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Legal and Institutional Aspects of International Water Allocation on the Rio Grande

By

*Glenn Jarvis
Attorney at Law
Inter National Bank Building
1801 South Second Street, Suite 550
McAllen, Texas 78503*

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TABLE OF CONTENTS

Table of Contents	i
I. INTRODUCTION AND BACKGROUND	1
II. EARLY BACKGROUND	2
A. Treaties of 1848 and 1853	2
B. 1889 Convention	3
C. Background of the First Water Supply Treaty - 1906 Treaty	3
D. Legal Theories of Water Rights in International Relationships	4
III. 1906 CONVENTION	5
IV. BACKGROUND OF 1944 TREATY	7
A. International Water Commission, 1924-1930.	7
B.	
C. Study and Investigation Looking to Allocation and Regulation of Waters of the Rio Grande below Fort Quitman	7
V. 1944 TREATY	8
A. Mexico Allocation	8
B. United States Allocation	9
D. Mexico Guarantee	9
D. Treaty Enforcement	12
E. Implementation Agreement - Minutes	14
Minute No. 234	14
Minute No. 293	16

Minute No. 307	18
Minute No. 308	20
Minute No. 309	21
VI. PRINCIPLES OF MEXICAN WATER DEFICIT ACCOUNTING IMPOSED BY THE TREATY	22
E. "Extraordinary Drought"	22
F. Measurement of Water at Fort Quitman	24
G. Mexico Conserved Waters is Dedicated to U. S. Deliveries to the Rio Grande Minute No. 234	26
VII. TEXAS REGIONAL WATER PLANNING	26
VIII. CONCLUSION	29

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I. INTRODUCTION AND BACKGROUND

The Rio Grande is a unique River. It not only flows through 3 states, Colorado, New Mexico, and Texas with contrasting cultures and economies, but after it reaches Texas, it flows for over 1,200 miles as the international boundary between the U.S. and Mexico until it flows into the Gulf of Mexico.

It is a River that has been divided by politics and the needs of the time into two segments, which I will refer to as the *Upper Reach* which is the segment from the headwaters of Rio Grande in the San Juan Range of the Rocky Mountains in southern Colorado through Central New Mexico to Fort Quitman, Texas, and the *Lower Reach* which continues downstream from Fort Quitman through miles of desert, mountains and semi-tropical areas to the Gulf of Mexico.

The water in the Upper Reach is all from tributary sources in the U.S., however, a great majority of the flows in the Lower Reach derive from Mexico. Flows in the Lower Reach historically were mixed waters composed of U.S. flows from the Upper Reach mixed with water from several Mexican tributaries and the Texas tributaries consisting of mainly the Pecos and Devil's River.

Reaching an agreement on the allocation of Rio Grande water in the Upper and Lower Reaches on an international basis between the U.S. and Mexico took many years. Water in the Rio Grande in the Upper Reach was allocated between the U.S. and Mexico by the *Convention Between the United States and Mexico on the Equitable Distribution of the Waters of the Rio*

Grande, signed in Washington on May 21, 1906, ratified and finally proclaimed by President Theodore Roosevelt on January 16, 1907 - herein referred to as the "1906 Convention."

International allocation of the water in the Lower Reach was not agreed upon until 40 years later in the *Treaty Between the United States of America and Mexico on the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande*, signed at Washington on February 3, 1944, and later ratified by each country and proclaimed by the President of the U.S. on November 27, 1945 with an effective date of November 8, 1945, herein referred to as the "1944 Treaty."¹

A review of the historical background leading into the 1906 Convention and 1944 Treaty assists in a better understanding of their significance, and the legal and institutional aspects of water allocation in the entire Rio Grande Basin.

II. EARLY BACKGROUND²

A. Treaties of 1848 and 1853

The first major agreement between the U.S. and Mexico was the Treaty of Guadalupe-Hidalgo, dated 1848, which established the boundary between the U.S. and Mexico. It made no reference to the regulation and allocation of the water resources of the Rio Grande.

The 1848 Treaty established the first joint Commission of the two countries consisting of a Commissioner and a Surveyor appointed by each Government, but only to proceed to run and mark the boundary in its whole course from San Diego, California, to the mouth of the Rio Grande in Texas. The Commission completed this work in the early 1850's.

