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BILL HUME*

Big River, Big Issues**

It's a big river—so big it goes by two names, Río Grande and, south of the border, Río Bravo del Norte—and it's a big issue to people on both sides. The International Transboundary Resources Center of the University of New Mexico (UNM) School of Law and the Ford Foundation brought academics and government officials together in Cuernavaca, Mexico, November 10–12, 1997, to explore the disparate perceptions of those issues. Bill Hume, editorial page editor of the *Albuquerque Journal*, filed four columns on the discussions at that conference. They were originally published in the *Albuquerque Journal* November 23–26, 1997.

SHARED RIVER SLAKES THIRSTS THAT DIFFER

When Mexicans, Texans and New Mexicans got together to discuss the drought of 1996, it turned out they weren't really discussing a shared experience. What was for New Mexico little more than a hot summer was in Mexico a near disaster and in Texas a significant hit to agriculture.

Academics and government officials from the United States and Mexico met in Cuernavaca, in the Mexican state of Morelos, to discuss the drought in the context of international water issues on the Río Grande–Río Bravo del Norte drainage system. Organized and sponsored by the University of New Mexico Law School's International Transboundary Resources Center, the conference was one of a series on water issues funded by a Ford Foundation grant.

A big revelation for this New Mexican was a crash course on the geography and politics of the Río Grande—the rest of it, that is—after it leaves the green fields of the Elephant Butte Irrigation District and the El Paso area. Below El Paso, the river defines the international boundary between Texas and Mexico. It essentially dries between El Paso and Fort Quitman, Texas, some 60 miles below El Paso, then is born again through the inflow of tributaries in Mexico and Texas. It serves municipalities and agriculture in both countries down to the Gulf of Mexico.

The drought caused a precedent-setting endangered species expenditure of water on the Río Grande in New Mexico, triggered a contingent "loan" of water from Texas to Mexico to forestall an anticipated

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disastrous shortage, and focused attention on the need for the United States and Mexico to reach agreement on groundwater management in the border regions.

UNM water law expert Albert E. Utton noted that during the last 100 years or so, great strides have been made "internationally, interregionally and 'interstate-ially' " to allocate the waters of the Río Grande system. In the semi-arid regions of the United States and Mexico through which this great river passes, control of water is the fundamental condition for human life.

The modern era on the river started, Utton said, between 1870 and 1890, a period of explosive growth in farming in the San Luis Valley of southern Colorado. Watered by the headwaters of the Río Grande, irrigated acreage went from some 6,000 to more than 300,000 under cultivation.

"Immediately we started seeing shortages in New Mexico, shortages in the El Paso area, shortages in Mexico," said Utton. Agriculture in the Juárez area shrank drastically. Mexico lodged a formal protest over the diminution of its Río Grande water supply.

The first response of the United States was a legal doctrine enunciated in an 1895 opinion by U.S. Attorney General Justin Harmon. The Harmon Doctrine held that "while the water is in our territory, it is ours," Utton said. "We have no obligation to deliver water downstream." It was a doctrine grounded in absolute territorial sovereignty—but contrary to the shared use that was the reality. The Harmon Doctrine was superseded by the Treaty of 1906, in which "we reached an amicable agreement between our two countries," Utton said. The United States acknowledged an obligation to deliver to Mexico 60,000 acre-feet of water from the upper Río Grande every year.

That solved the international questions, but the question of water sharing within the United States among Colorado, New Mexico, and Texas on the Río Grande took several more decades to solve. In 1938 the Río Grande Compact was signed. It divides the water among the three states on a sliding formula, depending on the available water each year.

A subsequent treaty between the United States and Mexico, signed in 1944, allocated to Mexico a share of the Colorado River, and set up a complex system for sharing the Río Grande-Río Bravo del Norte on the reach below Fort Quitman to the Gulf of Mexico at Brownsville, Texas-Matamoros, Mexico. Two reservoirs on the main stem of the river in Texas, Amistad Reservoir near Del Río and Falcón Reservoir near Zapata are operated by international agreement to fulfill water allocations on the lower river.

