The Rio Grande Convention of 1906: A Brief History of an International and Interstate Apportionment of the Rio Grande

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THE RIO GRANDE CONVENTION OF 1906: A BRIEF HISTORY OF AN INTERNATIONAL AND INTERSTATE APPORTIONMENT OF THE RIO GRANDE

WILLIAM A. Paddock*

I. INTRODUCTION

Late one morning in April 1598, a party of eight armed and mounted men came to the river from the south through heavy groves of cottonwoods. They were emaciated and wild with thirst. On seeing the water they lost their wits, men and horses alike, and threw themselves into it bodily.

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The men drank and drank in the river. They took the water in through their skins and they cupped it to their mouths and swollen tongues and parched throats. When they could drink no more they went to the dry banks and fell down upon the cool sand under the shade of the big trees. In their frenzied appetite for survival itself, they had become bloated and deformed, and they lay sprawled in exhaustion and excess.

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Their clothes were ragged, their boots were worn through, and their bellies were hungry; for they had come for fifty days through deserts with thorns, mountains with rocks, and nothing to eat but roots and weeds. For the last five days they had not had a drop of water. In finding the river, they not only saved their lives; they fulfilled their assignment—to break a new trail to the Rio del Norte from the south, that would bypass the Junta de los Rios, to bring the colony directly to its New Mexican kingdom.1

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Then, as now, survival and prosperity in the western United States required water for domestic use, for irrigation of crops, for commercial and industrial purposes, as well as for maintenance of the environment and the biological systems on which life depends. By the turn of the 20th Century, little, if any, unclaimed water remained in the Rio Grande in Colorado, New Mexico, or northern Texas. Interstate and international apportionments were required to allocate the water and maintain peace. These apportionments, including the Rio Grande Convention of 1906; the allocation of water from the Rio Grande Project; and the Rio Grande Compact, are frequently at the center of new disputes over water allocation spurred on by the burgeoning growth in the southwestern United States. Unless one understands these "old" apportionments, and the rights they were intended to create and preserve, it is not possible to make intelligent decisions on today's disputes.

Oliver Wendell Holmes once said "upon this point a page of history is worth a volume of logic." This is equally true for many western water disputes. Accordingly, what follows is a brief history of, and a discussion of the reasons for, the allocation scheme for water from the Rio Grande below Elephant Butte Reservoir in New Mexico and above Fort Quitman, Texas. This is a work more of synthesis than scholarship, and is intended to provide a basis for further legal and historical analysis.

II. PHYSICAL DESCRIPTION OF THE BASIN

The river known as the Rio Grande was preceded by a rift of the same name. The Rio Grande Rift extends from Leadville, Colorado, to Presidio, Texas, and Chihuahua, Mexico. In hydrological terms, the Upper Rio Grande Basin extends from the San Luis Valley of south-central Colorado southward through central New Mexico to Fort Quitman, Texas. It includes parts of El Paso and Hudspeth Counties in extreme western Texas, and that part of northern Mexico lying between the Rio Grande and the Sierra de Presidio, Sierra de Juarez, and Sierra de la Armargosa. The drainage area (excluding the Closed Basin in the San Luis Valley, see below) is 31,100 square miles; the river is 650 miles long. This basin is naturally divided into three areas: (1) the San Luis Valley in Colorado; (2) the

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6. W. Scott Baldridge, et al, Rio Grande Rift: Problems and Perspectives, in RIO GRANDE RIFT: NORTHERN NEW MEXICO, 1, 1 (W. Scott Baldridge et al. eds., New Mexico Geological Society 1984). The valley between Salida and Leadville, Colorado, while still part of the Rio Grande Rift, was hydrologically separated from the Rio Grande approximately three to five million years ago when the Maysville Uplift pushed up a mountain barrier across the northern end of the San Luis Valley.
THE RIO GRANDE CONVENTION OF 1906

Middle Rio Grande in New Mexico; and (3) the Elephant Butte-Fort Quitman section in southern New Mexico, western Texas, and northeast Mexico.

A. The San Luis Valley

The San Luis Valley is a high mountain valley extending approximately ninety miles from north to south and fifty miles from east to west. The valley floor ranges in elevation from 7,440 feet to about 8,000 feet and is ringed by mountains between 10,000 feet to 14,390 feet in elevation. The valley's west side is formed by the Conejos Mountains, the San Juan Mountains, and the La Garita Hills; to the north are the Saguache and the Sangre de Cristo Mountains; to the east are the Sangre de Cristo Mountains; and the southern boundary is formed by the San Luis Hills. The Rio Grande's headwaters are in the San Juan Mountains near the Continental Divide, from which it flows southeasterly entering the valley on the west at Del Norte. The river continues southeasterly across the valley through the cities of Monte Vista and Alamosa. At Alamosa, it turns south and runs nearly forty miles, passing through a break in the San Luis Hills, and then entering a deep canyon above the New Mexico state line.

The Closed Basin occupies the northern part of the San Luis Valley. It is hydrologically separated from the rest of the valley by a low divide that extends southeast from near Del Norte to a few miles north of Alamosa and then easterly to the east side of the San Luis Valley. The Closed Basin contains some 2,940 square miles that do not naturally drain to the Rio Grande. The lowest area in the Closed Basin, known locally as the “sump,” is located on the east side of the valley at the foot of Mount Blanca. Historically, the sump was a chain of ephemeral lakes. Prior to the Closed Basin Project,7 practically all water produced by streams flowing into the Closed Basin that was not consumed in irrigation flowed to the sump and was lost through evaporation and transpiration. In addition, all unconsumed irrigation water applied to land in the Closed Basin from ditches off the Rio Grande flowed to the sump area. Today, the Closed Basin Project8 pumps shallow groundwater from the sump area and delivers it to the Rio Grande below Alamosa.

The Conejos River is the principal tributary of the Rio Grande in Colorado. It rises in the southwest mountains of Colorado, is augmented by the San Antonio and Los Piños Rivers, and flows northeast to join the Rio Grande at Los Sauses. The other tributaries joining the Rio Grande from the west above the Conejos River include La Jara, Alamosa, and Rock Creeks.

The San Luis Valley's southeast area extends east from the Rio Grande to the lower slopes of the Culebra Range of the Sangre de Cristo Mountains and from the New Mexico state line north to the Closed Basin. The principal streams in this area, from north to south, are Trinchera, Culebra, and Costilla Creeks. Costilla Creek rises in New Mexico, flows north and west for about ten miles through Colorado and then turns south and joins the Rio Grande in New Mexico.


Due to upstream reservoirs and extensive irrigation, these streams generally contribute limited amounts to the Rio Grande.

B. The Middle Rio Grande

The Middle Rio Grande includes the Rio Grande and its tributaries between the Colorado-New Mexico state line and the San Marcial Narrows at the head of Elephant Butte Reservoir, a distance of about 270 miles. The upper half of this reach is flanked on the east by the Sangre de Cristo Mountains. On the west, the Conejos Mountains extend southward and separate the Rio Grande and the Rio Chama drainages. The Rio Chama joins the Rio Grande near Española, New Mexico. This portion of the Rio Grande and the Rio Chama drainage area contributes most of the water supply for the Rio Grande that originates in New Mexico. The tributary streams south of the Rio Chama are largely torrential, carry a heavy silt load, and supply relatively little of the river's total flow.

The canyon that the Rio Grande enters in southern Colorado gradually deepens as the river flows through northern New Mexico, reaching a depth of more than 1,200 feet at Embudo, seventy miles south of the Colorado-New Mexico state line. In this reach, the principal tributaries are from the east and include the Rio Colorado, the Rio Hondo, the Rio Taos, and Embudo Creek. These streams, rising in the Sangre de Cristo Mountains, provide water for irrigation to the mesa lands lying between the mountains and the river and contribute only flood flows and return flows to the Rio Grande.