The 1848 Treaty not only made no reference to regulation of waters, it specifically states that ". . . neither country shall, without the consent of the other, construct any work that may impede or interrupt in whole or in part the exercise of the navigation rights of each country." The principal concern of the two countries at that time was the use of the rivers for navigation of waters. This is understandable when it is remembered that in 1848 there was little development

¹ Treaty on Water Utilization, February 3, 1944, United States and Mexico, 59 Stat. 1219.

² See, International Water Law Along the Mexican-American Border, Committee on Desert and Arid Zones Research, Southwestern and Rocky Mountain Division, A.A.C.S., the University of Texas at El Paso, April 29-30, 1968; article of J.F. Friedkin, U.S. Commissioner, International Boundary and Water Commission. "History and Functions of Joint Mexican-American Public Bodies Regulating and Allocating Water Resources Along the Rio Grande (Bravo)".

along the rivers. Allocation and regulation of waters was then not important.

The same prohibition against construction of any works which may impede or interrupt navigation on the Rio Grande was confirmed in the Treaty of 1853.

It is significant to note that this prohibition precluded storage dams or diversion dams for regulation and utilization of water, and in turn precluded the secure development of major irrigation and domestic developments for use of water. This condition existed until the 1906 Convention on the Upper reach, and the 1944 Water Treaty on the Lower reach.

B. 1889 Convention

The next important treaty between the U.S. and Mexico on the Rio Grande was the Convention of 1889. By this Convention, the U.S. and Mexico established the International Boundary Commission ("IBC") to consist of the U.S. Section and the Mexico Section, each headed by a Commissioner appointed by each Government.

Its sole purpose as enunciated in that Convention was to resolve differences or questions that may arise on the frontier between the U.S. and Mexico where the Rio Grande and the Colorado River form the boundary, whether such differences arise from questions or alterations or changes in the bed of the river or from construction work along the bed of the river. This Convention made no mention or reference to regulation or allocations of water resource.

C. Background of the First Water Supply Treaty - 1906 Treaty

The Rio Grande Basin encountered rapid development under the Spanish Colonial period. However, by far, the most rapid development and use of Rio Grande water for agricultural purposes occurred after the construction of railroads in the United States and the enactment of the homestead laws. These events had a large impact in the San Luis Valley of Southern Colorado from 1860 to 1890. During this period approximately 400,000 acres of land was made into irrigated farm land by individual efforts by settlers in the San Luis Valley of Southern Colorado. This irrigated agricultural development required the diversion and use of Rio Grande water and naturally had adverse impact on the flow of the Rio Grande at the El Paso/Juarez Valleys.

The first indication of water supply problems is recorded in an IBC official report in 1878 which contains the evidence of the difficulties over availability of waters in the El Paso Valley. The problem became increasingly serious for farmers on the U.S. and Mexican side of the El Paso-Juarez Valley in the 1880's.

The United States Congress passed a resolution on April 29, 1890, calling on the President of the United States to negotiate with Mexico to settle the international aspects of the Rio Grande. On September 10, 1894, the Mexican Consulate in El Paso complained to the Mexican Minister in Washington, D.C., that the Juarez region was becoming depopulated due to increases in uses of water upstream in the U.S. and the shortages in the Juarez Valley area.

On September 10, 1894, the Mexican Consulate in El Paso complained to the Mexican Minister in Washington, D.C., that the Juarez region was becoming depopulated due to increases in uses of water upstream in the U.S. and the shortages in the Juarez Valley area. In 1896, the Secretary of State instructed the U.S. Commissioner and IBC, to examine and report on equitable distribution of waters in cooperation with the Mexican Commissioner.

On May 6, 1896, Mexico and the United States agreed to a Joint Commission to investigate the water resources of the Upper Rio Grande and report on the feasible methods by which the use of water could be regulated so as to assure each country their legal and equitable rights and interests in the water. The Commissioners met on August 17, 1896, and agreed to study and consider three phases of the problem: 1) the amount of diversion by the U.S., 2) whether the flows of the river were appreciably decreased by the upstream diversion, and 3) determination of the best and most feasible means of regulating the rivers to the advantage of the citizens of both countries.

In their Joint Commission Report, November 25, 1896, they found that upstream diversion had reduced the flow of the river in the El Paso-Juarez areas, and that a dam was needed for regulation. It was then proposed that a dam be constructed at a site just above El Paso and Juarez. It was further recommended that the two governments enter into a Treaty to provide for a final settlement regarding the distribution of the waters of the Rio Grande, and the United States prevent the construction of any large reservoirs on the Rio Grande in New Mexico, so as to restrain use of waters to which the citizens of the El Paso and Juarez Valleys had a right.

