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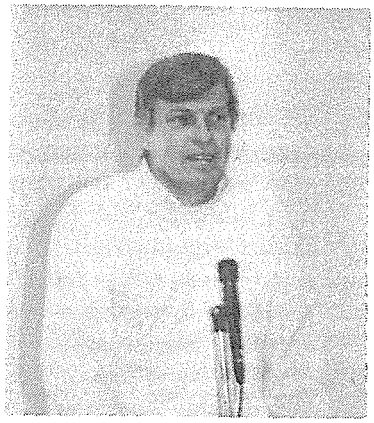

WATER BANKING: HAS ITS TIME COME IN NEW MEXICO?

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The subject of water banking has always interested me. I became particularly interested this summer when several organizations requested the World Bank to sponsor a conference on water banking in Washington, D.C. I attended the conference with some people from Chile, Mexico and other countries where they are moving in the direction of treating private rights in water as bankable assets. As I flew to Washington I thought about how many of the terms dealing with banking in money have their origins in water allocation. The whole notion of "liquidity," the idea of an "income stream," and idea of "banks" themselves are good examples. Some economists carry this idea too far. They believe water rights are fungible and if we could just get water credit cards and make electronic transfers of water, we would all be in great shape. It isn't that easy. I think the *dicho* that my father used to quote regarding our ranch where we had a little surface water is appropriate. "*Un palo largo rio arriba vale mas que un derecho legal al agua rio abajo.*" In other words, if you have a long-handled shovel upstream you're a lot better off than if you've got a water right downstream.

With these caveats on the limits of water banking, I'd like to talk about the theoretical possibilities of water banking. The question posed to me is, "Has the time come for water banking in New Mexico?" The answer is, "It came a long time ago in New Mexico and we've been doing it for years."

First I'd like to talk about groundwater in mined aquifers such as the Ogalalla (the upper lip that we have in New Mexico), the Estancia basin, and the Mimbres basin. These are areas with a confined quantity of water, in fact, contained in a deposit. If you think about the aquifer as a bank, it contains deposits, it contains reserves, and it has withdrawals. If the aquifer is a replenishable one, the withdrawals are in the form of loans. If you have groundwater in storage deposited over geologic time, you also have a deposit, and your passbook to that deposit is the beneficial use of that water. When you make a withdrawal from these nonrenewable groundwater stocks, for all practical purposes it is not a loan because you do not have to pay it back. The water is deposited there as it is in a bank. In a well-managed aquifer, the criteria for taking the water out of the ground are similar to the criteria that a bank might have through the Federal Reserve System. This leads me to the questions, "In New Mexico, with respect to all those areas where we currently are mining groundwater and making loans which we can't pay back, how did we arrive at that criteria? Is it the correct criteria? To what degree has the public been involved in the process?" If we look closely we will find that during Steve Reynolds' tenure

as state engineer, there was a position that there should be reserves available at the end of a typical amortization period, but there wasn't much public involvement in the process. Let me end the groundwater analogy by saying that it is now time to begin to look at those water banks/aquifers that are being mined. We should evaluate the criteria, which I think in large part are very good, and see whether the time period is appropriate on those non-refundable loans. How much reserves should we keep in there? To what degree does the non-refundable loan policy reflect the policy interests today and all of the regional water plans that are being developed? I think analyzing the use of these water banks/aquifers was one of the purposes of the regional water planning legislation.

Let's go to the second category of water: surface water. To have an effective water bank (and I will say "water bank;" let's hope it's not "water savings and loan") as with cash you need to have the physical bank. You need to have control of it, that is to say, you must have a place to make deposits and you must have shareholders with rights who will make those deposits. In the case of water banks throughout the West, you often see water banking statutes. Laws authorizing water banking often exist where there is a lot of unappropriated water and a large reservoir system that is deep and does not allow significant evaporative loss. Where you have a water system in place, a reservoir, or infrastructure, water banking can be very effective. Take California, for example.

In 1991 the Metropolitan Water District (MWD) in Los Angeles purchased on a one-time basis 820,805 acre-feet of water, converted it to municipal use, and changed the law temporarily to allow the conversion. It is called the Drought Water Bank. What they really did was take water which was already banked for agriculture.