Below Embudo, the Rio Grande emerges into the Española Valley, a valley some twenty-five miles long and from one to three miles wide. Here, the Rio Chama joins the Rio Grande from the west and the Rio Santa Cruz joins it from the east. The Rio Chama drains some 3,200 square miles. About thirty miles upstream on the Rio Chama is Abiquiu Reservoir, a flood control and storage reservoir that was completed in 1963 with a capacity of 1.2 million acre-feet. There is some irrigation in the mountain valleys both above and below Abiquiu Reservoir. Another thirty miles further upstream on the Rio Chama are El Vado Reservoir (185,000 acre-feet) completed in 1935, and Heron Reservoir (400,000 acre-feet) completed in 1970. El Vado Reservoir serves the Middle Rio Grande Conservancy District, and Heron Reservoir is part of the San Juan-Chama Project, a transbasin diversion bringing water from the San Juan River Basin into the Rio Grande Basin.

Below the Española Valley, the Rio Grande enters White Rock Canyon, "a narrow tortuous gorge some twenty miles long."9 At the end of this gorge is Cochiti Dam, a flood control reservoir capable of storing some 500,000 acre-feet, which largely inundates White Rock Canyon. From Cochiti Dam downstream, the Rio Grande enters the long narrow Middle Rio Grande Valley, which extends 150 miles to the San Marcial Narrows. This valley is broken only by the

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narrowest at San Felipe, Isleta, and San Acacia, which serve to define the Santo Domingo, Albuquerque, Belen, and Socorro subvalleys. The Rio Grande's principal tributaries in the Santo Domingo Valley are the Santa Fe and Galisteo Creeks, both of which enter the valley from the east. Galisteo Reservoir controls the flood flows of Galisteo Creek. Jemez Creek enters the Rio Grande from the west a few miles below the San Felipe Narrows. Its flows are controlled by Jemez Canyon Reservoir, which has a capacity of some 100,000 acre-feet and is operated for flood and sediment control purposes. The Rio Puerco and Rio Salado enter the Rio Grande from the west just above San Acacia Narrows, some sixty-five miles south of Albuquerque. These streams are largely torrential and only contribute to the Rio Grande at times of flash floods. While the Rio Puerco only drains about 5,000 square miles, contributing 10% or less of the Rio Grande's total flow, it is the source of at least one-half of the river's total sediment load.

C. The Elephant Butte-Fort Quitman Section

The Elephant Butte-Fort Quitman section of the Upper Rio Grande Basin covers 250 miles from San Marcial, New Mexico, to Fort Quitman, Texas. In the first sixty-five miles below San Marcial, downstream to the Caballo Narrows, the surrounding hills and mesas are close to the river and there is little valley land. The eastern side of this reach includes the "Jornado del Muerto" (Dead Man's March), a long, flat, tortuous expanse of high desert on which many early settlers perished.' Elephant Butte Dam now blocks the river forty miles below the San Marcial Narrows. In periods of plenty, the resulting lake fills the entire valley upstream to San Marcial.

Just below Elephant Butte Dam, the Rio Grande enters the Palomas Valley. At the end of the short Palomas Valley is the Caballo Narrows, now occupied by Caballo Dam, which impounds flood water and water released from Elephant Butte Reservoir. Caballo Dam has a capacity of some 300,000 acre-feet and began partial operations in 1938. Below that dam, the river enters the Rincon Valley, a valley some thirty miles long and, at most, two miles wide. At the head of the Rincon Valley is Elephant Butte Irrigation District's Percha diversion dam, which takes irrigation water from the Rio Grande. The Rincon Valley ends at Selden Canyon, below which the Mesilla Valley begins. That valley extends some fifty-five miles south to "the Pass," four miles above El Paso. It reaches its maximum width of about six miles near Las Cruces, New Mexico. The Elephant Butte Irrigation District's principal diversions in this reach are the Leasburg and Mesilla diversion dams, from which up to 88,000 acres are irrigated.

Below the Mesilla Valley is the El Paso Valley, which is about ninety miles long and four to six miles wide, and extends from El Paso on the north to about ten miles below Fort Quitman, Texas.

12. See id.
14. See HORGAN, supra note 1, at 168-171.
The land on the Mexican (west) side of the Rio Grande in this reach is called the Juarez Valley. Under the 1906 Convention, it was allocated 60,000 acre-feet of water to irrigate about 25,000 acres. The land on the Texan (east) side of the Rio Grande is included in the El Paso County Water Improvement District No. 1 (the “El Paso District”) and the Hudspeth County Conservation and Reclamation District (the “Hudspeth District”). The El Paso District was established to provide irrigation water to some 67,000 acres. The El Paso District formerly used two other principal diversion structures, the International Dam and the Riverside Dam, located downstream of the Acequia Madre. In recent years, diversions for Texas have been increasingly consolidated at the American Dam, upstream of the Acequia Madre. The Hudspeth District typically makes no diversions from the Rio Grande. Instead, it is supplied with tailwater from the El Paso District, delivered by the Tornillo Drain into the Hudspeth Feeder Canal. There are no perennial tributaries to the Rio Grande in the Elephant Butte-Fort Quitman section of the Rio Grande. Rather, the tributaries are dry arroyos subject to flash floods. The principal tributaries enter from the west between San Marcial and the Rincon Valley, and most of them are now regulated by flood and sediment control reservoirs.

III. HISTORY OF EARLY SETTLEMENT

The concentration of runoff caused by the Rio Grande Rift made possible permanent human settlements in the Rio Grande Basin. The available evidence suggests intermittent human occupation of the Rio Grande area for at least 10,000 years. It was not until the first millennium B.C. that corn and squash agriculture appeared on the Rio Grande. The beginning of corn and squash agriculture also marked the beginning of irrigated agriculture in the Upper Rio Grande Basin. The transition from mobile hunting and gathering to agricultural food production required significant social, economic, and technological changes, and the development of settled villages. This change occurred slowly, with the first permanent dwellings appearing about A.D. 400. The principal crops of grains, squash, gourds, maize, and beans were irrigated from ditches drawing from the Rio Grande and its tributaries. By A.D. 850 or 900, the precursors of Indian pueblos appeared. Then, from the twelfth through seventeenth centuries, the Indian population grew and was concentrated in larger communities. By the time Spanish settlers first came in contact with the Indians in the Upper Rio Grande Basin at the end of the 16th Century, there were about 60,000 Indians living in some 130 pueblos. During the first century of Spanish occupa-

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16. See Rio Grande Convention of 1906, supra note 2, at 2954 (distributing 60,000 acre-feet of water to Mexico for irrigation purposes).
17. See John A. Ware, Man on the Rio Grande: Introduction and Overview in Rio Grande Rift: Northern New Mexico, 271, 271 (W. Scott Baldridge et al. eds., New Mexico Geological Society 1984) [hereinafter Ware].
18. See id.
20. See Ware, supra note 17, at 271-72.
21. See Ware, supra note 17, at 271-72.
tion, however, the population of the pueblos declined dramatically, to 10,000 in A.D. 1600, and then to fewer than 6,500 in A.D. 1706.