Though New Mexicans tend not to think of it as such, the Pecos River is also a tributary of the Río Grande, joining the main stem in Texas, just above Amistad Reservoir. The waters of the Pecos are apportioned between Texas and New Mexico by the Pecos Compact of 1948, and an

agreement reached in 1947–48 established a formula for allocating Pecos River water between the United States and Mexico.

South of the border, the Mexican states of Nuevo León and Tamaulipas one year ago reached an interstate sharing agreement to allocate the water of a Mexican tributary of the Río Bravo–Río Grande. It was a debate of conflicting values to which New Mexicans could relate: the farmers of the state of Tamaulipas were in conflict with the municipal-industrial water users of Monterrey, Nuevo León.

Increasingly, the water allocation strategies of the turn of the nineteenth century are proving inadequate for the realities of the turn of the twentieth century on both sides of the border. The population of Juárez was about 8,000 in 1906, while today it is one million going on two million, Utton said. On the United States side, El Paso was a metropolis of about 16,000 in 1906, while today it is about 675,000. Municipal and industrial uses of water, largely ignored in 1906, are now the major worry.

Growth in the Albuquerque area is well known to New Mexicans, and the population of the border area of Texas is predicted to increase by 86 percent between 1990 and 2000.

"We've created a culture of people who expect water to be delivered to their homes—and not cost very much," said John M. Baker Jr., commissioner of the Texas Natural Resource Conservation Commission in Austin.

"The 1944 treaty is not specific enough to provide for today's needs," said Arturo Herrera Solís, commissioner of the *Comisión Internacional de Límites y Aguas*, headquartered in El Paso.

Mexico has long felt that the 1906 treaty didn't treat it equitably, but "to reopen those treaties would be difficult in the extreme," Utton noted. In the twenty-first century, water scarcity will begin to pinch all users on both sides of the border, in ways that will require international solutions.

RÍO NEIGHBORS' FORTUNES INTERTWINED

New Mexico's drought of 1997 actually began in earnest several years earlier downstream along the Mexico-Texas border portion of the Río Grande–Río Bravo del Norte. In New Mexico, it ultimately had more publicity than reality.

Octavio Chávez, resident adviser to the International City/County Management Association in El Paso, Texas, described the effects of the drought along the Río Bravo del Norte (the Mexican name for the Río Grande) in Mexico. Storage in dams on Mexican tributaries of the river was down in 1995, 1996 and 1997. Streamflow in tributaries was running 16 to 39 percent of normal.

"The main crisis came in 1995," Chávez said. For historical context, the Texas-Mexico section of the river was hit by drought in the 1950s (worst of the last 50 years), the 1960s and the mid-1990s.

Of the latest drought, Chávez said, "I feel it's still going on, but the hardest part is past. The drought wasn't as bad as in the 1950s."

Water conflict erupted into the public arena in Mexico between the states of Nuevo León and Tamaulipas. El Cuchillo Dam, on the Río San Juan, a Mexican tributary of the lower Río Bravo del Norte, was constructed. Tamaulipas farmers were supposed to receive some of its stored water, but the state of Nuevo León, in which the reservoir is located, refused. The city of Monterrey, Nuevo León, looked to the reservoir to augment its supply.

The National Water Commission, controlling agency for water matters in Mexico, ordered the gates opened. A court ordered them closed. It became a hot political issue in the media, but finally an agreement to allocate the water was negotiated.

Monterrey relied primarily on wells for its municipal water supply until 1994, when it began utilizing increasing amounts of surface water (a strategy currently proposed for Albuquerque). The city of Monterrey has a long history of water supply and distribution problems, according to Ismael Aguilar Barajas, of the economics department of the Monterrey campus of the *Instituto Tecnológico y de Estudios Superiores de Monterrey*.

The reliance on surface water for municipal use, much more common in Texas and Mexico along the lower reach of the river, made urban populations directly vulnerable to the drought conditions—unlike in New Mexico where virtually all municipalities, other than Santa Fe, draw municipal water supplies from groundwater sources—leaving them unaffected by surface water shortage.

Some 350 small communities that relied on surface water or shallow wells found that their public water systems were going dry, said John M. Baker Jr., commissioner of the Texas Natural Resource Conservation Commission in Austin. "This drought got serious in a hurry."

