Swenson 1984, 175). Therefore, states originally did not give legal recognition to recreational, aesthetic, or fish and wildlife habitat uses of water because these instream uses did not require any investment in diversion works (Getches 1984, 101-2). If such claims had been allowed, it would have been easy to speculate in water rights. Although many states now recognize instream uses as beneficial, attempts to give instream water rights equal legal standing as diversionary

uses have not been very successful. Without legal equality, instream uses will be neglected, even in the market process, giving demanders of instream water services little choice but to turn to legislatures or courts to obtain their share of water.

The effects of state water laws and policies on water use efficiency in the West have been pernicious enough, but it has taken the federal government to turn what would have been a bad situation into a near disaster. Federal water projects are the best example of the detrimental effects of political and bureaucratic water allocation. Many of these projects return only pennies on each dollar invested and are little more than sophisticated and expensive forms of welfare. Beneficiaries of federal water projects (mainly agricultural users) have been able to get the Bureau of Reclamation to store and deliver water at a low cost to users but at a high cost to taxpayers, while bureaucrats have stayed in business by building hundreds of water storage projects and thousands of miles of irrigation canals throughout the West (Reisner and Bates 1990, 27).

Calls for the federal government to build dams and irrigation works came early in the development of the West, and the government responded, justifying this intervention by noting that farmers would not have been able to raise the huge amount of capital required to build large scale dams and irrigation works. In theory, project beneficiaries were to reimburse the Bureau of Reclamation, but when they proved unable or unwilling to do so, the Bureau relaxed repayment requirements, at first lengthening repayment periods to fifty years, then waiving all interest payments, and finally passing many costs on to other parties (Gardner 1991, 5). By drastically lowering the price water users pay, the federal government masked the real scarcity of water and discouraged conservation and efficiency. The end result of subsidized water pricing has been that many farmers use federally subsidized water to grow federally subsidized crops. Even worse, there are restrictions on transfers of water from federal water projects, designed to prevent profiteering, that preclude allocation of water to more valuable uses (Wahl 1989, 147-93).

Given that water is becoming increasingly scarce throughout the West and that water marketing has great potential for improving the efficiency with which the West's scarce lifeblood is allocated, several policy changes are long overdue. The following are some simple changes that could vastly improve water use efficiency in the West:

- 1) To be successful, water marketing requires that a person's water rights be well defined. States can accomplish this by improving their systems of recording and measuring water rights. In Montana, for example, all water basins are being adjudicated to determine who has what rights. Though this is a long and costly process, it will reduce fighting over rights and provide the foundation for water marketing.

2) Market systems give resource owners incentives to conserve scarce resources because waste reduces the wealth of the owner. To take advantage of this aspect of market systems, states should allow farmers to sell any water that they divert but do not consume. This will encourage farmers to find ways to use water more efficiently.

3) Because legal definitions of beneficial use can not be flexible enough to recognize new valuable uses, states should eliminate the beneficial use requirement from their water laws. When water is traded in markets, the fact that a person is willing to pay for a water right should be enough to indicate a beneficial use for the water.

4) Because state water laws make unappropriated water free for the taking, unappropriated water goes to those who first claim it, not necessarily to those with the best use. Although this is not necessarily a problem in and of itself (unless people object to the state giving away its assets to individuals), the restrictions on later water trades can prevent this water from ever going to its most valuable use. States can simultaneously solve these problems by auctioning off unappropriated water.

5) If water markets are to function well, prices must accurately reflect conditions of supply and demand. The federal and state governments should eliminate subsidized storage and delivery of water. Water projects in current operation could be sold to the water recipients, who would then bear the true cost of water storage and delivery.

6) To encourage more efficient water use, water rights must be transferable. States should remove restrictions on transfers, especially to allow for new uses such as instream flows.

7) To ensure that all costs are taken into account in market transactions, water transfers must be subject to a hearing process to determine whether any third parties are harmed by the transfers. Water is unique in that it is used and reused along the course of a stream, therefore a change of use by one party may affect another. Potentially harmed third parties should have an opportunity to object to a water transfer and to demonstrate that the transfer would cause harm.

Economists and others all too often speak about economic efficiency and the role of markets in achieving efficiency in dry technical terms, often seeming to forget that efficiency is desirable only because it makes possible genuine improvements in the lives of people. By improving efficiency, we are able to do more with less, freeing up resources to use for other desirable goals. Moreover, the benefits of improved efficiency are the same whether the improvement comes from technological progress or simply from a reallocation of resources. Because markets have so much potential for improving efficiency, we should not

ignore them as a water management tool. Marketing the West's life blood offers a way to link fiscal responsibility and conservation while reducing political acrimony. The time has come for real change.

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