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Water Wildcatters

In the grassy hills of northwest Texas, a sprawling ranch called Mesa Vista sits atop one of the last untapped parts of the Ogallala Aquifer. The largest aquifer in North America, the Ogallala flows for 174,000 square miles under the Great Plains from South Dakota to the Texas panhandle. It is the source of water for the nation's breadbasket, supplying a third of all the groundwater used for irrigation in the United States. But the Ogallala does not recharge like most aquifers. Once the water is gone, it's gone. The aquifer holds what's known as "fossil water," left from an ice age 10,000 years ago. Its depths range widely from just a foot to 1,300, but the average is 200 feet. When farmers got hold of cheap, deep electric pumps in the 1950s, they began to pull up the ancient water at unsustainable rates. As a result, the Ogallala has dropped more than 100 feet in parts of Kansas, New Mexico, Oklahoma, and Texas.[1]

When you suck up water from one part of the Ogallala, you can dry up other parts, too. And so it is only a matter of time before all the wells sunk in this huge aquifer go dry—the Tragedy of the Commons. This fact is well-known to Boone Pickens, who owns the 27,000-acre Mesa Vista Ranch. A geologist by training who began his career as an oil roughneck in Oklahoma and Texas, Pickens earned fame and fortune with his uncanny understanding of the oil and gas reserves that flow underground. In 1997, when the Canadian River Municipal Water Authority, serving nearby Amarillo and Lubbock, bought water rights to 43,000 acres of land just south of the Mesa Vista, Pickens saw that it would be able to suck up the water under his land, too. With the corporate-raider spirit that gained him notoriety in the 1980s for attempting hostile takeovers of Gulf Oil, Unocal, and Phillips Petroleum, Pickens decided to sell his own water before the authority could drain it. "To just sit there and not do anything would probably border on being stupid," he says.[2]

Pickens formed a company called Mesa Water, and began buying up water rights from his rancher neighbors for $350 to $500 an acre, substantially more than going prices for the land itself. One rancher said he could earn more money on water than Herefords.

"We could all haul hay in our Mercedes," said another.[3]

By 2005, Pickens had cinched water contracts with 75 panhandle landowners, securing 100,000 acres of land at a total cost of $25 million.[4] Now, he has to sit tight until one of the cities downstate becomes desperate enough to buy. The population of San Antonio, for example, is expected to double by 2050, yet the Edwards Aquifer the city relies on for drinking water is tapped out. Mesa's engineers have figured out how they could build a 171-mile pipeline large enough to drive a car through to deliver water from the panhandle. Pickens has secured financing for the $1.5 billion pipeline through tax-exempt bonds sold by J. P. Morgan. He estimates he will someday sell his liquid gold for up to $1,200 an acre-foot.[5]

For now, officials in San Antonio and elsewhere are emphatic that they are not buying. They say they do not want private speculators to wrest control of Texas's water resources. But Pickens can afford to wait. At 77, he has an estimated net worth of $1.5 billion that is soaring along with his energy hedge funds, BP Capital. (Not to mention a wife twenty years his junior.) "I will be here to see water sold and the infrastructure built and the water delivered," he predicts. "I think that will happen in less than ten years."[6]

Like a bowlegged cowboy, the Lone Star State straddles the 100th meridian that divides the moist East from the arid West. Texas also sits smack in the middle of the trend toward private water markets in the

United States. In the West, water rights have been bought and sold like pork bellies for decades, as fast-growing cities pay farmers who hold senior water rights not to farm in dry times. In Texas, if Pickens gets his way, he will be the first private water broker in the state, and surely not the last. Other speculators were lining up to buy up rights too, in hopes they would become rich like the investors who followed Pickens in his corporate raider days.

In the East, water markets were unheard of until fairly recently because no one needed water badly enough to buy it. But markets emerge where scarcity exists. And emerge they have in Florida—even though they are not exactly legal.

