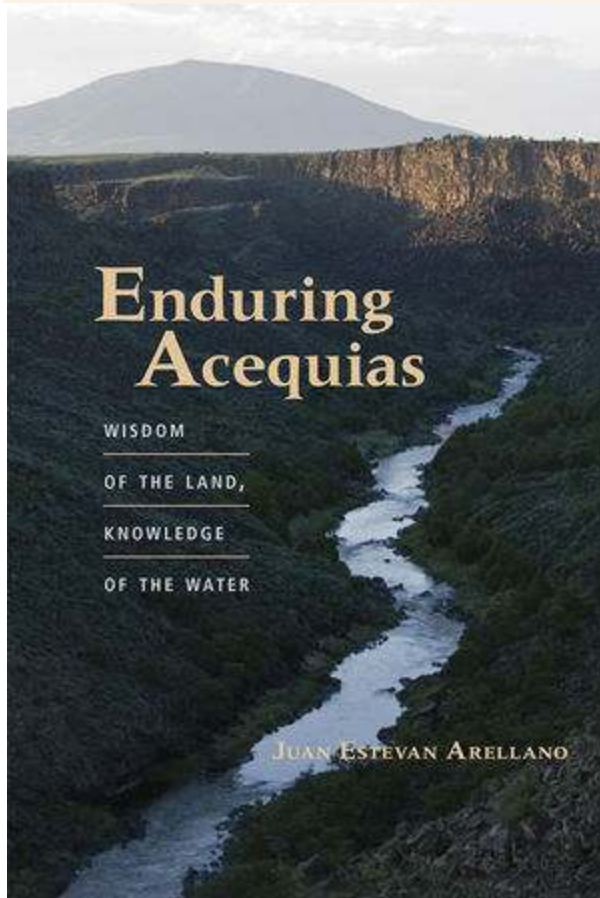


## Water wise: Book explores culture of irrigation-dependent communities



**By Casey Sanchez**

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“Few people have learned to use water as wisely as those who rely on the acequias,” writes Juan Estevan Arellano in his new book, *Enduring Acequias: Wisdom of the Land, Knowledge of the Water*. Released by the University of New Mexico Press, the book examines acequias — those gravity-driven, open-air irrigation systems of reservoirs, channels, and locks — that are found all over the dry regions of the world. Acequias include the ancient water-sharing systems of the Romans, Incans, and Toltecs and the newer sustainable-agriculture communities in Spain and Mexico. Fittingly, the narrative begins with a personal

account of Arellano's upbringing in Northern New Mexico, where he was steeped in acequia culture.

"I've been in acequias since I was a little kid, even before I was allowed to be in the river," Arellano told *Pasatiempo*. Few people are more qualified to talk about New Mexico's acequias than this lifelong *Nuevomexicano*, who discusses and signs copies of his book on Thursday, Oct. 23, at Collected Works Bookstore. From cleaning ditches to drafting local water policy, he has been involved at all levels of acequia leadership. At the Acequia Junta y Ciénaga in Embudo, where he lives, Arellano has served as mayordomo and commissioner.

A former *concilio* member of the New Mexico Acequia Association, he has translated into English one of the earliest Spanish-language farming and irrigation technique texts, the 1513 publication *Obra de Agricultura*. Last year, the New Mexico Community Foundation named him one of 10 Luminarias, an honor given to state residents who make a profound difference in their communities.

The man is obsessed, in a good way, with acequia culture. In 2012, with Enrique LaMadrid, he co-wrote *Juan the Bear and the Water of Life: La Acequia de Juan del Oso*, a children's book about the history and functions of acequias. With architect Arnie Valdez, he is writing an acequia handbook — a practical guide to building, maintaining and managing these canals. Over the past decade, he has presented papers at several acequia and water-sharing conferences in Mexico and Spain. In the meantime, he and his son are filming a documentary on global acequia culture that will draw heavily on source material from *Enduring Acequias*.