Farmers know about water banking. They have been banking water and carrying over storage and planning for many years. Therefore, in California, 820,000 acre-feet of water was easily obtained out of the Central Valley. How did they get the farmers to loan them the water? Very simply, the MWD promised to pay the farmers more money for the water than what they would make farming. You might ask, "How much did they have to pay?" Well, the smart people in Los Angeles sat around and figured out the price of water in Los Angeles, increased it, and offered the farmers $125 per acre-foot. The MWD had almost all its water needs met within two months, so they dropped the price to $50 per acre-foot and met the rest of their needs. The 1992 price is $50 per acre-foot which approximates the productive value of water in agriculture in that part of the valley for those farmers. Basically what happened was an exchange. The farmers agreed to bank their water for Los Angeles if they would be paid not to farm. What was the key element? The key element was that all the infrastructure was in place. The canal systems were in place and the bank already existed.

In New Mexico, where are we in this regard? We have conservancy districts and irrigation districts that currently bank water. The Elephant Butte Irrigation District is an excellent example of that.

There is a regional planning process going on between El Paso, Las Cruces, Dona Aña County, and New Mexico State University. This is really a process of evaluating whether or not there is a way to use water more efficiently in the area by treating the reservoir as the bank and developing criteria for releases that are fair to the people and reflect the best water conservation strategies possible. When there is no more water to be made available through conservation I would presume an exchange of water for money would be appropriate.

Well, if it's that easy and we have reservoirs and irrigation districts and conservancy districts in place, why isn't it happening more often? There are a number of reasons and let me discuss just a few. The first problem concerns return flows. Unless you have a completely new source of imported water, like San Juan/Chama water which originates from another basin, where you divert the water and where the water comes back into the river is important to all who use the river. One person's outflow is another person's inflow. Let me ask you, what do you think is the seventh largest surface water stream in New Mexico? The answer may surprise you—the outflow of the City of Albuquerque's sewage treatment plant. So, where the return flow comes back to a river is important and where you divert it is important. One reason why water banking is not as easy as it may seem is that unless you have all new water to the system, you have an established set of rights to divert at particular locations and people cannot have those rights impaired. There are ways of dealing with this and some legislation could possibly fix some of those concerns.

Another problem we have in the West is that as we talk about moving toward surface water solutions for long-term municipal supplies and water banking and having municipalities use more surface water, we see numerous environmental consequences because there is less water in the river. Ideally we should encourage everyone to conserve water and then bank the

surplus water they save. The second thing we should do is to eliminate carriage loss between the water bank (reservoir) and the user. In order to do these two things however, you sometimes have to affect the environment. Tension is building between those who are pursuing reliable long-term surface sources for domestic use (which I happen to think is a very good wise policy), and those worried about the environmental consequences of that process. For example, concrete lining ditches to eliminate seepage and sand water impact indirectly the seepage and carriage losses that create wetlands. There needs to be a very thorough study of the trade-offs involved in balancing the goals of economic efficiency with the collateral costs on the environment.

A third problem is that if you are going to have a water bank, there must be an economic incentive unless it's purely the government banking. In many Eastern Bloc countries, there was no problem in establishing a bank. The government would set up the bank, put money in it and people would borrow from it. The problem was there was no movement of the money back into the bank and when the bank ran out of money, that was it.

If you are going to have a private water bank, you must have individual shareholders who are willing to bank their water and they ought to get a return which is higher than they could make if they didn't bank it. The prospect of private water banking also has collateral costs on communities. If farmers are banking their water rather than growing things, this can affect acequias and people who live on the ditches. This in turn can affect the economies of some irrigation districts and the remaining irrigators. In this sense water is not like dollars. These are people's lives. Banked water is translated into the crop which is not grown, the chili that is not sold locally. The ristras you see when you travel through Española will no longer be hanging there. The water rights will be in a bank somewhere generating revenue for some corporation that is creating jobs in an urban area. In short, there must be a balance that is reached in the process.

The bottom line is that water banking is taking place throughout the world. But to do it you must have the infrastructure in place. You must be flexible and solve problems of return flows. One must understand that water conservation is a wonderful use of reliable long-time surface water for domestic use. But, there are collateral costs, both cultural and environmental, that everyone should understand.