Water Marketing

Water doesn't just flow around New Mexico in streams and rivers: it also moves around on paper. Since all of the state's surface-water and most of its groundwater have already been allocated, the only way for cities, developers, or conservation organizations to find new water supplies is to buy and transfer water rights from old uses and places to new uses and places. The N.M. Office of the State Engineer (OSE) approves each of these transfers, most of which are relatively small, but the numbers can add up over time. Between 1982 and 2011, for instance, 21,000 acre-feet of Middle Rio Grande water were transferred. Most of the transfers have been from agricultural rights to cities such as Albuquerque and Santa Fe. As increased drought, climate change, and population growth place additional demands on water managers, "ag-to-urban" water transfers will likely increase.

New Mexico Water Market

All that being said, strong, formal markets for water rights in New Mexico have not matured, and physical, legal, and political barriers have hampered their development. While the demand for water is high and transfers are legal and possible, New Mexico has yet to develop a high-efficiency, low-cost market. Water marketing is a complex subject and the answer to the question "is there an active water market in New Mexico?" is mixed.

Legally, a right to use water can be sold under the current law and those sales are occurring throughout the state. The OSE has consistently supported the potential of water marketing, and even included water markets as water management mechanisms in the State Water Plan. However, there are many caveats and conditions on such sales, and no formal marketing systems such as dedicated auctions, clearinghouses, or similar mechanisms exist. Currently, individuals or organizations wishing to buy or sell water rights must advertise on their own or go through a small private firm. Thus, while there is currently a "market", it does not have many of the support structures enjoyed by, and arguably necessary for, more formal goods markets.

While the demand for water is high and transfers are legal and possible, New Mexico has yet to develop a high-efficiency, low-cost market.

Transfer Process

There are different types of transfers of or "changes" to water rights in New Mexico. Owners of existing water rights may apply to change the point of diversion, place of use, purpose of use, or any combination of these elements. Most transfer applications occurring today are associated with applicants seeking to comply with offset conditions for existing municipal and industrial groundwater pumping permits.

In times of shortage, the water user with the oldest priority date is afforded a full supply. The user with the next oldest priority receives a full allotment and so forth until there is no more water to be distributed.

According to the OSE, a party wishing to transfer a right must apply to the agency and demonstrate that the proposed change will not 1) impair existing water rights, 2) be contrary to water conservation, and 3) be detrimental to the public welfare of the state. A subsequent notice procedure allows the public to file protests. If a protest is filed, the OSE Hearing Unit initiates the hearing process. Each individual application is reviewed by the OSE's Water Rights Division. The OSE quantifies and evaluates the potential hydrologic effects of a water right change and determines whether these effects may impair other existing water users' ability to continue exercising their rights. The State Engineer enters decisions on an individual basis, and these decisions may be appealed by any party to a district court.

According to the 2009–2011 Annual Report of the OSE and the New Mexico Interstate Stream Commission, the OSE Hearings Unit noted a "marked increase in the legal and technical complexity" of protested and aggrieved water rights application cases brought to hearing during the fiscal years 2010 and 2011. Most of the hearings concerned water transfers, although a few involved enforcement. According to the Report:

> During FY10, 81 new hearing matters were opened. During the same period, 118 matters were closed. Of the closed matters, final dispositive orders were entered for 38. The final orders include four applications granted in whole or in part, subject to conditions, eight applications denied, and 25 dismissed upon withdrawal; 82 cases were pending on the Hearing Unit's docket as of June 30, 2010. During FY11, 68 new hearing matters were opened. During the same period, 72 matters were closed. Of the closed matters, final dispositive orders were entered for 29. The final orders include one application granted in whole or in part, subject to conditions, nine applications denied, and 15 dismissed upon withdrawal; 78 cases were pending on the Hearing Unit's docket as of June 30, 2011.