On December 5, 1896, the U. S. Secretary of Interior placed a suspension on all applications for rights of way for irrigation in New Mexico and Colorado which is referred to as the "Embargo of 1896." This prevented further irrigation development of any magnitude in Colorado and New Mexico. This Embargo, with some modifications, remained in effect until May 1925. This spawned objections by Colorado and New Mexico interests which later led to the negotiation of the Rio Grande Compact later discussed.

D. Legal Theories of Water Rights in International Relationships

During this period there existed conflicting legal concepts of water rights between states

and nations. There were four theories being put forward with regard to the water rights of different riparian states and nations. These theories were: (1) the Territorial Sovereignty Theory; (2) Natural Water Flow Theory; (3) the Equitable Apportionment Theory; and (4) the Community of Interest Theory. At that time, the United States appeared to adopt the Territorial Sovereignty Theory set forth by Attorney General Harmon in 1896. This legal concept was stated in connection with the activities between the United States and Mexico occurring at that time over the use of the waters of the Rio Grande. This theory holds that riparian states have exclusive or sovereign rights over the waters flowing through their territory, and may use this water in any way they desire irrespective of the effect of such uses on other riparian states or nations. This has been commonly referred to as the "Harmon Doctrine."

With this legal theory in mind, in 1904 the United States Secretary of State urged the Secretary of Interior to find a solution suggesting that the Reclamation Act of 1902 creating the reclamation service might provide an interstate/international solution. In November of 1904, the reclamation service presented a compromise at the Twelfth International Irrigation Congress held in El Paso, Texas, in which it presented plans for the Rio Grande Project which would store waters at Elephant Butte Reservoir to supply Southern New Mexico, West Texas, and the Juarez Valley.

Out of these studies by the IBC and the ensuing negotiations, the two Governments, agreed to the 1906 Convention which divided the waters of the Rio Grande above Fort Quitman, Texas, located at the lower end of the El Paso-Juarez Valley. The details of the 1906 Convention will be more fully discussed below.

The 1906 Convention was contrary to the Harmon Doctrine which would have held that Mexico had no rights to any of the Rio Grande flows that the United States desired to use. The United States ignored this doctrine, and followed the equitable apportionment approach in its agreement to the 1906 Convention. The United States was willing to provide Mexico with water equivalent to what had been historically used before the upstream diversions had occurred consistent equitable apportionment of water for use by the respective citizens of Mexico and the United States.

III. 1906 CONVENTION

The 1906 Convention is a relatively short agreement of about 3 pages containing 5 substantive Articles. In Article I, the two countries agreed that after the completion of what later became Elephant Butte Dam ". . . the United States shall deliver to Mexico a total of 60,000 acre-feet of water annually, in the bed of the Rio Grande . . . above the City of Juarez, Mexico".

The key provisions of Article II are: (1) that the delivery of this water "... shall be assured by the United States . . ." and delivered through the year in a monthly schedule of deliveries specifically set out in the Convention "... in the same proportions as water is delivered . . ." to lands in the United States in the vicinity of El Paso, Texas; and (2) that in case "of extraordinary drought or serious accident to the . . . (reservoir facilities) . . . the amount delivered . . . (to Mexico) . . . shall be diminished in the same proportions as the water delivered to lands under said irrigation system in the United States."

In Article III, the U.S. agreed to assume all costs of storing and delivery of the water to Mexico and "... assumes no obligation beyond the delivering of the water in the bed of the river above the head of the Mexican Canal."

Article IV contains provisions clarifying that the U.S. agreement to deliver water was not to be deemed to be any "... recognition by the United States of any claim on the part of Mexico to the said waters . . ." and that Mexico waived "... any and all claims to the Rio Grande for any purpose whatever between the . . . (Mexican delivery point) . . . and Fort Quitman, Texas..."

Mexico further waived any and all existing and future claims for damages of owners of land in Mexico caused by the diversion and use of Rio Grande water by U.S. users. Mexico had made claims for \$35,000,000 during the controversy leading up to this Agreement.³

In Article V it is made clear that the U.S. is not acknowledging any legal basis for any claim by Mexico to Rio Grande waters, or establishing any precedent supporting such a claim, and that "... this Treaty extends only to the portion of the Rio Grande which forms the international boundary . . . to Fort Quitman, Texas. . ." In other words, that part downstream from El Paso to Fort Quitman, Texas, is covered by the 1906 Convention. Mexico waived claim to any water in this segment in Texas above Fort Quitman.