Monterrey faced an imminent shutdown of the municipal water system. In anticipation of that catastrophe, Mexico and Texas had in 1995 negotiated a first-ever contingent water loan agreement, under which Texas agreed to release water to Mexico on an emergency basis. The rains came, and Mexico never drew on the Texas water loan, but for 18 months Mexican water needs were backstopped by the unique international agreement.

Lake Falcón and Amistad Reservoir, the two internationally operated reservoirs on the main stem of the river between El Paso and the Gulf of Mexico, dipped to about 25 percent of capacity, and they have recovered only to about 35 percent of capacity now, according to Baker.

The aggregate drought loss to Texas agricultural production was \$2.1 billion, Baker said.

Things were different in the Río Grande above El Paso. The 1906 treaty between the United States and Mexico on upper Río Grande water requires the delivery of 60,000 acre-feet to Mexico except in years of "extraordinary drought."

The United States has curtailed deliveries to Mexico under the "extraordinary drought" language 14 times in the last 50 years, but not in 1996—not in the last 20 years, in fact.

"We (in New Mexico) are not in a drought," said John Hernández, professor at New Mexico State University (NMSU), and longtime water and hydrology scholar. "We're not in a serious situation. We expect (recent water conditions) approximately every five years."

"We have never had so much water as we are enjoying now in New Mexico," he added.

But, despite the contrasting drought experiences of recent years, the water fortunes of New Mexico, Texas and Mexico are inseparably intertwined, and only through interstate and international cooperation can the realities of the twenty-first century be accommodated within the water agreements of the twentieth century. Essential at this juncture is the political will to initiate international negotiations.

"We are going through a period of slow suicide" in border area groundwater matters, said Ambassador Alberto Székely of Mexico City, former Mexican ambassador for the environment in international affairs.

In anticipation of such negotiations, a major initiative has been launched on the United States' side of the border to bring order to the management of the Río Grande. Brought by the United States Bureau of Reclamation, it is a federal lawsuit seeking to assert federal title to all the Río Grande water used in the basin below Elephant Butte Dam in New Mexico and Texas.

United States Commissioner of Reclamation Eluid Martinez, a native of the tiny northern New Mexico village of Córdova and former New Mexico state engineer, defended the lawsuit at the Cuernavaca conference. The federal suit, he said, is the only practical way to impose a uniform accounting on water rights in the lower Río Grande from Elephant Butte to the international boundary, given the different and often conflicting water laws of New Mexico and Texas. Such an accounting, he observed, is an indispensable prerequisite to negotiations with Mexico on border groundwater issues.

LAWSUIT SUCKS WELLS INTO BORDER WATER EQUATION

The federal lawsuit asserting title to all the Río Grande water from Elephant Butte, near Truth or Consequences, to Mexico exploded like an

atom bomb in New Mexico and Texas water circles in June of 1997. In the context of the United States–Mexico border area, however, it was only the most recent and highest flare-up in a long-smoldering forest fire in water matters.

No less than the basic water supply future of the cities of Las Cruces, El Paso and Juárez, plus all smaller groundwater users in the lower Río Grande Basin, are put in play by the suit filed by the United States Bureau of Reclamation. It is even feared that the suit could ultimately involve all users of ground and surface water in the Río Grande basin—and affect the Río Grande Compact, the agreement that divides the water among Colorado, New Mexico and Texas.

“A question that is developing across the West is ‘who owns the water?’” said Eluid Martínez, commissioner of the Bureau of Reclamation. The federal government, which built and operates the projects necessary to deliver it? The irrigation districts? The farmers?

“In southern New Mexico you have an aquifer with three major straws in it,” Martínez said, referring to the urban areas of Las Cruces, El Paso and Juárez. The ground water they use is inextricably intertwined with the surface water flowing above.

“The Río Grande Project is a project that is international in scope, interstate in scope,” he said. Water is no respecter of political boundaries—and the laws in the two states and Mexico are quite different. In Texas, the “right of capture” allows landowners to extract as much groundwater as they can find beneath their property, without regard to the effect on their neighbors. That is in contrast to New Mexico, where groundwater use is regulated as an adjunct of surface water.

The judge in a longstanding state court adjudication suit on the lower Río Grande recently ruled he would adjudicate New Mexico rights only, and would not consider water in storage.