For thirty years, John "Woody" Wodraska was a public steward of water, in charge of the South Florida Water Management District before he moved west to take the helm of the Metropolitan Water District of Southern California in 1993. As general manager of the California district, one of the largest wholesalers of drinking water in the nation with 16 million customers, Wodraska had a mantra. The district should run "like a Fortune 500 company," he used to say—innovative, efficient and inexpensive.[7]

In 2000, however, Wodraska came back to Florida to flog just the opposite idea. Now North American director of a publicly traded water company called Azurix, Wodraska's new mission was to try to convince Florida lawmakers that private companies should be given a much larger role in managing and delivering water. Government, he argued, simply could not do it as well. "There's an ethic in managing costs in the private sector that simply does not exist in the public sector," he insisted.

Plenty of private companies run water utilities in Florida. Azurix wanted to do much more. While Florida's water-management districts were historically too generous in doling out water permits, they hold firm control over those permits compared to western states. For one, permits have a time limit, from a few years up to twenty. For another, water permits in Florida are not supposed to be transferred for a different use, much less sold. Unlike places with water markets, such as California, if a Florida farmer has a permit to pump 4 million gallons of water a day and he uses only 2 million, he cannot sell the other 2 million to a golf course.

Azurix lobbied for changes in state law that would create markets for permits to be bought and sold. Wodraska, along with Governor Jeb

Bush's environmental chief David Struhs, pushed the free-market idea with lawmakers and water managers by arguing it would result in cheaper water doled out more efficiently. Letting permits find their value in the market, Wodraska said, also would create incentives for conservation.

Azurix officials knew those arguments would not be enough to convince the Florida legislature to hand a private company control of the state's most important resource. So Azurix came up with a deal as sweet as the sugarcane growing south of Lake Okeechobee. It offered to finance and manage a chunk of the massive Everglades restoration effort in exchange for rights to sell the water it would store as part of the project. Azurix officials were enamored with a technology known as Aquifer Storage and Recovery, which skims excess surface water in the soggiest periods and stores it hundreds of feet underground to pull up later during dry times. Azurix offered to spend billions of dollars on water plants that would feature underground injection wells throughout southeast Florida.

Azurix's pitch looked like this: Take over a daunting organizational challenge requiring big up-front capital. In return, get a long-term license to sell a commodity—in this case a thirty-year monopoly license to sell water to the 7 million residents of South Florida.[8]

It sounded remarkably similar to the one that a fast-growing Houston energy broker called Enron was making in the fields of gas and electricity. That's because Azurix and Enron were one and the same.

Enron created its water spin-off to try to make a splash in what it estimated is a $400 billion global market for water. Instead, Enron's attempts to take over water utilities from Argentina to the United Kingdom and to create water markets in the U.S. Sunbelt resulted in $900 million in debt for Azurix—a factor in Enron's devastating collapse of 2001. The *Sarasota Herald-Tribune* newspaper said it best: "Jeb Bush and the people of Florida might want to thank their lucky stars" that Enron imploded before it managed to snag major public water contracts in Florida.[9]

Regardless of their misdeeds, Enron officials were prescient in their predictions that Texas and Florida would soon open to water markets. Many recoil at the idea of markets for a resource they hold sacred. Maude Barlow, the eloquent chairperson of the Council of Canadians who is fighting the "commodification" of water all over the globe, puts it this way: "there are some areas of life that should be marked a part of 'the commons' and set aside from the rules of the marketplace. Water is one of them."[10]

But making water a part of the commons has led to countless Tragedies of the Commons, even in the most water-rich parts of the country, from the Everglades to the Chesapeake Bay. If Florida's environmental history teaches anything, it is that handing over the state's most precious resources, for free, to anyone with a business plan, does not work. Appropriate pricing, markets for buying and selling water, and other economic incentives for its wise use all "have a central role to play in the transition to an era of scarcity," says Sandra Postel of the Worldwatch Institute, the global sustainability think tank.[11]

In Florida, markets could help move water from low-value uses to higher ones while promoting conservation.[12] The lesson of Azurix's short-lived courtship was that the state, not the private sector, should design such markets and set up a regulatory system to prevent supply and price manipulation. The state would insist, just as it did during negotiations over the Apalachicola-Chattahoochee-Flint Compact, on strict conservation for users and minimum stream flows for fish and wildlife. If they allowed such trading at all, state lawmakers would have to come up with a way to make sure it met the three-part test at the heart of Florida water law: that the proposed use (1) is reasonable-beneficial, (2) does not interfere with existing legal users, and (3) is in the public interest.