In summary, the key agreements in the 1906 Convention with respect to Rio Grande water allocation:

- Mexico is assured the delivery of 60,000 acre feet of Rio Grande water per annum except in the event of extraordinary drought or facility accident in which case, the U.S. and Mexico will prorate available water.
- Mexico waived claims to water in the Rio Grande for any purpose from its

³ The background of the detailed facts and development of international water law principles applicable to streams shared by the two countries is beyond the scope of this paper. See Hundley, "Dividing the Waters" "A Century of Controversy Between the United States and Mexico", Univ. Of California Press (1966). Pages 17-40.

delivery point downstream to Fort Quitman, Texas.

IV. BACKGROUND OF 1944 TREATY

A. International Water Commission, 1924-1930

By this time, in the early 1900's, both countries recognized that equitable division of waters of the Rio Grande below Fort Quitman, Texas, would be necessary. Some unilateral studies were made in each country, but without progress.

By the Act of the Congress in 1924, the President of the U.S. was authorized to designate three special Commissioners to cooperate with representatives of Mexico in a study regarding equitable use of the waters of the Rio Grande below Fort Quitman, Texas, with a view to their proper utilization for irrigation and other uses. The scope of their studies was extended to include the Colorado River and Tijuana River, with the concurrence of Mexico, by the Act of the Congress of March 3, 1927.

This was the first joint commission established by the two countries to study the question of allocation and regulation of the waters of the Rio Grande. The IBC so formed made various studies and held several sessions beginning in February, 1928. However, the negotiators were unable to reach agreement. The American Section of the IBC made its report to the Congress of the United States on March 22, 1930.

The U.S. Section of the IBC, with its powers, duties and functions, was transferred to the American Section of the IBC, U.S., and Mexico. Also in 1932, the Mexican Section of the IBC assumed the works of its Section of the IBC.

By the 1930's increased irrigation developments in both countries along the Colorado River and along the Rio Grande downstream from the El Paso-Juarez Valley (and Fort Quitman, Texas), pointed to a need for allocation and regulation of the Colorado River and Rio Grande waters.

B. Study and Investigation Looking to Allocation and Regulation of Waters of the Rio Grande below Fort Quitman

During this period from 1930 to 1943, irrigation development continued on both sides of the Rio Grande with corresponding increased urgency of allocation and regulation of the waters of the Rio Grande below Fort Quitman, Texas. There were also serious floods on the Rio Grande in 1920's and the 1930's which emphasized the need for flood control. The natural unregulated flows in the Rio Grande below Fort Quitman occurred as either 1) low flows often too low to

serve irrigation needs of developed land at that time, or 2) high flood flows which caused heavy damages to the urban areas and irrigated lands and which for the most part wasted to the Gulf of Mexico. The need for storage dams for regulation was abundantly apparent, however, the economic depression in the early 1930's disrupted and prevented more aggressive action.

With the increased problem of droughts and floods, surveys, collection of hydrographic data, investigations and studies were stepped up by the IBC in the late 1930's and early 1940's with a view that these data would serve as a basis for concluding a Treaty for allocation and regulation of the waters of the Rio Grande below Fort Quitman, Texas. This was achieved in the Treaty of 1944.

V. 1944 TREATY

The 1944 Treaty is a much longer and comprehensive agreement relating to the allocation of the waters of the Rio Grande from Fort Quitman, Texas to the Gulf of Mexico as well as the Colorado and Tijuana Rivers in the West. The Treaty also authorized the joint construction and operation of international storage dams on the Rio Grande, which resulted in the construction of Amistad and Falcon Dams. The 1944 Treaty also changed the name of the International Boundary Commission (created by the *Convention of 1889*) to the International Boundary and Water Commission (hereafter referred to "IBWC") and among other responsibilities, gave it the authority to apply and enforce the Treaty provisions.

In the provisions pertaining to the Rio Grande, Article 4 allocated the water in the Rio Grande between the two countries.