The first Spanish settlers in the Upper Rio Grande Basin above Fort Quitman arrived near El Paso in April 1598. This party, led by Don Juan de Oñate, proceeded up river to colonize New Mexico.2 It was not until December 8, 1659, that the first permanent Spanish settlement, a mission dedicated to Our Lady of Guadalupe of El Paso,21 was established at El Paso by Fray Garcia de San Francisco y Zúñiga. The settlement was located on the south side of the Rio Grande in present day Ciudad Juarez, Mexico. The population of Spanish settlers in the area above San Marcial increased throughout the 1600's, as did their contacts and conflicts with the Pueblo Indians. In 1680, the Pueblo Indian uprising forced the Spanish leader Otermin and some 1,946 people, including 300 friendly Indians, down river to El Paso.22 In the years following, El Paso suffered greatly from drought and Indian predation, so that by 1684 or 1685, El Paso was very nearly abandoned.23 It was not until 1688 when DeVargas began using El Paso as a base of operations for the re-conquest of the Pueblo Indians that El Paso's fortunes improved.24 DeVargas completed his re-conquest by 1693, and from 1700 to 1800 El Paso served as the gateway to Spain's northern colonies.25 By 1700, the Spanish population at El Paso was some 3,588, and increased to some 4,394 by 1779.

From the founding of El Paso in 1659 through 1827, there were no houses or cultivated fields on the east side of the river. Rather, all dwellings and all irrigation were located west of the Rio Grande in present day Mexico. In 1827, Juan Maria Ponce de Leon received a land grant of some 200-500 acres on the east side of the river and he took up residence there.26 Even after Ponce de Leon settled on the river's eastern side, development occurred slowly there until after the Mexican-American War of 1844 to 1846. Thereafter, many new settlers moved to the area and, in 1859, U.S. Army Colonel Anson Mills established the City of El Paso. But even then the population of El Paso was only 300, while across the river the population in and around Juarez was approximately 13,000.27

Irrigation was practiced by the Spanish settlers of El Paso from its founding in 1659. The total land area under irrigation west of the river increased markedly after 1680 due to the influx of refugees from upstream settlements. By 1821, the population west of the river was 8,000, and their sustenance required substantial irrigated cropland. By 1881, there were large areas under cultivation on both sides of the river. As reported to President Franklin Pierce by Major Emory, "cultivation extended along the Rio Grande for twenty miles below present-day Juarez," an area estimated to be some 32,000 acres.28

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22. See HORGAN, supra note 1, at 161.
24. See Joint Investigation, supra note 10, at 71.
25. See Joint Investigation, supra note 10, at 71.
26. See Joint Investigation, supra note 10, at 71.
27. See Joint Investigation, supra note 10, at 71-72.
28. See Joint Investigation, supra note 10, at 71-72.
29. See Joint Investigation, supra note 10, at 72.
30. Joint Investigation, supra note 10, at 72.
While settlement was occurring in El Paso, Texas, it was also occurring upstream in the Mesilla, Rincon, and Palomas Valleys, which after 1848 was the United States Territory of New Mexico. By the 1870's, substantial land areas in the Mesilla Valley were irrigated and the Valley's farmers were quite prosperous. The arrival of the railroads in the early 1880's and the pacification of the Indians, however, caused a marked decline in prosperity: the railroads brought agricultural products from the Midwest that competed with local produce; and the pacification of the Indians meant that fewer soldiers were required to protect the population. As the number of soldiers declined, so did the Army's need to buy food and supplies from local farmers and merchants. At that same time, further north, New Mexico and Colorado were experiencing a substantial influx of settlers and a resultant increase in irrigation from the Rio Grande, both of which had profound impacts on the El Paso-Juarez water supply.

IV. TROUBLE OVER THE RIO GRANDE AT EL PASO

Upstream in the San Luis Valley, the first permanent Mexican settlements did not appear until the 1850's. For the next two decades, there was a small, but steady, migration of American settlers to the San Luis Valley. It was not until the late 1870's when the Denver and Rio Grande Railroad reached the San Luis Valley that many people moved to the valley and the large canal-building era began. By 1889, some 1,200 miles of canals had been constructed in the San Luis Valley and were supplying irrigation water to 300,000 acres. By 1880, in New Mexico upstream of San Marcial, the irrigation that the Indians had started and the Spanish settlers had continued had grown to some 183,000 irrigated acres.

The mid-1880's were wetter than average and, as a consequence, the effect of increased irrigation in the basin was not immediately apparent in southern New Mexico and El Paso. With the onset of a series of dry years in the late 1880's, however, water shortages occurred throughout the basin, and the shortages in the El Paso/Juarez area became pronounced and severe.

As a typical western stream, the Rio Grande is fed by snowmelt and late spring rains. The bulk of the water supply is available only during the short spring runoff. Late season flows are typically small unless supplemented by infrequent rains. Given the nature of the river, seasonal water supply shortages were neither rare nor unexpected. In 1878, the Hatch Report warned that problems over water would grow in the future because the Rio Grande did not al-

32. See S. Doc. No. 55-229, at 54 (1898).
33. See id. at 55.
35. See HUNDLEY, supra note 34, at 19.
36. See HUNDLEY, supra note 34, at 20-21; Littlefield, supra note 34, at 13-14.
ways carry enough water to irrigate the El Paso Valley." This statement reflected both the history of recurring droughts and the region's growing population. And, it was in 1880, only two years after the report, that citizens of San Elizario and Isleta, Texas, sought government help to offset reduced water supplies blamed on excessive Mexican diversions. The series of wet years in the mid-1880's relieved the shortage, and no further action was taken on these requests.

The issue of water shortages was revived with the onset of the 1888 drought, at which time Colonel Anson Mills of the Army Corps of Engineers proposed construction of a dam just upstream of El Paso to store 1.65 million acre-feet of flood waters to serve both the United States and Mexico. Mills pressed his idea with the Department of State and Congress. As a result, in 1890 Congress passed a joint resolution authorizing President Benjamin Harrison to negotiate with Mexico for the construction of an international dam across the Rio Grande near El Paso and the establishment of a joint international commission to resolve boundary issues.

Little progress was made on negotiations until the severe drought of 1894. At that time, Mexico, with the encouragement and support of El Pasoans, pressed its complaints over water shortages in Washington, D.C. In September of 1894, the Mexican Foreign Minister complained that increased upstream diversions in the United States made farming in Juarez very difficult, if not impossible. With little response from Washington, in October of 1895, Mexico's Foreign Minister wrote Secretary of State Richard Olney to complain of the nearly complete lack of water in 1894 and 1895. He went on to suggest that the 1848 Treaty of Guadalupe-Hildago, the 1853 Gadsden Treaty, the 1884 Convention between the United States and Mexico, and international law were all being violated by the United States' failure to protect the rights of Mexican citizens.

Apparently alarmed by Mexico's claim, Secretary Olney sought the advice of Attorney General Judson Harmon. General Harmon's opinion of December 12, 1895, concluded that the United States had not violated the Treaty of Guadalupe-Hildago because it had not impaired the navigability of the Rio Grande, and that was the only right the treaty created or protected with respect
to the Rio Grande." Concerning international law, he concluded, "[t]he fundamental principle of international law is the absolute sovereignty of every nation, as against all others, within its own territory." While General Harmon concluded that "the rules, principles, and precedents of international law impose no liability upon the United States," he did state that "whether the circumstances make it possible or proper to take any action from considerations of comity," was not an issue within his province. In so stating, he in effect suggested that the President and the Department of State make whatever agreements they felt appropriate as a matter of comity.

A. The Proposed Solution: An International Dam

Pressure to resolve the international problem prompted Secretary Olney to act on the Congressional Resolution of April 29, 1890. He negotiated with his Mexican counterpart, Matias Romero, and on May 6, 1896, they entered into a protocol that called upon Colonel Anson Mills and Señor Don F. Javier Osorno, members of the International Boundary Commission (the "I.B.C."), to make an investigation and prepare a report on the water supply. The report was to address: (1) the amount of water taken from the Rio Grande by irrigation canals in the United States; (2) the average amount of water in the Rio Grande, year by year, before and after the construction of those canals; and (3) whether a dam across the Rio Grande near El Paso, or elsewhere, would be the best means to regulate the Rio Grande and secure for the inhabitants of both countries their legal and equitable rights and interests to the water.