Transfers and Priority

Water allocation in New Mexico operates generally on the "first in time, first in right" principle of the prior appropriation doctrine. In times of shortage, the water user with the oldest priority date is afforded a full supply. The user with the next oldest priority receives a full allotment and so forth until there is no more water to be distributed. Those rights that do not receive water are coined "paper rights"—the owner has a right on paper but cannot get wet water. Under state law, the priority date is based upon when the water was first put to beneficial use or, in the case of a permit, the date the application is filed. The priority of a water right defined by federal law, such as those of Tribes and Pueblos, is determined differently, but once determined, fits into the prior appropriation scheme for dealing with shortages.

The earlier the priority, the more valuable the water right because the owner is more likely to receive water during shortages. The year 1907 is important in New Mexico because it marks the passage of the Territorial

water code that began the organizing water usage in New Mexico. Many of these rights date back to Spanish land grants, first non-Indian settlers, and other "ancient" activities. When water rights are organized by priority, the earlier ones are referred to as "senior" rights, and the later ones are referred to as "junior" rights—all in relation to each other. Earlier rights are more alienable, and do not face many of the marketing issues that later rights suffer.

Water Distribution Entities

Water distribution entities deliver water to their member users and thus have an interest in marketing. Among these, the Middle Rio Grande Conservancy District and the Elephant Butte Irrigation District each allow for an internal leasing market, though neither arrangement is a true "formal market."

Neither internal market has seen a high level of success. This situation is not due to a lack of interest in leasing water rights; members of the agricultural sector are very interested in this type of opportunity. Historically, however, these internal leasing markets have restricted the use of the leased water to agricultural purposes. Elephant Butte Irrigation District is beginning to allow leases for environmental purposes, which may invigorate its internal market.

Barriers to Marketing

Water marketing is susceptible to physical, legal, and cost barriers. Since much of the surface and groundwater supplies in the state are physically fully allocated—and drought and climate change make many areas of the state effectively over-allocated—purchasing marketed paper-water is risky, as there may never be wet water to exercise the right. In addition the physical effects of a transfer on the surface and groundwater in both the move-from and move-to locations must be considered for physical impairment of other users' water rights.

Beyond priority, another important barrier is the legal uncertainty about the amount of water available for transfer due to the abundance of unlicensed and unadjudicated rights and/or a coherent and accurate metering system in the state. The level of certainty about the accuracy of the amount of water being offered for sale or lease varies. The amount of a state law water right depends, under the New Mexico Constitution, on the amount put to beneficial use. Documentation of beneficial use can be 1) a "declaration", that is a statement by an owner, filed with the State Engineer by a water right user; 2) a State Engineer permit which allows development of a water right up to a certain amount; 3) a State Engineer license which is issued after the Engineer investigates the beneficial use; or 4) a court decree.

Large areas of New Mexico have not been adjudicated by a court to formalize the elements of water rights. The State Engineer has licensed relatively few water rights, so it can be extremely difficult to be certain about the actual amounts of water available for sale or lease.

Each of these "proofs" is progressively more certain as to the amount and other elements of the offered right. As certainty about a right's elements increases, the risk to the buyer decreases, and the price may reflect the reduced risk. Large areas of New Mexico have not been adjudicated by a court to formalize the elements of water rights. The State Engineer has licensed relatively few water rights, so it can be extremely difficult to be certain about the actual amounts of water available for sale or lease. Metering can be helpful in this regard, where it is present. Meter reports of use can give some assurance as to the amount of water being used during the period a meter is in place, but it does not tell a buyer anything about the validity of a water right in the first place or the amount of water beneficially used prior to installation of the meter.

These barriers make advertising and sale of water right difficult; particularly when the surety of the right cannot be clearly

established. Often, the parties to the transaction must figure out how to establish the elements of the water right with sufficient accuracy to satisfy risk aversion. Costs can also be high where protest to the transfer are lodged, as the parties must then defend the transfer in a legal setting such as before the OSE Hearing Unit or district court if the State Engineer's decision is challenged. Legal barriers can, theoretically, be navigated in the current system. Yet, in practice, completing a transfer or lease can be difficult. Sales and leases occur, but the high transaction cost due to the murky nature of the rights can complicate the process. These expenses and uncertainties have an effect on the marketability of water rights.