A. Mexico Allocation

Article 4A allocates to Mexico:

- "(a) *All of the waters reaching the main channel of the Rio Grande (Rio Bravo) from the San Juan and Alamo Rivers, including the return flow from the land irrigated from the latter two rivers.*

- (b) *One-half of the flow in the main channel of the Rio Grande (Rio Bravo) below the lowest major international storage dam, so far as said flow is not specifically allotted under this Treaty to either of the two countries.*

- (c) *Two-thirds of the flow reaching the main channel of the Rio Grande (Rio Bravo) from the Conchos, San Diego, San Rodrigo, Escondido and Salado Rivers and the Las Vacas Arroyo, subject to the provisions of subparagraph (c) of paragraph B of this Article.*

- (d) *One-half of all other flows not otherwise allotted by this Article occurring in the main channel of the Rio Grande (Rio Bravo), including the contributions from all the unmeasured tributaries, which are those not named in this Article, between Fort Quitman, and the lowest major international storage dam."*

B. United States Allocation

Article 4B allocates to the United States:

- "(a) *All of the waters reaching the main channel of the Rio Grande (Rio Bravo) from the Pecos and Devils Rivers, Goodenough Spring, and Alamito, Terlingua, San Felipe and Pinto Creeks.*
- (b) *One-half of the flow in the main channel of the Rio Grande (Rio Bravo) below the lowest major international storage dam, so far as said flow is not specifically allotted under this Treaty to either of the two countries.*
- (c) *One-third of the flow reaching the main channel of the Rio Grande (Rio Bravo) from the Conchos, San Diego, San Rodrigo, Escondido and Salado Rivers and the Las Vacas Arroyo, provided that this third shall not be less, as an average amount in cycles of five consecutive years, than 350,000 acre-feet (431,721,000 cubic metres) annually. The United States shall not acquire any right by the use of the waters of the tributaries named in this subparagraph, in excess of the said 350,000 acre-feet (431,721,000 cubic meters) annually, except the right to use one-third of the flow reaching the Rio Grande (Rio Bravo) from said tributaries, although such one-third may be in excess of that amount.*
- (d) *One-half of all other flows not otherwise allotted by this Article occurring in the main channel of the Rio Grande (Rio Bravo), including the contributions from all the unmeasured tributaries, which are those not named in this Article, between Fort Quitman and the lowest major international storage dam."*

C. Mexico Guarantee

As the United States gave assurances to Mexico to receive 60,000 acre feet annually in the 1906 Convention in the Upper Reach, Mexico agreed in Article 4B(c) of the 1944 Treaty to provide an annual minimum of 350,000 acre feet, averaged over five year cycles, from the named Mexican tributaries in the Lower Reach. This was obviously in recognition of the fact that historically these Mexican tributaries contributed a substantial amount of the normal and flood flows to the Rio Grande for downstream users in both countries. A similar guarantee by the U.S. of 1,500,000 acre feet annually was provided for Mexico of U.S. derived waters in the Colorado

River.⁴

In contrast to the drought provisions of the 1906 Convention and the Treaty provisions dealing with the Colorado River, where relative proration is provided, the 1944 Treaty adopted a different approach by providing that in the event of extraordinary drought or serious accident to the Mexican reservoir systems on the named Mexican tributaries, the two countries agreed to a unique and different remedy for the repayment of water. As noted above, the 1906 Convention provided that if the United States could not deliver the guaranteed 60,000 acre feet annually to Mexico at Juarez in the Upper Reach, the countries prorated available water supply. With respect to the Lower Reach, it was agreed as follows in the Treaty:

"In the event of extraordinary drought or serious accident to the hydraulic systems on the measured Mexican tributaries, making it difficult for Mexico to make available the run-off of 350,000 acre feet (431,721,000 cubic meters) annually, allotted in subparagraph (c) of paragraph B of this Article to the United States as the minimum contribution from the aforesaid Mexican tributaries, any deficiencies existing at the end of the aforesaid five-year cycle shall be made up in the following five-year cycle with water from the said measured tributaries." (emphases added)

As noted above, the 1944 Treaty in Article 10 pertaining to the Colorado River provides for a remedy of proration in drought conditions with respect to the Colorado as did the 1906 Convention with respect to the Rio Grande.⁵ However, with respect to the Lower Reach of the Rio Grande the specific repayment schedule was adopted. This important provision dealing with drought conditions in the Lower Reach was specifically noted by President Roosevelt in his message to the U.S. Senate on the 1944 Treaty which included a message from Secretary of State Cordell Hull, concluding:

"... it should be noted that the Treaty provides that, in case of drought or serious accident to the hydraulic works in the United States, deliveries of Colorado River water to Mexico will be curtailed in the same proportion as uses in the United

⁴ Article 10(a) of the Treaty provides that from the water, from any and all sources in the Colorado River, that Mexico be allotted "A guaranteed annual quantity of 1,500,00 acre-feet (1,850,234,00 cubic meters) to be delivered in accordance with the provisions of Article 15 of this Treaty."