The Mills and Osorno report only considered the dam near El Paso. This decision was influenced, at least in part, by growing controversy over a proposed dam near Elephant Butte being promoted by the Rio Grande Dam and

45. See id. at 278; S. Doc. No. 57-154, 12 (1903); Hundley, supra note 34, at 23.
47. Id. at 283.
48. See Hundley, supra note 34, at 24.
Irrigation Company (the “Rio Grande Company”). On the previous February 1, 1895, the Department of Interior approved the Rio Grande Company's application for a right of way for a dam near Elephant Butte in the New Mexico Territory. The prospectus for the company stated it would build the world’s largest artificial lake to impound 253,370 acre-feet of water to be used for colonization and irrigation of lands downstream to Fort Quitman, Texas. Mexico promptly filed a protest to the proposed dam, and requested that the United States government suspend all work on it. In response, Secretary Olney did secure the suspension of any action on pending applications for rights to use public lands that involved diversion of water from the Rio Grande and its tributaries in Colorado and in the New Mexico Territory. Because the Rio Grande Company's application had previously been approved, however, it was not affected by the suspension.

In November 1896, the I.B.C. made its report recommending the construction of an international reservoir capable of storing some 535,000 acre-feet 3.5 miles above El Paso. Impetus to the treaty negotiations for construction of the dam and enhanced water delivery to Mexico was provided by a January 5, 1897, letter from Mexico’s Foreign Minister Romero to Secretary Olney asserting that Mexico had sustained $35 million in damages from increased water diversions in the United States. Included in the letter was a draft convention calling for the prompt construction of an international dam at El Paso, with all costs to be borne by the United States in compensation for past damages to Mexico and its citizens. He suggested that the water stored by the dam be allocated equally between the United States and Mexico.

The difficulty then faced by the United States was the proposed dam at Elephant Butte. If that dam were built, there would not be a reliable water supply for the proposed international dam at El Paso. On the other hand, the international dam would do nothing to alleviate the water shortages experienced by farmers in the Rincon and Mesilla Valleys in New Mexico, and would flood a substantial portion of the Mesilla Valley. Thus, resolution of the disputes with Mexico had serious national implications that first had to be addressed.

In May of 1897, the United States filed suit against the Rio Grande Company to prevent its construction of a reservoir near Elephant Butte. Funding from the Project’s backers dried up while the litigation went on, and after five years of litigation and five years without construction, the United States canceled the previously-issued authorization for the dam under its own terms. And, in 1909, the United States Supreme Court sustained the cancellation. While well received in El Paso and Juarez, this development did little to solve the in-

51. See HUNLEY, supra note 34, at 25-26.
52. See Littlefield, supra note 34, at 48.
54. See S. Doc. No. 55-229, at 18 (1898). The suspension was effective December 5, 1896.
See Littlefield, supra note 34, at 57-58.
56. See id. at 179.
57. See Littlefield, supra note 34, at 58.
58. See Littlefield, supra note 34, at 58.
59. See Littlefield, supra note 34, at 58.
creasingly-bitter disputes over water between farmers in New Mexico and in El Paso. Since water storage was the only practical means to address both problems, the United States essentially put the international dispute on hold while working to solve the domestic dispute between New Mexico and Texas.

B. The Twelfth International Irrigation Congress—A Deal is Made

While the United States was litigating with the Rio Grande Company, numerous attempts were made to settle the case, but none were successful. The United States' interest in settlement waned considerably after the Reclamation Act of 1902 was enacted: at that time, the newly-created Reclamation Service began studying the relative merits of a dam at Elephant Butte versus an international dam at El Paso. The Reclamation Service concluded that a site a short distance downstream from the Rio Grande Company's proposed reservoir site near Elephant Butte was the preferred location for a large reservoir. Acting on this recommendation, in 1902, the Reclamation Service directed engineer Benjamin Hall to prepare a complete engineering proposal for the dam and reservoir.

While Hall was doing his work and the United States battled the Rio Grande Company, Mexico continued to press its demands for a solution to the Juarez water shortages. On June 3, 1904, the Mexican Ambassador to the United States, M. de Aspiroz, formally protested the continuing water shortage at Juarez. The Ambassador told the new United States Secretary of State, John Hay, that American diversions from the Rio Grande had caused the population of Juarez to decline from 18,630 to some 8,814 by 1896. He reiterated Mexico's claim for $35 million in damages, stated that the damages were continuing to mount, and pressed for a quick solution either by money damages or the international dam's construction.

On the heels of this protest, in October 1904, Hall completed his report on the proposed reservoir near Elephant Butte. The report, titled "A Discussion of Past and Present Plans for Irrigation of the Rio Grande Valley," concluded that a reservoir at Elephant Butte could store 2,000,000 acre-feet, an amount adequate to provide a reliable yield of 600,000 acre-feet during most years. He reported that the water supply could irrigate 180,000 acres, that the dam could store three or four times more water than the international dam, that less water would be lost to spills, and that no farm lands in the Mesilla Valley would be flooded.

Hall's proposal contemplated a new reclamation project to be named the "Rio Grande Project." Its features would include the Elephant Butte Reservoir, a major diversion dam at Leasburg to serve the Mesilla Valley. The Project would also be capable of providing water to El Paso and Mexico. Before the Recla-
formation Service could provide water to El Paso, however, it would be necessary to amend the 1902 Reclamation Act to include Texas, and before water could be provided to Mexico, it would be necessary to negotiate an international treaty.\(^\text{70}\)

The Reclamation Act of 1902 called for the proceeds from public land sales to be placed in a revolving fund for use in constructing reservoirs. Farmers receiving irrigation water from the reclamation projects would pay for the projects over a term of years, and the funds repaid would be used to build new projects. As the United States, however, acquired no public land when Texas was annexed into the United States in 1845, Texas was not among the states originally included within the 1902 Reclamation Act.

In the months that followed the release of Hall’s report, Hall and other Reclamation Service engineers traveled through southern New Mexico and El Paso promoting the plan. Hall was well aware that the International Irrigation Congress, a potent force in securing federal government involvement in the reclamation of arid lands, would hold its Twelfth International Irrigation Congress (the “Irrigation Congress”) in El Paso in November 1904.\(^\text{71}\) He correctly recognized that support by the Irrigation Congress would be crucial to the success of the Rio Grande Project, and therefore set about securing approval from the organization.\(^\text{72}\)

New Mexico, Texas, and Mexico were all well represented at the Irrigation Congress. After extensive private consultations between the Reclamation Service and Texas’ representatives, including Congressmen William R. Smith and John H. Stephens, the Texans were convinced that Elephant Butte Dam would meet El Paso’s needs,\(^\text{73}\) and agreed to support the Reclamation Service’s proposal. At the Irrigation Congress, Frederick Newell, Chief Engineer of the Reclamation Service, introduced discussion of the Rio Grande Project.\(^\text{74}\) In his remarks, Newell made clear that the Reclamation Service wanted the Project to solve both the dispute between New Mexico and Texas and the international dispute with Mexico.\(^\text{75}\)

After Newell’s introductory remarks to the Irrigation Congress, Hall described the Rio Grande Project. He emphasized that the plan would apportion the Project’s water by providing for the irrigation of some 110,000 acres in New Mexico, 20,000 acres in Texas above El Paso, and 50,000 acres below El Paso on both sides of the river.\(^\text{76}\) The allocation of water to Texas would be subject to whatever amount of water was eventually provided to Mexico.\(^\text{77}\) Hall claimed that this allocation would still provide the El Paso Valley and Mexico with as much water as would have been provided by the proposed international dam near El Paso.\(^\text{78}\)

\(^{70}\) See Littlefield, supra note 34, at 130-31.

\(^{71}\) See Littlefield, supra note 34, at 132.

\(^{72}\) See Littlefield, supra note 34, at 132.