But Azurix's splash into Florida so turned off lawmakers and the public—part of the problem was the company's secrecy—that it killed any chance of a state water market for the following decade. So instead of getting ahead of the trend, the Florida legislature got left behind. Today, Florida has a water market. It is a gray market over which lawmakers have no control.

Along a 700-square-mile strip of Sarasota, Manatee, and Hillsborough counties, groundwater pumping caused such severe saltwater intrusion and precipitous dips in the aquifer that in the early 1990s, water managers said they would grant no new groundwater permits there. But the force of growth along this stretch of Florida is as powerful as a hurricane, and about as easy to stop. Over time, the water managers and the water users evolved a permit-trading system that reduces groundwater pumping and gets water to those who need it. The users are actually buying and selling the permits—a fact the water managers know about but ignore.

The deals look like this: Existing permit holders give up part of their groundwater allocation in exchange for approval to transfer some of their gallons to a new user. Say a farmer withdraws 2 million gallons a day. Water brokers may work out a deal where the farmer cuts his use to 500,000 gallons a day, 500,000 more go back to the aquifer, and the farmer sells his rights to the other million to a golf course community that needs water. Regulators go for the deals because they reduce overall groundwater pumping. "Whether or not there's a financial arrangement between the two parties is not relevant to us," says Michael Molligan, spokesman for the Southwest Florida Water Management District. "What we're trying to do is ensure a net benefit for the resource."[13]

But the financial side is significant, according to brokers, ranging from a onetime $100,000 payment to multiyear contracts worth millions. From a conservation standpoint, the deals may be in the public interest. But an unregulated market in which water permits are bought and sold without oversight is not. Florida has some of the strongest open-government laws in the nation: the so-called Sunshine Laws that say all government business must be conducted in the open. If Florida lawmakers were going to set up water markets, presumably they would provide for public disclosure and establish priorities above and beyond who has the biggest wad of cash. Southwest Florida's market is open only to those who hire the lawyers and other consultants who know about it. No one is privy to price. And there seems to be no criteria but price. What if two new users, say, a tomato farmer and a home builder, wanted to bid for the same gallons? An open process might reward the one who promises the biggest conservation gains or sets aside the biggest chunk of wetlands, rather than the one who writes the biggest check.

"Right now people may be ignoring it, but markets always find a way," says Mark D. Farrell, an engineer and principal at Water Resource Associates of Tampa, one of the companies brokering the transfers. "I think you can have the best of both worlds. As long as you start with the premise that the resource is protected first, then you can let economics do its thing."[14]

The Swedish privatization advocate Fredrik Segerfeldt found that similar informal trading underway in India led to tensions and efficiency losses. "The government, perceiving its advantages, has opted for non-intervention and has turned a blind eye," Segerfeldt says. "But the informality of the trade means that there is no one to ensure that agreements are adhered to." In Pakistan, the government legalized spontaneous trading that was going on in 70 percent of water courses in one study, which led to a 40 percent increase in the price farmers could demand for water rights.[15]

Water markets are just one-half of the water-privatization trend that detractors fear is sweeping the globe. The other half is privatization of water utilities. Here is the problem with opposing either one of them: both are well underway whether we like it or not. Where scarcity exists, markets emerge. This has proven true even in Florida, which has never sanctioned water markets. Meanwhile private companies run about a fifth of water systems in the United States. So the choice is not to be for privatization or against it. Rather, the choice is to ignore it or to regulate it smartly to ensure water for both people and the planet. Local elected officials across the nation may contract with private utilities to provide water if that is in the best interest of their citizens and resources. Around the world, water privatization has its horror stories and its successes. There are lessons in all of them.