⁵ Article 10(b) provides that "In the event of extraordinary drought or serious accident to the irrigation system in the United States, thereby making it difficult for the United States to deliver the guaranteed quantity of 1,500,000 acre-feet (1,850,234,000 cubic meters) a year, the water allotted to Mexico under subparagraph (a) of this Article will be reduced in the same proportion as consumptive uses in the United States are reduced."

States are reduced, and that, if for similar reasons Mexico cannot provide the minimum 350,000 acre-feet from its measured tributaries of the Rio Grande, the deficiency is to be made up from these tributaries during the following 5-year cycle."⁶

If a five-year cycle ends with a Mexican water deficit, these provisions provide the repayment schedule to be followed by Mexico. Repayment of this deficit is to occur during the following five-year cycle.

With respect to water accounting within a five-year cycle, Article 4 provides:

"When the conservation capacities assigned to the United States in at least two of the major international reservoirs including the highest major reservoir, are filled with waters belonging to the United States, a cycle of five years shall be considered paid, whereupon a new five-year cycle shall commence."

Article 5 of the Treaty relating to the Rio Grande also provides for the construction of three possible dams and reservoirs, however, subsequently only two - Amistad Dam, upstream from Del Rio, Texas, and Falcon Dam, downstream of Laredo, Texas, and reservoirs were found feasible and exist today.

In summary, the key allocation provisions of the 1944 Treaty are:

- The allocation of Rio Grande waters in the Lower Reach to each of the countries is specifically defined by an accounting of water reaching the Rio Grande from each of the contributing tributaries in the Rio Grande Basin in both the U.S. and Mexico.
- Mexico, however, is required to provide an annual minimum amount of 350,000 acre feet averaged over a five-year period from the named Mexican tributaries.
- In the event of extraordinary drought or hydraulic accident making it difficult for Mexico to provide the 350,000 minimum annual average amount from run-off in the named Mexican tributaries, the deficit is to be made up during the following five-year cycle.
- For accounting purposes, with respect to the average minimum annual amount of

⁶ "Message from the President of the United States" transmitting the Treaty, February 15, 1944, U.S. Senate, 78th Congress, 2d Session, Executive A.

350,000 acre feet within a five-year cycle, annual deficits within that five-year cycle are considered paid should U.S. conservation storage fill at which time a new five-year cycle accounting begins.

D. 1944 Treaty Enforcement

The U.S. and Mexican Sections of the IBWC is given the responsibility of applying the water allocation provisions of the 1944 Treaty.

In Article 2 it is provided:

“The application of the present Treaty, the regulation and exercise of the rights and obligations which the two Governments assume thereunder, and the settlement of all disputes to which its observance and execution may give rise are hereby entrusted to the International Boundary and Water Commission, which shall function in conformity with the powers and limitations set forth in this Treaty.”

It also provided that :

“Wherever there are provisions in this Treaty for joint action or joint agreement by the Governments, or for the furnishing of reports, studies or plans to the two Governments, or similar provisions, it shall be understood that the particular matter in question shall be handled by or through the Department of State of the United States and the Ministry of Foreign Relations of Mexico.”

The Treaty recognized the need for the later determination of matters dealing with the implementation of the various provisions of the Treaty. For example, in Article 5, which authorizes the construction of three international dams and reservoirs, the Treaty expressly provided that one or more of the stipulated dams may be omitted, and “ . . . others than those enumerated may be built, in either case as may be determined by the Commission, subject to the approval of the two Governments.” Many of the details involved in the implementation of the Treaty were left to the recommendation and approval by the two Governments through the IBWC for later determination and as noted above, that the approval “ by the two Governments” shall be handled by or through the Department of State of the United States and the Ministry of Foreign Relations of Mexico.

Article 8 of the Treaty established general rules pertaining to the operation of the

reservoirs, but provided that they could be modified or amended “ . . . by agreement of the Commission, with the approval of the two Governments ”

Article 24 of the Treaty, assigning the Commission its powers and duties, provides in paragraph (c):

“(c) In general to exercise and discharge the specific powers and duties entrusted to the Commission by this and other treaties and agreements in force between the two countries, and to carry into execution and prevent the violation of the provisions of those treaties and agreements. The authorities of each country shall aid and support the exercise and discharge of these powers and duties, and each Commissioner shall invoke when necessary the jurisdiction of the courts or other appropriate agencies of his country to aid in the execution and enforcement of these powers and duties.” (Emphasis added)

It is clear from the above provisions that each IBWC Commissioner (U.S. and Mexico) is given the legal authority by their respective governments to enforce the Treaty provisions and other treaties and agreements in force between the two countries through the courts and agencies in their respective countries.