\(^{73}\) See Littlefield, supra note 34, at 134-35.

\(^{74}\) See Littlefield, supra note 34, at 133, 135.

\(^{75}\) See Littlefield, supra note 34, at 135.

\(^{76}\) See Littlefield, supra note 34, at 135.

\(^{77}\) See Littlefield, supra note 34, at 135.

\(^{78}\) See Littlefield, supra note 34, at 135-36.
Hall, a careful engineer, was aware of the potential connection between groundwater and stream flows. He did not want a dispute over groundwater to delay or defeat the proposed project. Accordingly, in 1904, Hall commissioned a groundwater study by Professor Charles S. Slicher. His report was presented to the Irrigation Congress following Hall’s presentation on the Rio Grande Project. Slicher concluded that above “the Pass,” the groundwater supply was comprised of water contributed by the river or lost by the river. Since there was little groundwater flow below “the Pass,” Hall believed the apportionment to Texas could be based upon surface flows at El Paso.

Both Texans in El Paso and New Mexicans in the Mesilla Valley enthusiastically received Hall’s proposal. The president of the El Paso Chamber of Commerce endorsed the plan and declared that an international dam had been superseded by the Reclamation Service’s proposal. The New Mexico delegate, after making clear that northern New Mexico did not relinquish any of its claims to divert, store, and use waters of the Rio Grande, introduced a resolution to approve the proposal. The resolution stated, in part, that the Elephant Butte Dam would provide “an equitable distribution of the waters of the Rio Grande with due regard to the rights of New Mexico, Texas, and Mexico.” The resolution passed unanimously with the Mexican delegates abstaining because they lacked time to consult with their government.

On the last day of the Irrigation Congress, the Mexican delegates provided a qualified endorsement for the Elephant Butte Reservoir:

The undersigned Mexican delegates to the Irrigation congress have had no time to make a comparison of the two projects to store the waters of the Rio Grande, the International dam project and Elephant Butte Dam project, but assume, for actual purposes, that the data given by Mr. Hall ... are correct and that it is thoroughly practicable to bring to the site of the old Mexican dam [the Acequia Madre], above El Paso, the water necessary for the areas that were previously irrigated, and that said quantity of water will be given to Mexico, without cost, at that point, surveys to be made by the engineers of the United States reclamation service to determine the number of acres upon the Mexican side of the Rio Grande which can be irrigated, said surveys to be subject to the approval of the Mexican government. Under those considerations, the Mexican delegation endorses the Elephant Butte Dam project, as explained by Mr. Hall, said endorsement to be subjected to the approval of the Mexican government, as the delegates have no instructions what-

79. See Littlefield, supra note 34, at 135-36.
80. See Littlefield, supra note 34, at 135-36.
81. See Littlefield, supra note 34, at 135-36.
82. See Littlefield, supra note 34, at 136-37.
83. See Littlefield, supra note 34, at 137.
84. See Littlefield, supra note 34, at 137.
85. Littlefield, supra note 34, at 137.
86. See Littlefield, supra note 34, at 137-38.
ever, as stated yesterday at convention hall by the delegate from Tlax-
cala, Sr. Carranza."

The Texas and New Mexico representatives approved the Mexican position. At this point, efforts turned to securing the necessary congressional action to implement the agreement.

The burden of passing legislation to extend the 1902 Reclamation Act to cover Texas fell largely to the Texas delegation because New Mexico, as a territory, had only one non-voting representative in Congress. Accordingly, in January 1905, El Paso Congressman William R. Smith introduced a bill (H.R. 17939) entitled:

A bill relating to the construction of a dam and reservoir on the Rio Grande, in New Mexico, for the purpose of impounding of the flood waters of said river for the purpose of irrigation, and providing for the distribution of said stored waters among the irrigable lands in New Mexico, Texas and the Republic of Mexico, and to provide for a treaty for the settlement of certain alleged claims of the citizens of Mexico against the United States of America."

This title in and of itself, as observed by Douglas Littlefield, and particularly the phrase: "... and providing for the distribution of said stored water among the irrigable lands in New Mexico, Texas, and Mexico" strongly suggested that the intent of the bill was to apportion Rio Grande waters, but subsequent legislative debates clarified that its purpose was to divide the river based on Hall's ideas and the 1904 Compromise.'

H.R. 17939 quickly passed out of committee and just as quickly ran into snags in the full House. The chief issues in the House were funding, so-called "prior rights," the interstate dispute between New Mexico and Texas, and the settlement of the Mexican claims. The debates in the House gave Texas Congressmen Albert Burleson and John R. Stephens the opportunity to explain the legislation. Burleson explained that the bill would enact the compromise reached at the 1904 Irrigation Congress. He stated:

The controversy raged for years and years before the Foreign Affairs Committee. Last year an international irrigation congress was convened in the city of El Paso, and as a result of the action taken by that congress the people of the Territory of New Mexico and the people of the State of Texas living at and below the city of El Paso, and many Mexican citizens who are interested, all united upon the proposition embodied in this bill as the most feasible and practical means of settling this long-drawn-out controversy."

87. Littlefield, supra note 34, at 139-40.
88. See Littlefield, supra note 34, at 140.
89. See Littlefield, supra note 34, at 157.
90. Littlefield, supra note 34, at 157-58.
91. See Littlefield, supra note 34, at 158.
92. Littlefield, supra note 34, at 161.
Likewise, Representative Stephens, formerly a strong proponent of the international dam and an equally strong opponent of the original Elephant Butte Dam, explained the bill's purpose as follows:

I will state that the irrigation congress held last year at El Paso, the delegates from New Mexico, composed of Mr. [Bernard S.] Rodey, the governor, and other prominent citizens of New Mexico, and a committee from El Paso and old Mexico met in that congress and agreed upon and adopted a series of resolutions [namely, the 1904 Compromise]. The main features have been embodied in this bill. The Delegate from New Mexico [Rodey] has been before the committee—the committee reporting this bill—frequently, and I know that he has expressed himself as favoring its passage. I was a member of the irrigation congress at El Paso last November, and was present at the discussions when these agreements were made, and I wish to state that a full understanding was reached by all the parties at interest."

The allocation of water to Mexico was so controversial that it was not included in the bill finally passed by the House. The bill did, however, contain language calling for the recognition of "prior rights." The New Mexicans were alarmed by the prior rights language because they feared the bill would abrogate the 1904 Compromise and result in more water being delivered to senior water users in Texas and Mexico. Although they strenuously protested this language, they found no allies for their cause, and H.R. 17939 passed the House with the recognition of the prior rights language intact."

In the Senate, however, New Mexico found a powerful ally against the recognition of prior rights in Colorado Senator Henry M. Teller. Senator Teller was more than sympathetic to New Mexico's concerns because, at that time, Colorado was being sued by Kansas in the United States Supreme Court for alleged improper depletions to the Arkansas River, an interstate stream arising in Colorado. Colorado, as the site of the headwaters of at least four major interstate streams, had no interest in legislation recognizing downstream prior water rights. In fact, Colorado's defense against Kansas relied, in part, on the opinion of Attorney General Harmon declaring that a sovereign had total control over any stream within its borders."

Teller's efforts to change the bill in the Senate were successful. He secured the passage of an amendment to H.R. 17939 that deleted everything after the enacting clause and replaced it with his own bill that did not include recognition of prior rights." The amended bill, which extended the 1902 Reclamation Act to the project lands in Texas, was passed by the Senate, concurred in by the House,

93. Littlefield, supra note 34, at 162.
94. Littlefield, supra note 34, at 163.
95. See Littlefield, supra note 34, at 163-64.
96. See Littlefield, supra note 34, at 171.
98. See S. Doc. No. 57-154, 12-13 (1903).
99. See Littlefield, supra note 34, at 171.
and signed into law on February 25, 1905 by President Theodore Roosevelt.