There is no clearinghouse in New Mexico for tracking the sales of water, beyond the record of transfers at the Office of the State Engineer.

The legal system of prior appropriation for dealing with shortages has not been well tested. Calls by senior users for junior users to cease diversions are rare. Thus, it is unclear how well the system would function, for instance, if a large number of senior users placed a call on a powerful junior user, such as a municipality. While this possibility does not directly inhibit a market system, the uncertainty makes rights more difficult to market and transfer. Since the prior appropriation system, as applied, does not create guaranteed delivery of a quantity of water, marketing is hindered. This has not prevented sales from going through; but the lack guarantees increased transaction costs as buyers and sellers attempt to reduce risk, thus, hindering the economic functions and fluctuations of a healthy market regime.

Today's Market

There is no clearinghouse in New Mexico for tracking the sales of water, beyond the record of transfers at the Office of the State Engineer. The "Water Bank," a water brokerage house based in Albuquerque and Harwood Consulting, a Santa Fe firm, however, provided some information.

In June of 2012, water in the Middle Rio Grande was *selling* for about $15,000 an acre-foot of consumptive use, a price that includes transactional costs, which usually run about $5,000. Local experience indicates that prices are now lower at the turn of the year than they were last spring. At $12,000 per acre-foot, today's sellers prefer to sit on the sidelines and at $15,000 and above, sellers come to the market readily. Prices can be set by a host of reasons—personal, private or business—for needing cash. As buyers are willing to pay higher prices, more sellers come to the market. As prices decline, more buyers come to the market. In the experience of the Water Bank, *leased* agricultural water in the Middle Rio Grande Valley varies from about $100 to $300 per acre-foot per year. The price depends in part on the price of alfalfa, an important crop in the area.

Indian water rights settlements can also affect the market. It is believed by some that in the case of the *Aamodt* settlement and adjudication in the Nambe-Pojoaque-Tesuque stream system north of Santa Fe, the promise of water service to the Pueblos and south along Highway 85 have relaxed pressure on the prices within the community. The Pojoaque Regional System however, relies upon a transfer of water rights from the Top of the World Farms in the Taos area to the Pojoaque Basin and Santa Fe. It is feared that the transfer may adversely affect other water rights in Taos County. The State Engineer has not yet ruled on the transfer.

The movement of water rights within macro- and micro-markets is specialized. San Juan-Chama Project water, for instance, is imported to Heron Reservoir. A variety of entities have contracted for the right to use the water all the way down the Rio Grande to Elephant Butte Reservoir. More traditional water markets allow water to be purchased and sold within the Middle and Upper Rio Grande reaches of the river.

Smaller markets exist as well, such as within the Santa Fe County Water Utility.

In the Middle Rio Grande Valley, the City of Albuquerque set the market through the 1970s, '80s, and '90s. Then, a decade ago, when the computer chip maker Intel and the City of Rio Rancho were acquiring rights, prices rose to about $35,000 an acre-foot. Since the recession, the market in the central valley is again set by the prices Albuquerque is willing to pay for water—and they are about a third of what they were pre-recession. Santa Fe also witnessed similar spike during the mid-2000s.

New Mechanisms

As times change, new ways of water rights marketing in New Mexico are evolving. In 2012, a group of California Institute of Technology professors ran a water rights auction in New Mexico when the Jicarilla Apache Nation decided to lease some of its San Juan-Chama water rights. After conducting a market analysis and interviewing possible buyers, the group designed software to run an auction for the Tribe's water leases. Bidders remained anonymous during the bidding process but could observe the bidding activity. Once the auction ended, winners were given 60 days to decide how long to extend their leases. Water closed above the offering price, and there were multiple bidders and multiple winners.

Community Concerns

Agricultural water users often have longstanding water rights. Some fear markets will encourage water transfers away from agriculture. To clarify, many agricultural interests strongly support leasing, and market systems for leases, in which the right to use water is temporarily "rented" to another interested party. The permanent transfer of water, however, is seen as the removal of a key component of rural agricultural lifestyle. This sentiment can be found among both ranching and farming communities, and is especially strong in rural New Mexico.