“Then you have the potential for adjudication in Texas where you could not apply to New Mexico,” Martínez said. Consequently, Martínez said he filed the suit as a “move to a forum to quiet title to the water and bring these questions to the fore and get people to talk.”

If those questions aren’t resolved, “then we’re just burying our heads in the sand” on the issue of groundwater in the border area, he said.

Martínez’ suit has not been met with understanding or support.

“This federal lawsuit may be the most costly water suit the state has ever experienced,” said New Mexico State Engineer Thomas C. Turney last October in a water meeting in Tucumcari. “People have repeatedly stated that the \$15 million to \$20 million spent on the El Paso–New Mexico (water) issue was costly. I would predict that the El Paso suit may end up looking like a minor blip on the radar screen compared to this....”

Texas isn’t enthusiastic about the lawsuit, either.

"We've taken some exception to the Bureau's attempt to quiet title to the water," said John M. Baker Jr., commissioner of the Texas Natural Resource Conservation Commission. "We see (the Bureau of Reclamation) more as a trustee of the water rights. We probably will intervene in that case."

As Martinez notes, however, a firm quantification of water rights on the United States' side of the border is an indispensable prerequisite to meaningful negotiations with Mexico—and such a quantification appears unattainable with Texas and New Mexico state courts acting independently.

Given that Martinez is a native of Córdoba in northern New Mexico and served as New Mexico state engineer prior to his stint at the Bureau of Reclamation, it should be expected that New Mexico's water concerns will be fully understood and cared for in the course of the federal suit.

Time is not on the side of border area water users, however. "We are getting closer to a major crisis" in the Juárez area, said Octavio Chávez, resident adviser of the International City/County Management Association in El Paso. "We need to look at the issue of groundwater. We need to do it in a formal setting."

"We are mining the groundwater at a rate approaching 20 times the recharge rate," said Albert E. Utton, director of the International Transboundary Resources Center at the University of New Mexico School of Law. ". . . The present trajectory on the Río Grande is not sustainable." The estimate is that at the present rate of growth, the groundwater shared in the border area will be exhausted by 2020 to 2025 or sooner. And the Las Cruces–El Paso–Juárez situation isn't unique. There are at least nine distinct transboundary aquifers that pass beneath the Texas-Mexico border, said Tyrus G. Fain, special assistant commissioner for federal relations in the Texas General Land Office. "We can't do a groundwater management system on just one side of the border," Fain said.

The interaction between surface water and groundwater in a hydrological system like the Río Grande makes regulation of one meaningless without considering the other—and that is the Achilles heel of the old United States–Mexico water treaties, which deal only with surface flows.

"The situation requires the governments of our two countries to wake up and address the joint problems," said Ambassador Alberto Székely of Mexico City, former Mexican ambassador for the environment in international affairs.

"We have some huge institutional problems," said Helen Ingram, professor in the School of Social Ecology in the Department of Urban and Regional Planning at the University of California's Irvine campus. "We need to move ahead on a groundwater treaty."

And, as water issues pushed by increasing human demand on both sides of the border continue to swirl, ecological and species protection issues in the United States came together to impose yet another demand on the scarce resource during the drought of 1996. Habitat for the Río Grande silvery minnow forced the release of significant quantities of water both in 1996 and 1997, and threaten to be a perennial demand henceforth.

TINY MINNOWS MANDATE OCEANS OF SCARCE WATER

While New Mexico's drought of 1996 proved to be more hype than water shortage in the Río Grande basin, it nonetheless triggered a water event unprecedented in man's use of the Río Grande: Water was released from storage solely to provide habitat for a tiny fish.

While streamflows have previously been timed or enhanced to improve fish habitat, never before had water been involuntarily released in the Río Grande for environmental considerations. The release to provide habitat for the Río Grande silvery minnow below the Middle Río Grande Conservancy District's (MRGCD) San Acacia diversion dam set a precedent that will pressure water supplies in scarce years for as long as it stands. Additionally, it is an alteration of the natural pattern of the river, in that the Río Grande heretofore frequently ran dry in its lower stretch through New Mexico.

Geography dictated a handy scapegoat for the silvery minnow crisis of 1996. Though the water scarcity at San Acacia was the cumulative result of all water use from the headwaters in Colorado down, the MRGCD ended up the focus of the remedy.