That bill stated:

That the provisions of the reclamation act approved June seventeenth, nineteen hundred and two, shall be extended for the purposes of this act to the portion of the State of Texas bordering upon the Rio Grande which can be irrigated from a dam to be constructed near Engle, in the Territory of New Mexico, on the Rio Grande, to store the flood waters of that river, and if there shall be ascertained to be sufficient land in New Mexico and in Texas which can be supplied with the stored water at a cost which shall render the project feasible and return to the reclamation fund the cost of the enterprise, then the Secretary of the Interior may proceed with the work of constructing a dam on the Rio Grande as part of the general system of irrigation, should all other conditions as regards feasibility be found satisfactory.

The bill, while apparently simple, contained important provisions. Douglas Littlefield summarized its effect:

First, when construed with the bill’s legislative history, the Reclamation extension act gave congressional authority to the 1904 National Irrigation Congress compromise to build Elephant Butte Dam and to water irrigable lands along the Rio Grande below the dam. Second, the act provided that if the secretary of the interior determined there were enough lands in New Mexico, and Texas that would benefit from Elephant Butte Dam and that the cost of building the dam and irrigation works would be returned to the Reclamation Fund, he could proceed with the project “should all other conditions as regards feasibility be found satisfactory. . . . The feasibility requirement also meant that the irrigable lands would have to be precisely fixed by Reclamation Service surveys, and the specific lands to be watered would be identified by the secretary of the interior based on those surveys. In effect this created an interstate apportionment between New Mexico and Texas based on Hall’s Irrigation Congress proposal. . . . That Congress intended to sanction such an apportionment is all the more apparent from the legislative debates leading up to the new law’s enactment.

C. Negotiations With Mexico—The 1906 Convention

Senator Teller’s amendment to H.R. 17939 did not address the allocation of water to Mexico. Under the 1904 Compromise, however, whatever water was allocated to Mexico would come directly from the overall allocation to Texas. The Reclamation Service’s estimates of irrigable acreage below El Paso did not specify the amount of acreage in Mexico or Texas, but the Mexican delegation to the Irrigation Congress had deferred to the Reclamation Service for determination of irrigable acreage in Mexico.
The federal government was slow to address the allocation of water to Mexico; this, in turn, delayed the Rio Grande Project. Residents of the El Paso area had a great interest in speeding up the Project due to the continuous insecurity in their water supply. Accordingly, H.D. Slater, one of El Paso's leading citizens and editor of the El Paso Herald, began to press for a prompt treaty with Mexico.105

Mr. Slater did not lack self-confidence. In the face of indecision by the United States government, he wrote to Frederick Newell, the Reclamation Service's Chief Engineer, with his ideas for an international treaty, and volunteered to assist with the international discussions.106 Newell did not encourage Slater; nevertheless, undeterred, Slater sent Morris Bien, the Reclamation Service's legal counsel, his suggestions for a treaty, along with a draft explanatory letter to Secretary of the Interior, Ethan A. Hitchcock. In that draft letter, Slater argued that comity and good will required that some water be provided to Mexico.107 He argued that Elephant Butte Dam could serve 180,000 acres, 110,000 in New Mexico and 70,000 "south of the New Mexico line."108 He suggested that Mexico receive a water supply of 2.5 acre-feet per acre for 22,000 acres, or approximately 55,000 acre-feet.109 Finally, Slater argued that the deliveries to Mexico should be without charge to compensate for past damages.110

Bien asked Benjamin Hall for his thoughts on Slater's proposal for a treaty. Bien also asked Hall to prepare a tentative schedule of deliveries of water to Mexico based upon the assumptions contained in Slater's proposal for a treaty.111 In response, Hall prepared a table of deliveries to Mexico proportional to the deliveries contemplated for the New Mexico and Texas lands to be watered by the Project.112

With the imprimatur of Bien and Hall, Slater began informal negotiations with his contacts from Mexico. Mexico responded that the proposed treaty generally conformed to the agreement reached at the Irrigation Congress.113 Mexico also informed Slater that it would not pay anything toward the proposed dam or the water it would provide.114 Moreover, Mexico thought its allocation should be based upon a survey of irrigable lands in Mexico, as had been agreed at the Irrigation Congress.115

Slater realized that a survey of irrigable lands in Mexico would further delay the Project. Accordingly, he pressed for a settlement based upon the 1896 Report of the International Boundary (Water) Commission.116 That report had concluded that before large-scale upstream development in the United States, the

105. See Littlefield, supra note 34, at 188-89.
106. See Littlefield, supra note 34, at 188.
107. See Littlefield, supra note 34, at 189.
108. Littlefield, supra note 34, at 189.
109. See Littlefield, supra note 34, at 190.
110. See Littlefield, supra note 34, at 190.
111. See Littlefield, supra note 34, at 191.
112. See Littlefield, supra note 34, at 191-192
113. See Littlefield, supra note 34, at 192.
114. See Littlefield, supra note 34, at 192.
115. See Littlefield, supra note 34, at 192-193.
116. See Littlefield, supra note 34, at 193.
Mexican canals near Juárez had a combined capacity of 300 cubic feet per second and irrigation for about 100 days annually. This translated into nearly 60,000 acre-feet—an amount remarkably close to Slater’s original proposal.

As revised by Bien, the draft treaty called for the United States to build Elephant Butte Reservoir and to deliver 60,000 acre-feet annually to Mexico in the bed of the Rio Grande. The deliveries to Mexico were to be in the same proportion as deliveries to the El Paso side of the Rio Grande, except in the case of drought, when the United States and Mexico would share equally in any reductions. The draft treaty also stated that the delivery of water to Mexico was not a recognition of Mexico’s claims, and in exchange for the water, Mexico waived all claims to damages and all claims to waters of the Rio Grande above Fort Quitman.

Bien’s draft treaty was approved by Secretary of State Elihu Root and, in late 1905, it was sent to the Mexican Ambassador to the United States, Joaquín D. Casasús. In March 1906, Casasús replied by requesting the annual delivery of 75,000 acre-feet to be measured at the head of the Acequia Madre, and that Mexico be guaranteed one-half of all stream flows from reservoir spills, excess releases, or inflow between Juárez and Fort Quitman. The United States refused to yield on these points, and by late May 1906, the Mexican Ambassador had, nevertheless, signed the treaty. The Senate advised ratification of the treaty on June 26, 1906; the President ratified it on December 26, 1906; and after the exchange of ratifications, the treaty was proclaimed by the President on January 16, 1907.

The treaty itself is quite short, consisting of only six articles and states:

The United States of America and the United States of Mexico being desirous to provide for the equitable distribution of the waters of the Rio Grande for irrigation purposes, and to remove all causes of controversy between them in respect thereto, and being moved by considerations of international comity, have resolved to conclude a Convention for these purposes and have named as their Plenipotentiaries:

The President of the United States of America, Elihu Root, Secretary of State of the United States; and

The President of the United States of Mexico, His Excellency Señor Don Joaquín D. Casasús, Ambassador Extraordinary and Plenipotentiary of the United States of Mexico at Washington;

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117. See Littlefield, supra note 34, at 193.
118. See Littlefield, supra note 34, at 193.
119. See Littlefield, supra note 34, at 193.
120. See Littlefield, supra note 34, at 193-194.
121. See Littlefield, supra note 34, at 194.
122. See Littlefield, supra note 34, at 194.
123. See Littlefield, supra note 34, at 196. In 1907, Congress appropriated one million dollars toward the construction of Elephant Butte Dam for the purpose of providing water to Mexico. See 34 Stat. 2918 (1907).
124. See Rio Grande Convention of 1906, supra note 2, at 2953.
Who, after having exhibited their respective full powers, which were found to be in good and due form, have agreed upon the following articles:

ARTICLE I

After the completion of the proposed storage dam near Engle, New Mexico, and the distributing system auxiliary thereto, and as soon as water shall be available in said system for the purpose, the United States shall deliver to Mexico a total of 60,000 acre-feet of water annually, in the bed of the Rio Grande at the point where the head works of the Acequia Madre, known as the Old Mexico Canal, now exist above the city of Juarez, Mexico.