The death of a seventeen-year-old boy named Victor Hugo Daza in Cochabamba, Bolivia, in 2000 underscores how volatile the water-privatization issue has become worldwide. Daza was shot by police in a citizen uprising after a Bechtel subsidiary called Aguas del Tunari landed a contract so unfair to the local people that the company could charge them for water they collected from their own rain barrels. The World Bank had insisted Bolivia turn over its public water utility to the private sector, or the World Bank would refuse to guarantee a $25 million loan for infrastructure improvements. Bechtel and a British consortium of investors put up less than $20,000 up-front for the multimillion-dollar system. The company immediately raised the price of water beyond the reach of the majority of the population, and expected to earn an annual income of $58 million. A five-foot-tall mechanic named Oscar Olivera led citizens to strike, and came under death threats from the military. Thousands took to the streets in a confrontation with the army that left many injured and six, including Daza, dead. Bechtel was forced out of town. Cochabamba's water services now are run by a citizen-controlled, nonprofit company.[16]

Over the past twenty years, water privatization has spread rapidly in poorer countries such as Bolivia as the World Bank made governments privatize utilities in exchange for loans. While private companies still run only 5 percent of the world's waterworks, their recent growth has been significant. In 1990, about 51 million people got their water from private companies. By 2002, that number had increased sixfold, to 300 million.[17]

Two of the three biggest water firms in the world are French: Suez and Veolia Environment, spun out of Vivendi in 2002. They have dominated water supply in France since the nineteenth century and seemed poised, at the turn of the twenty-first, to take over waterworks around the world. In the late 1990s and early 2000s, the French firms, along with German energy giant RWE, went on a buying spree of the largest U.S. private water utilities. Vivendi paid more than $6 billion for US Filter in 1999. Suez paid more than $1 billion for United Water Resources in 2000. RWE, in 2003, paid $4.6 billion for American Water, the largest private provider in the United States.

An investigation by the International Consortium of Investigative Journalists warned, "Having firmly established themselves in Europe, Africa, Latin America and Asia, the water companies are expanding into the far more lucrative market of the United States." An RWE executive told the journalists that within the decade the company expected to double its market to 150 million customers, primarily because of U.S. expansion.[18]

But don't rush to call your stockbroker just yet. The U.S. water market may not be nearly as lucrative as some thought, at least for the multinational firms. In 2004, Veolia shed most of US Filter to Siemens at an overall loss of $4 billion.[19] In late 2005, RWE officials announced they were putting all North American and UK water interests up for sale, including American Water and Thames Water, famously privatized by former British prime minister Margaret Thatcher. The concept of a global water business had "not really worked," RWE chief executive Harry Roels admitted to the *Financial Times.* "Scale and synergy effects in the water business are regional," he said, "not global."[20]

Suez seems to have stumbled the hardest in the U.S. market, or at least the most visibly. In 2003, the largest water-privatization deal in U.S. history, between Atlanta and United Water, fell apart amid citizen outrage over dry fire hydrants, slow service, and brown water. "The city had a motto for years, and it went something like 'Atlanta grows where water goes,'" Jack Ravan, Atlanta commissioner of watershed management, told the *New York Times.* "I think we've learned enough to know that we'd prefer to see the city in charge of that destiny."[21]

Atlanta had good reasons for entering a twenty-year contract with United Water to privatize the city's water utility in 1999. Like so many cities across the nation, Atlanta faced steep costs to repair aging sewer pipes, treatment plants, and other infrastructure. United Water's $22 million a year contract was $20 million less than Atlanta spent for its public utility. The savings could buy capital improvements.[22]

In hindsight, the deal sounded too good to be true. And it was. United Water officials said the city's water-infrastructure problems were much greater than they had been led to believe. The company said it was losing $10 million a year in a bad contract that the city refused to renegotiate. Citizens, meanwhile, endured numerous violations of drinking-water standards and a string of maintenance problems—from open manholes to water-main leaks that went unrepaired for weeks. In fall 2002, Mayor Shirley Franklin announced, "United Water has not lived up to its responsibility." She gave the company ninety days to fix the problems or lose the contract.[23] The following January, both sides agreed to nix it.