The resistance to the sale of water out of agriculture is most clearly manifested in a New Mexico law that governs the transfer of water out of acequias. Acequias are an historic form of regional water governance, with community structure and ditch systems maintained by farmers and other users within the acequia community. Many acequias have been in place since the first Spanish settlers established themselves in the region. Because of this history, acequia members have water rights, which are attractive to potential buyers.

Acequias have the power under New Mexico law to block transfers of water rights away from the ditch. It takes water to move water and if too many owners have relinquished the right to use water out of the ditch, then there may not be enough water in the system to deliver to the last irrigator, the labor force required to maintain the ditch dwindles, placing an increased burden on other members. An acequia can fail with the loss of a relatively small percentage of members. On the other hand, owners may be left in a position where they are unable to or do not wish to continue using the rights, need the money, but are unable to sell their most valuable asset. There is a strong tension between individual property rights and the welfare of the community. This situation has made the acequia rights some of the most theoretically valuable and simultaneously difficult to market rights in New Mexico.

Acequias have the power under New Mexico law to block transfers of water rights away from the ditch. It takes water to move water.

Conclusion

While some scholars reject water markets as a viable tool for addressing the scarcity of water in New Mexico, the general consensus is that an efficient, user-friendly market system, with low transaction costs, would

benefit both the environment and economic sectors that require water. However, the barriers and lack of clearly defined rights make implementing such a market difficult. It is unlikely that this situation will change until external pressures surpass the resistance from entrenched users, especially in the agricultural sector. How soon this will happen is unclear and may depend on a variety of factors including climate change, long-term drought, and economic uncertainty for both farmers and cities.

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Sources and Contributors:

Statutes and Case Law

NMSA 1978,

§ 72-1-1, Natural Waters; Public.

§ 72-1-2., Water Rights; Appurtenant to Land; Priorities.

§ 72-1-2.1, Water Rights; Change in Ownership; Filing and Recording; Constructive Notice.

§ 72-2-9.1, Priority Administration; Expedited Water Marketing and Leasing; State Engineer.

§ 72-4a-3, Definitions.

§ 72-5-24.1, Acequias and Community Ditches; Changes in Point of Diversion or Place or Purpose of Use.

Cases

Pena Blanca Partnership v. San Jose de Hernandez Community Ditch, 2009-NMCA-16, 145 N.M. 555, 202 P.3d 814.

Montgomery v. N.M. State Eng'r, 2005-NMCA-071, 137 N.M. 659, 114 P.3d 339.

Montgomery v. Lomos Altos, Inc., 2007-NMSC-002, 141 N.M. 21, 150 P.3d 971.

Other

Stephen Bretsen and Peter J. Hill, Water Markets as a Tragedy of the Anticommons, 33 Wm. and Mary Envtl. L. and Pol'y. Rev. 723 (2009), **http://scholarship.law.wm.edu/wmelpr/vol33/iss3/3**

Craig D. Broadbent, *et al., Water Leasing: Evaluating Temporary Water Rights Transfers in New Mexico Through Experimental Methods*, 49 Nat. Resources J., 707 (2009), **http://www.tech-teachers.net/craig/pdf/NRJ%20July%202010.pdf**

D.S. Brookshire, *et al., Market Prices for Water in the Semiarid West of U.S.* 40, Water Resources Res., W09S04, (2004), doi:10.1029/2003WR0 02846**, http://www.geo.oregonstate.edu/classes/ecosys_info/readings/2003WR002846.pdf**

F. Lee Brown, *The Evolution of Markets for Water Rights and Bulk Water*, WRRI, (presented at Surface-Water Opportunities in New Mexico, Water Resources Research Institute, Oct. 2008), **http://www.wrri.nmsu.edu/publish/watcon/proc53/brown.pdf**

Leeann DeMouche, *et.al.,*

Analysis of Water Rights Prices in New Mexico's Lower Rio Grande Basin, WRRI Technical Completion Report 356, Water Resources Research Institute (2010), **http://wrri.nmsu.edu/publish/techrpt/tr356/tr356.pdf**