ARTICLE II

The delivery of the said amount of water shall be assured by the United States and shall be distributed through the year in the same proportions as the water supply proposed to be furnished from the said irrigation system to lands in the United States in the vicinity of El Paso, Texas, according to the following schedule, as nearly as may be possible:

<table>
<thead>
<tr>
<th>Month</th>
<th>Acre-Feet Per Month</th>
<th>Corresponding Cubic Feet of Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>February</td>
<td>1,090</td>
<td>47,480,400</td>
</tr>
<tr>
<td>March</td>
<td>5,460</td>
<td>237,837,600</td>
</tr>
<tr>
<td>April</td>
<td>12,000</td>
<td>522,720,000</td>
</tr>
<tr>
<td>May</td>
<td>12,000</td>
<td>522,720,000</td>
</tr>
<tr>
<td>June</td>
<td>12,000</td>
<td>522,720,000</td>
</tr>
<tr>
<td>July</td>
<td>8,180</td>
<td>356,320,800</td>
</tr>
<tr>
<td>August</td>
<td>4,370</td>
<td>190,357,200</td>
</tr>
<tr>
<td>September</td>
<td>3,270</td>
<td>142,441,200</td>
</tr>
<tr>
<td>October</td>
<td>1,090</td>
<td>47,480,400</td>
</tr>
<tr>
<td>November</td>
<td>540</td>
<td>23,522,400</td>
</tr>
<tr>
<td>December</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Year Total</td>
<td>60,000</td>
<td>2,613,600,000</td>
</tr>
</tbody>
</table>
In case, however, of extraordinary drought or serious accident to the irrigation system in the United States, the amount delivered to the Mexican Canal shall be diminished in the same proportion as the water delivered to lands under said irrigation system in the United States.

ARTICLE III

The said delivery shall be made without cost to Mexico, and the United States agrees to pay the whole cost of storing the said quantity of water to be delivered to Mexico, of conveying the same to the international line, of measuring the said water, and of delivering it in the river bed above the head of the Mexican Canal. It is understood that the United States assumes no obligation beyond the delivering of the water in the bed of the river above the head of the Mexican Canal.

ARTICLE IV

The delivery of water as herein provided is not to be construed as a recognition by the United States of any claim on the part of Mexico to the said waters; and it is agreed that in consideration of such delivery of water, Mexico waives any and all claims to the waters of the Rio Grande for any purpose whatever between the head of the present Mexican Canal and Fort Quitman, Texas, and also declares fully settled and disposed of, and hereby waives, all claims heretofore asserted or existing, or that may hereafter arise, or be asserted, against the United States on account of any damages alleged to have been sustained by the owners of land in Mexico, by reason of the diversion by citizens of the United States of waters of the Rio Grande.

ARTICLE V

The United States, in entering into this treaty, does not thereby concede, expressly or by implication, any legal basis for any claims heretofore asserted or which may be hereafter asserted by reason of any losses incurred by the owners of land in Mexico due or alleged to be due to the diversion of the waters of the Rio Grande within the United States; nor does the United States in any way concede the establishment of any general principle or precedent by the concluding of this treaty. The understanding of both parties is that the arrangement contemplated by the treaty extends only to the portion of the Rio Grande which forms the international boundary from the head of the Mexican Canal down to Fort Quitman, Texas, and in no other case.

ARTICLE VI

The present Convention shall be ratified by both contracting parties in accordance with their constitutional procedure, and the ratifications shall be exchanged at Washington as soon as possible.

IN WITNESS WHEREOF, the respective Plenipotentiaries have signed the Convention both in the English and Spanish languages and have thereunto affixed their seals.
Article II, the heart of the international apportionment, contains the schedule for delivery of water to Mexico. It calls for the delivery of 60,000 acre-feet between February and November “distributed throughout the year in the same proportions as the water supply proposed [for] . . . the lands in the United States in the vicinity of El Paso, Texas. . . .” Article II appears to be the combined work product of H.D. Slater, Morris Bien, and Benjamin Hall. Slater apparently conceived the basis for the quantification, based upon the 1896 I.B.C. Report on an international dam at El Paso. Hall devised the schedule and place of delivery, and Bien authored the provisions for sharing shortages in times of drought.

Article III provides that the water deliveries are at the United States’ cost and the water is to be delivered in the Rio Grande at the head of the Mexican Canal. This means that the United States (the Rio Grande Project) bears all delivery losses (if any), but has no obligation to ensure further delivery to the Acequia Madre.

Articles IV and V contain the parties’ legal disclaimers. In Article IV, the United States denies the treaty is a recognition of claim by Mexico to waters of the Rio Grande. Mexico, meanwhile, waives any and all claims to water from the Rio Grande between the headgate of the Mexican Canal downstream to Fort Quitman and any damage claims on account of diversions from the Rio Grande by citizens of the United States.

Article V contains the United States’ denial of any legal basis for any claims that had been asserted or could thereafter be asserted by reason of any losses incurred by Mexican landowners on account of diversions from the Rio Grande within the United States. It also contains the United States’ denial that the treaty establishes any sort of general principle or precedent. Finally, it makes clear that the treaty only covers the portion of the Rio Grande from the international boundary downstream to Fort Quitman, Texas, and nothing else.

While the treaty itself is quite simple, it contains no discussion for the bases of the quantification or the distribution of deliveries. The basis for these provisions seems clear enough from the underlying historical documents. The meaning of the terms in Article II concerning proportional reduction in water deliveries, apparently drafted by Bien, is more elusive. The language of Article II does not define “extraordinary drought.” On its face, the treaty appears to con-
template a proportional reduction in deliveries. Since the Project lands receive more than the 2.5 acre-feet per acre that formed the basis for the allocation to Mexico, the threshold question is whether the proportional reduction in deliveries occurs when the Project lands receive anything less than a full supply, or only when the Project land would otherwise receive less than the 2.5 acre-feet per acre at the river headgate that was allocated to Mexico. The term "extraordinary drought" and the underlying impetus for of the treaty, namely comity, favor the latter interpretation.

V. COMPLETING THE NEW MEXICO–TEXAS APPORTIONMENT

The ratification of the 1906 Treaty preceded completion of plans for the Rio Grande Project. The federal legislation authorizing the Project did not specify the precise lands to be irrigated in New Mexico or Texas. Thus, once the treaty with Mexico was concluded, the task of identifying the lands to be supplied water in New Mexico and Texas remained, as did the final configuration of the Project’s diversion dams and conveyance channels.

To formalize the water supply for the Rio Grande Project, on January 3, 1906, Hall notified the New Mexico Territorial Irrigation Engineer of the Reclamation Service’s intent to appropriate 730,000 acre-feet annually for the Rio Grande Project to be stored in Elephant Butte Reservoir. Two years later, the Reclamation Service increased its request by seeking all of the then-unappropriated water of the Rio Grande.

The Rio Grande Project presented an enormous opportunity for profit from speculative land sales, and land speculation was rife throughout the Mesilla and Rincon Valleys in advance of the Project. The owners of lands to be flooded by Elephant Butte Reservoir sought such large sums for their land that in many cases the United States was required to condemn the land. Water user associations were formed both in New Mexico and Texas to contract for water deliveries and Project repayment. Eager landowners in New Mexico pledged to bring 124,000 acres of land into irrigation by the Project, while their counterparts in Texas pledged to bring 59,000 acres of land into the Project. While these pledges were more than sufficient to support a determination that the Project was feasible, they also began the posturing over water allocation.