"Nineteen ninety-six was strictly crisis management," said Maria O'Brien, attorney for the MRGCD. U.S. Fish and Wildlife Service officials hinted at criminal prosecution of individual MRGCD board members and officials unless the district opened the San Acacia gates. It created a rock and a hard place situation with "the threat of prosecution of water users under federal law for their use of water they were entitled to under state law," O'Brien said. The MRGCD has diverted water for irrigation at San Acacia since the 1930s. To instead release MRGCD water in the channel of the river was to deny its use to its rightful owners, the district farmers.

Though geography made the MRGCD the focal point of the federal threats, ultimately others were drawn in.

"I recall too vividly that first week's event," said Gary Rowe, area manager of the United States Bureau of Reclamation in Albuquerque. The river ran dry, fatally stranding a large number of the minnows, and the threats followed, raising tension levels all around. "Our first thoughts were to buy a week (by an emergency water release). It wasn't pretty, but it worked."

The cost in water wasn't minor and the ecological effect wasn't major. More than 50,000 acre-feet were ultimately released in 1996. That's enough water to irrigate approximately 17,000 acres of farmland for a year.

"We only kept the river wet for an additional 14–18 miles out of a 50– to 60–mile stretch (down to the headwaters of Elephant Butte Reservoir)," Rowe said. Federal water and city of Albuquerque water were committed to the effort, and the Jicarilla Apache Tribe also gave water, he added. This year, 20,000 acre-feet of water were used.

O'Brien related a suggestion made by a farmer at a meeting on the situation: "If it is the national policy of this country to save the endangered minnow, then why doesn't each water user in Albuquerque give up 10 gallons of water every summer to help save it?"

Why, indeed? However, O'Brien's farmer drastically underestimated the cost. Albuquerque's total municipal water use comes to about 122,000 acre-feet a year.

The silvery minnow crisis of 1996 was not in response to extraordinary circumstances, either, according to Dr. John Hernández, of New Mexico State University, a hydrologist and water scholar.

"We're not in a drought, we're not in a serious situation," he said. "We expect (the conditions of 1996) approximately every five years."

Hernández presented a statistical analysis of historical data that showed a dry riverbed for 30 consecutive days in the Río Grande occurring on average once every seven years at Bernardo, upstream of San Acacia. Periods of 60 days with no flow should be statistically expected once in every 18 years.

It must be noted that conditions below San Acacia aren't the only man-caused pressure on the silvery minnow, a desert river fish whose range once extended far up the Río Grande above Albuquerque. The construction of Cochiti Dam near Peña Blanca made the river run clearer and colder through the Albuquerque area—pushing the minnow habitat down the river.

There was general agreement that a more equitable system for providing minnow habitat should be worked out, in conjunction with complete plans for the species' protection.

"What needs to be done is a helluva lot of work," O'Brien said. "I don't think we can let that (confrontation and the threat of prosecution) happen again."

"We need to move more in the direction to make all the water users in the basin responsible for the water to protect the endangered species," said Rowe.

All users north of the international boundary, that is. There is no provision in the treaties with Mexico for environmental considerations on the river system, and environmental issues in Mexican river management haven't gained much emphasis.

Tom Bahr, director of the New Mexico Water Resources Research Institute at NMSU, is a member of the silvery minnow recovery team. He reported that the team was considering a recommendation to reintroduce the minnow to habitats far removed from the middle Río Grande, including portions of the Pecos River (which is a Río Grande tributary) and down along the Big Bend stretch of the Río Grande in Texas.

Denise Fort, chair of the Western Water Policy Review Commission and professor at the University of New Mexico School of Law, said there were conflicting opinions on whether New Mexico water law allowed the protection of in-stream flows.

State law notwithstanding, however, 1996 proved that the threat of federal criminal prosecution can make the state constitution's property-right guarantees seem like a mighty thin security blanket.

The silvery minnow crisis of 1996 worked a basic change on the law of the river, possibly moving the tiny fish ahead of even the senior water rights of the Río Grande pueblos in the allocation of this scarce desert resource. Environmental considerations will continue to grow as man grapples with the stewardship of this scarce resource into the next century.