Water Right Prices in the Rio Grande: Analysis and Policy Implications, 27(2) Water Resources Dev. 337 (2011), **http://agecon.nmsu.edu/fward/water/IJWRM-rio-grande-north-america.pdf**

G.B. Frisvold and K. Konyar, *Less Water: How Will Agriculture in Southern Mountain States Adapt?*, Water Resources Res., 48, W05534, (2012), **http://www.agu.org/pubs/crossref/2012/2011WR011057.shtml**

Ereney Hadjigeorgalis, *Managing Drought through Water Markets: Farmer Preferences in Rio Grande Basin,* 44(3), J. Am. Water Resources Ass'n. (JAWRA) 594, (2008) DOI: 10.1111/j.1752-1688.2008.00184, **http://onlinelibrary.wiley.com/doi/10.1111/j.1752-1688.2008. 00184.x/full**

Lora Lucero and A. Dan Tarlock, *Water Supply and Urban Growth in N.M.: Same Old, Same Old or a New Era?* 43 *Nat. Resources J.* 803 (2003), **http://heinonline.org/HOL/LandingPage?collection=journals&handle=hein.journals/narj43&div=38&id=&page=**

Olen Paul Matthews, *Simplifying Western Water Rights to Facilitate Water Marketing*, 126, Water Resources Update, 40 (2003), **http://opensiuc.lib.siu.edu/cgi/viewcontent.cgi?article=1111&context=jcwre&seiredir=1&referer=http%3A%2F%2Fscholar.google.com%2Fscholar%3Fq%3DSimplifying%2BWestern%2BWater%2BRights%2Bto%2BFacilitate%2BWater%2BMarketing%26btnG%3D%26hl%3Den%26as_sdt%3D0%252C32#search=%22Simplifying%20Western%20Water%20Rights%20Facilitate%20Water%20Marketing%22**

N.M. Office of the State Engineer/ Interstate Stream Commission

State Water Plan (2003), **http://www.ose.state.nm.us/publications_state_water_plans.html**

State Water Plan Implementation Report (2004), **http://www.ose.state.nm.us/PDF/ Publications/StateWaterPlans/swp_implementationReport.pdf**

N.M. State Water Plan Progress Report (June 2006), **http://www.ose.state.nm.us/PDF/ Publications/StateWaterPlans/swp-2006-06-progress-report.pdf**

N.M. State Water Plan Review and Proposed Update (June 2008), **http://www.ose.state.nm.us/PDF/Publications/StateWaterPlans/SWP-Review&Update_6-26-08.pdf**

2009–2011 Annual Report, **http://www.ose.state.nm.us/Plans/ose%2009-11%20 all.pdf.**

Eric P. Perramond, *The Politics of Scaling Water Governance and Adjudication in New Mexico,* 5(1) Water Alternatives 62 (2012), **www.water-alternatives.org/index.php?option=com_docman&task=doc_download&gid=158**

A. Dan Tarlock,

Future of Prior Appropriation in the New West, 41, *Nat. Resources J.*, 769, (2001), **http://www.wrri.nmsu.edu/aluttonfund/Tarlocklecture.pdf**

Western Water Law, Global Warming, and Growth Limitations, 24 Loy. L.A. L. Rev. 979 (1991), **http://digitalcommons.lmu.edu/llr/vol24/iss4/3**

Frank A. Ward, *et al., Integrated Economic, Hydrologic, and Institutional Analysis of Policy Responses to Mitigate Drought Impacts in Rio Grande Basin,* 132(6), J. Water Resources Plan. & Mgmt, 488, ASCE (Nov./Dec. 2006), **http://agecon.nmsu.edu/fward/water/Ward_Et_Al_JWRPM_Nov_06.pdf**

Brandon Winchester and Ereney Hadjigeorgalis, *An Institutional Framework for a Water Market in the Elephant Butte Irrigation District*, 49 *Nat. Resources J.* 219 (2009), **http://heinonline.org/HOL/LandingPage?collection=journals&handle=hein.journals/narj49&div=10&id=&page=**

Contributors

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William Turner, Owner, Water Bank, Albuquerque