The Atlanta case provides good ammo for privatization critics who say private water companies often promise the moon to land contracts and then try to renegotiate them later. Critics also charge that private utilities are less accountable, less vigilant about water quality, and more expensive than public utilities. However, a far-reaching investigation by the AEI-Brookings Joint Center for Regulatory Studies found that in the United States private customers do not appear to pay more for water. The study, which included every community water system in the nation and covered the years 1997 to 2003, found, in fact, household expenditures on water decreased slightly as the local share of private ownership increased. The study found that privately owned systems, on average, complied with drinking-water regulations just as well, in some cases better, than publicly owned ones. The privates had slightly higher monitoring and reporting violations.[24]

Overall, the results said more about the potential for benchmarking and competition than whether public or private utilities are superior. The study found that the higher the share of a local population served by a single system, the less likely that system is to be in compliance with the Safe Drinking Water Act. "Overall, the results suggest that absent competition, whether water systems are owned by private firms or governments may, on average, simply not matter much," the authors concluded.[25]

It is unusual to find such middle ground in the debate over privatization. Advocates say governments, especially in the third world, have proven their incompetence to provide clean water, evidenced by the fact that a sixth of the people on the planet do not have access to it. In the United States, they say, profit motives give corporations strong incentives to conserve, and to see to it that their customers are served rather than water being spilled.[26] Groups such as Public Citizen warn, on the other hand, "there are more than enough cases that expose the opposite side," and that privatization efforts could backfire on taxpayers.[27]

The fact is private companies have both improved and botched water services in the United States and beyond. And so have governments. Private companies have a role in helping solve the global water crises. They also have a role to provide water supply to U.S. cities that are strapped for cash and need new investments to upgrade aging systems.

Aqua America, the largest publicly traded water utility in the United States, has a growth strategy of buying up smaller systems. The company bought more than sixty waterworks in Florida in 2004, a transaction that so far has proven smooth for consumers. Economies of scale mean the company can cover upgrades without sharply raising rates, says Chairman Nick DeBenedictis. The Pennsylvania-based company, which serves 2.5 million people nationwide, sees enormous growth potential across the Sunbelt in serving new housing developments that existing utilities cannot accommodate.

Analysts predict more and more water managers will look to private industry for access to capital for the $1 trillion bill coming due for those leaky, decades-old pipes and pumps. (DeBenedictis says his company, for one, is steering clear of older cities and decrepit pipes.) Meanwhile local politicians are often happy to contract with private companies because it lets them off the hook for difficult decisions like raising rates. In 1997, about 400 governments in the United States had entered into long-term contracts with private companies to run their waterworks. Five years later, that number was 1,100.[28]

The trick for local governments is to get past the two extreme views of privatization to figure out potential providers' financial health, experience with similar-sized systems, customer-service record, and commitment to conservation. "The rhetoric will inevitably lead to bad public policy," says Tony Arnold, a property and land-use law professor at the University of Louisville's Brandeis School of Law. "The more important issues involve identifying under what conditions water privatization should occur and what safeguards and accountability mechanisms should be provided to protect the public."[29]

Utility experts suggest that benchmarking offers the best tool for governments, investors, and consumers to judge a water utility, whether public or private. Financial performance, water quality, customer service, and other measures pulled together in a ranking prove invaluable whether decision makers are in the third world or the United States.[30] The California-based Pacific Institute has drawn praise for its thirteen principles for privatization that combine social and economic objectives. They include meeting basic human needs, meeting ecosystem needs, providing subsidies when necessary to overcome poverty, fair and reasonable water rates, linking rate increases to agreed-upon improvements, using subsidies only when economically sound, and making water companies show that new supply projects are less expensive than conservation projects. The objectives also address the responsibilities on the government's side: public water-quality monitoring, high-quality contracts, clear dispute-resolution procedures, independent technical review, transparency during contract negotiations, and, perhaps most importantly: retaining public ownership and control over the actual water.[31]

This last point has not been lost on Woody Wodraska, the former North American director of Enron's Azurix. Still smarting from what he calls "the black part of my résumé," Wodraska has bounced back and is today national director of water resources for engineering giant PBS&J. Instead of selling water, PBS&J sells consulting hours, in high demand from both public and private water utilities.

If he has come to believe one thing, Wodraska says, it is that "you have to start by protecting society's interests first." The public should always own the water, whether private companies pipe it around, whether its permits are bought and sold. "I come down on the side that water should be a public resource and protected," Wodraska says. "But that doesn't mean you can't manage it more efficiently."

After working on both sides, Wodraska came to the conclusion that the world's water woes will not be solved without significant help from both governments and private companies.

They will need plenty of help from consultants, of course. That could get pretty expensive. Especially when it comes to costly, yet unproven, new technologies.