The book grew out of Arellano's experiences with modern-day acequia revivals among sustainable-agriculture movements in Mexico and Spain and his search for the acequia system's origins, which he said can be traced back to the Bronze Age Indus Valley of what is now northwest India. The word *acequia* can be traced to the Arabic word *assaqiya*, a word used in ancient Yemen for the bearer of water or wine, he said. "Like a lot of Nuevomexicanos, I thought we were [the] only ones that had acequias," Arellano said. "It was only about 20 years ago I realized they were everywhere in the arid world, from Asia to North Africa. There are even acequias in Italy and Switzerland. They are all over Mexico."

While acequias are deeply associated with the Spanish land grants and colonial system of Spanish-era Northern New Mexico, Arellano's history points out that

Pueblo Indians were building and maintaining acequias long before the conquistadores arrived. The acequias attributed to the Spanish actually came from the labor and architectural knowledge of the Tlaxcaltecas, a Nahuatl-speaking indigenous group from Central Mexico that helped the Spaniards build settlements throughout New Mexico and southern Colorado. “The Tlaxcaltecas were commissioned by the Spaniards in the early 1600s to build acequias in New Mexico,” Arellano said. “They learned from indigenous acequia systems already in place in New Mexico, what they knew from Mexico, and from the Spanish acequia systems on the Iberian Peninsula, which are actually Moorish in origin. The acequia system here in New Mexico is actually a hybrid of indigenous, Moorish, and Spanish elements.”

While communities in Colorado, Arizona, and Texas have acequias, no other region of the U.S. can match New Mexico’s wide web of water channels. Outside of Northern New Mexico, Arellano said, acequias are found in Ruidoso and Las Cruces. In Albuquerque, a movement is afoot to rebuild acequias that have closed or fallen into disrepair. New Mexico even formally recognizes acequias as political subdivisions of the state. Along with their local government powers to distribute and use surface water, acequia associations have the legal power of eminent domain and are authorized to borrow money and enter into contracts for maintenance and construction.

While the communal property rights of acequias may be enshrined in New Mexico law, Arellano said many newcomers ignore the laws by denying passage to acequia community members who clean the ditches each spring. Through planting willows and Russian olive trees along acequia easements, many of these property owners have found a way to block acequia access and destroy the ditch walls by planting trees with long and fast-growing roots. “What’s happening is that some of the people coming into the area did not grow up in acequia culture. They see the acequia and think it belongs to them. They don’t realize that they are part of the community,” Arellano said. “People are building property fences all the way to the banks of the acequia, even though they used to have a legal 15-foot easement. There are people using pumps to get water to land above the acequia that does not have water or irrigation rights. It’s like stealing cable or electricity from your neighbor.”

Such abuses don’t go unchallenged, with many acequia associations willing to spend months and years in court to safeguard their water rights. In other cases however, population shifts and a waning interest in agriculture have led several acequias to suffer from neglect. “Since people are not paying attention to them,

they are crumbling everywhere you go; [people are] letting them go back to nature, to the wild,” Arellano said of some of the canal systems. “In the past, acequias were the roads to the community. They needed to maintain them if they wanted to travel from one hamlet to another.”

Still, Arellano has hope for the future of New Mexico acequias. “Over the past 10 years, a lot of people moving in want to go back to sustainable agriculture and grow organically, so there’s more land under cultivation than what there was in the late 1990s,” he said. The author welcomes the arrival of wineries in the area, as vineyards thrive on drip irrigation and high altitudes; the same vines can be productive for decades longer than fruit trees.

“Acequias have benefits beyond irrigation. A lot of developers in Santa Fe think acequias waste water, but that’s been disproved by studies from New Mexico State University,” Arellano said. “Acequias help build aquifers by filtering the water, [and] aquifers are where we get our drinking water. They help livestock, who don’t have to go the river and can drink directly from acequias. Most people are unaware of the other positive effects of acequias on the environment.” ◀