The Commission is expressly given the power and duty in Article 24(d):

“(d) to settle all differences that may arise between the two Governments with respect to the interpretation or application of this Treaty, subject to the approval of the two Governments.

In cases in which the Commissioners do not reach an agreement, Article 24(d) provides:

“They shall so inform their respective governments reporting their respective opinions and the grounds therefor and the points upon which they differ, for discussion through diplomatic channels and for application where proper of the general or special agreements which the two Governments have concluded for the settlement of controversies.”

Therefore, the IBWC Commissioners are given the authority to resolve all disputes under the Treaty and to enforce the Treaty provisions in their respective countries as well as to put in place the Treaty implementation steps subject to the approval of the two Governments acting through the U.S. State Department and the Ministry of Foreign Relations of Mexico..

E. Implementation Agreements - Minutes

The Treaty provides that the means by which the decision and approval of the two countries are evidenced shall be recorded in the form of "Minutes" signed by each Commissioner and attested by the Secretaries with copies forwarded to each Government within three (3) days after being signed. If the nature of the Minute is one which does not require the specific approval of both Governments then if either of the Governments fail to communicate to the Commission its approval or disapproval of the decision within thirty (30) days from the date of the Minute, then the Minute in question and the decision which it contains shall be considered to be approved by that Government.

Article 25 further provides that if either Government disagrees with the decision embedded within a Minute, then "if" an agreement is reached regarding the matter between the two Governments, the agreement shall be communicated to the Commissioners, who shall take actions as necessary to carry out such agreement.

Minute No. 234

Of significant importance to the Mexican guarantee of water in the Lower Reach, is Minute No. 234. In 1969 following the closure of Amistad Reservoir, Minute No. 234 was approved pertaining to compliance with the provisions of Article 4 relating to the waters of the Rio Grande allocated to the United States from the Conchos, San Diego, San Rodrigo, Escondido, and Salado Rivers, and the Las Vacas Arroyo.

In this Minute, the Commission agreed to commence the first 5-year cycle when Falcon Dam was placed into operation in October 1953. The Rio Grande annual water volumes during each 5-year cycle after 1953 through 1968 were agreed upon. In this Minute, it was agreed that there was a 476,461 acre feet deficiency during the 5-year cycle of October 1, 1953 to September 30, 1958, when the drought of the 1950's was experienced. However, this deficiency was made up during the October 1, 1958 through September 30, 1963 five-year cycle. The 1963-1968 cycle resulted in 32,270 acre feet more than the average of 350,000 acre feet per year requirement. Accordingly, the Commission agreed that the provisions of Article 4 in this respect was considered satisfied to September 30, 1968.

The Minute further addressed how repayment of a deficiency in 5-year cycle water would occur in the future. In paragraph 2, it is provided:

"That in the event of a deficiency in a cycle of five consecutive years in the minimum amount of water allotted to the United States from the said tributaries, the deficiency shall be made up in the

following five-year cycle, together with any quantity of water which is needed to avoid a deficiency in the aforesaid following cycle, by one or a combination of the following means:

- a. With water of that portion of the said tributary contributions to the Rio Grande allotted to the United States in excess of the minimum quantity guaranteed by the Water Treaty.*
- b. With water of that portion of the said tributary contributions to the Rio Grande allotted to Mexico, when Mexico gives advance notice to the United States and the United States is able to conserve such water; and*
- c. By transfer of Mexican waters in storage in the major international reservoirs, as determined by the Commission, provided that at the time of the transfer, United States storage capacity is available to conserve them."*

The Minute tracts the language in the Treaty in requiring that any deficiency "shall" be made up in the following 5-year cycle. The Minute further assures compliance with the minimum 350,000 acre foot requirement in the following 5-year cycle by requiring that the deficiency shall be made up in the manner agreed upon ". . . together with any quantity of water which is needed to avoid a deficiency in the aforesaid following cycle . . ." In other words, repayment waters cannot create a deficit within any year of the cycle. Deficits can only occur during a year within a 5-year cycle in the event of extraordinary drought or hydraulic accident when it is difficult for Mexico to make the annual 350,000 acre-feet guarantee available from run-off in the watersheds of the named Mexican tributaries or because of serious accident to the Mexican reservoir facilities.