Land without water in the Elephant Butte-to-Fort Quitman section of the Rio Grande was worth very little compared to lands to be served by the Project. What lands would be served by the Project was, of course, a function of how the Reclamation Service decided to deliver Project water. If the river channel and irrigation canals from the river were the method used, less land could be served.
than by canals built on the mesas above the valleys. The Rio Grande Company had recognized this fact back in 1895, and had proposed the construction of a “high-line” canal to serve the mesa lands. That canal had a total service area of some 530,000 acres of lands on the mesas and in the river valley.

The land speculators, alleged to be real estate companies in New Mexico and Texas, knew their land values would vastly increase if served by the Rio Grande Project. Thus, they relentlessly pressured the Reclamation Service to include a high-line canal in the Project. They argued that the revenue from hydro-electric power generation along such a canal would more than offset its added cost of getting water to the mesas. The Reclamation Service was skeptical of the scheme, perhaps because it viewed it simply as a vehicle for further land speculation. Nonetheless, to satisfy public pressure, it twice commissioned engineering studies of a high-line canal to assess its feasibility.

The first such study was performed by a board of engineers appointed by Newell. The board considered a high-line canal from the Leasburg Diversion Dam down the east side of the Mesilla Valley southeast of Las Cruces, New Mexico, at which point the fall would permit the generation of hydro-power and some water could be returned to the river for downstream irrigation. Water not released there would be carried in the canal to a point near El Paso, where it would again generate power, and the remaining water would be returned to the river.

The board of engineers rejected this high-line canal proposal. They concluded that use of a high-line canal would leave the river dry for years at a time, causing substantial deterioration of the channel. Such channel deterioration would mean that in years of high flows the channel could not carry the water and there would be substantial damage to Project lands and facilities. The only way to prevent this, without the substantial cost of building and maintaining an artificial channel, was to use the river as the means to deliver Project water. Thus, in their December 1913 report to Newell, the board of engineers rejected the high-line canal and recommended the river be used to carry Project water.

The board’s recommendations did not lay the matter to rest. By the spring of 1914, New Mexico water users began pressing Project Manager, L.M. Lawson, to consider building a high-line canal along a new route. Their request was apparently motivated by the fear that without a high-line canal, New Mexico

142. S. Doc. No. 55-229, at 6 (1898).
143. See id. at 6-7.
144. See Littlefield, supra note 34, at 216.
145. See Littlefield, supra note 34, at 210-11.
146. See Littlefield, supra note 34, at 217-18.
147. See Littlefield, supra note 34, at 214.
149. See Littlefield, supra note 34, at 214-15.
150. See Littlefield, supra note 34, at 218.
151. See Littlefield, supra note 34, at 217
152. See Littlefield, supra note 34, at 218.
153. See Littlefield, supra note 34, at 218.
154. See Littlefield, supra note 34, at 218.
would not get the acreage contemplated in the 1904 Compromise.\textsuperscript{155} The Reclamation Service’s response was twofold. First, it advised New Mexico water users that under their contract with the Secretary of the Interior, the Reclamation Service was entitled to determine the lands actually to be irrigated.\textsuperscript{156} Second, it asserted that the contract entitled the Secretary of Interior to limit the area served by the Project.\textsuperscript{157} Thus, the Reclamation Service would determine the lands to be provided Project water based upon the economic location of canals and the land area that could be served with the Project’s water supply.\textsuperscript{158}

The next effort to revive a high-line canal came from El Paso. The City of El Paso, in cooperation with other water users, submitted a new engineering proposal for a high-line canal to the Reclamation Service in 1914.\textsuperscript{159} That proposal would have increased the Project’s service area to 225,000 acres and permitted the delivery of 22,400 to 44,800 acre-feet annually to the City of El Paso.\textsuperscript{160} In response, a new board of engineers was appointed by the Reclamation Service and requested to study the proposal.\textsuperscript{161}

In November 1919, this board reported that a high-line canal and associated power plants were not economically feasible.\textsuperscript{162} The board also rejected supplying water to the City of El Paso because the board estimated that El Paso ultimately might need 45,000 acre-feet annually, or some 8.7% of the Project’s water supply.\textsuperscript{163} To meet that demand, a corresponding decrease of 13,500 acres to the Project’s service area would be required.\textsuperscript{164} Last, but not least, the board concluded that the anticipated safe annual yield of Elephant Butte Reservoir was only 720,000 acre-feet.\textsuperscript{165} This was only enough water to supply 155,000 acres in the United States. When the 60,000 acre-feet for irrigation of 25,000 acres in Mexico was considered, the total acreage to be served was 180,000, which was the amount Hall had estimated for the entire Rio Grande Project.\textsuperscript{166} Thus, without taking land out of irrigation, no Project water could be provided to El Paso.

While this decision finally laid to rest the high-line canal issue, it did not resolve the acreage allocation between New Mexico and Texas. That allocation was not resolved until some years later, when the Elephant Butte Reservoir District (“EBID”) (for New Mexico), and the El Paso Water Improvement District No. 1 (for Texas) (“El Paso District”), entered into agreements approving an allocation of Project costs and irrigable acreage between them.\textsuperscript{167} The first of three agreements was made in 1929, arising from the need to authorize additional funds to complete portions of the Rio Grande Project.\textsuperscript{168} The 1929 agree-
ment confirmed that EBID would have 88,000 irrigable acres and the El Paso District would have 67,000 irrigable acres. When the 25,000 acres allocated to Mexico were included, the total irrigable land was 180,000 acres, essentially equal to Hall’s estimate.

In 1938, a new interdistrict agreement was made to facilitate the 1938 Rio Grande Compact. The 1938 agreement, according to Douglas Littlefield, was intended by the Rio Grande Compact Commissioners to cover the apportionment of the Rio Grande below Elephant Butte Reservoir so that that issue did not have to be addressed in the Rio Grande Compact. The 1938 agreement fixed the districts’ respective irrigated acreage and apportioned the water and costs on the basis of 88,000 acres or 56.8% to EBID and 67,000 acres or 43.2% to the El Paso District. This allocation is essentially the same agreement the 1904 Compromise from the Irrigation Congress that formed the basis for the authorization of the Rio Grande Project.

VI. CONCLUSION

At the end of the 19th Century, most of the increase in water demand on the Rio Grande occurred in Colorado and was for irrigation use. In the last two decades of the 20th Century, the explosive growth in the Upper Rio Grande Basin has been in the urban areas, including Las Cruces, El Paso, and Juarez. That growth is taxing the region’s limited water supply and causing serious conflict between municipal water utilities, agricultural water users, and state and federal governments over the use and control of the Rio Grande Project facilities and water supply. In addition, the region has increasingly relied upon groundwater to meet its current water demands, resulting in a material groundwater overdraft with all of its attendant problems. The divergent interests of the EBID, the El Paso District, the states of Colorado, New Mexico, and Texas, the United States, and the Republic of Mexico complicate the adjustment of these water supply problems. It appears, however, that the fundamental bases for resolving these disputes are found in the 1906 Convention and the allocation of water between Texas and New Mexico that made possible the 1906 Convention.

While the fray continues downstream of Elephant Butte Reservoir, upstream water users in New Mexico and Colorado cast a wary eye on their brethren below Elephant Butte Reservoir. They have learned through hard experience that downstream water users prefer to solve their problems at the cost of those upstream. The history and present state of water development in the Upper Rio Grande make clear that eternal vigilance is the price for owning a water right.

169. See Littlefield, supra note 34, at 238.
170. See Littlefield, supra note 34, at 238.
172. See Littlefield, supra note 34, at 239.
173. See Littlefield, supra note 34, at 251.
174. See Littlefield, supra note 34, at 251.