Minute No. 234 enforces the provision in the Treaty requiring that a minimum of 350,000 acre feet average annually shall be delivered to the Rio Grande by Mexico. It requires that any repayment of a prior 5-year cycle deficiency shall not adversely impact the minimum requirement in the following 5-year cycle.

The three different methods of repayment are: (a) excess waters over the minimum 350,000 acre feet average annual amount; (b) water from the named tributaries out of Mexico's 2/3's share; and/or (c) by transfer of Mexican waters stored in the Rio Grande reservoirs.

Since the Treaty did not require that the Minute be approved by both Governments, pursuant to Article 24 of the Treaty, each of the two Governments was given notice and both Governments agreed to the Minute.

Minute No. 293

The provisions of the 1944 Treaty regime worked well for over 50 years, including the drought years in 1950's, but became stressed in the 1990's due to water storages in the Lower Rio Grande Basin.

Due to low flows in the Rio Grande upstream of Amistad Reservoir beginning in 1992 coupled with customary use in Mexico an emergency situation occurred in 1995 when the Mexican storage levels in the reservoirs reached a very low level.

This necessitated an emergency agreement between the two countries to assure that there would be no shortages in domestic uses in Mexico. This resulted in Minute 293, entitled "Emergency Cooperative Measures to Supply Municipal Needs of Mexican Communities Located Along the Rio Grande Downstream of Amistad Dam," signed October 4, 1995, in Mexico City and entered into force November 8, 1995, in which the United States agreed to loan waters to Mexico under certain circumstances. The pertinent provisions of this Minute are as follows:

- ◆ Period Covered - 18 months from 11/18/95
- ◆ Water Loaned - The water loaned in based upon water from the Rio Conchos in Mexico entering Rio Grande near Presidio
- ◆ Amount - Up to balance of 81,071 acre feet (af)
- ◆ Conditions - U. S. must have at least 600,000 af in combined storage in Falcon and Amistad Reservoirs at time loan is made
 - Loan is triggered when Mexico's combined storage is less than 121,606 af and Mexican inflows into Amistad are less than 353 cfs due to continuous Mexican releases of 353 cfs from Amistad and 247 cfs from Falcon for use by Mexican downstream cities
- ◆ Repayment - When Mexico's storage is greater than 162,142 af in Amistad and 40,536 af in Falcon, Mexico's inflows exceeding 353 cfs into Amistad will be credited to

- U. S. to repay balance of loan
- ◆ Enforcement
 - IBWC (U.S. and Mexico) will reinforce activities governing taking of water from Rio Grande belonging to each country by obtaining pump locations, capacities and updating joint operations of Anzalduas Dam
 - U. S. will rely on Texas and Mexico will rely on Comision Nacional del Agua (CNA) to control pumping from Rio Grande
- ◆ Other
 - U. S. and Mexico will continue activities for better water accounting to ascertain water available " ... at a given moment."
 - U. S. and Mexico will continue practice of exchanging information to develop conservation and planning strategies

Minute Number 293 was also a recognition by all parties on both sides of the Rio Grande below Fort Quitman, Texas, that a period of short water supply was being encountered in the region. Indeed, by the end of the five year cycle, ending October 2, 1997, there was a deficit of 1,023,849 acre feet in Mexico deliveries from the names tributaries as defined in the 1944 Treaty.

By September 30, 2001, additional deficits were encountered. At the close of the fourth year of the next five year accounting cycle, that is, from October 1, 1997 - September 30, 2001, the prior five year cycle deficit and four years into the next cycle, Mexico's obligation totaled 1,303,818 acre feet.

In an April 2002 Report of the U.S. Section IBWC,⁷ the existing conditions summarized as follows:

⁷ "Update of the Hydrologic, Climatologic, Storage, and Run-off Data for the United States and the Mexican portion of the Rio Grande Basin: October 19, 1992 - September 2001." Prepared by United States Section International Boundary and Water Commission with technical assistance from R.J. Brandes Company, Austin, Texas, dated April 2002. The "named tributaries" being those identified in 1844 Treaty, mainly the Rio Concho.

1. The deficit in quantities of inflows allotted to the United States from the Treaty Tributaries for the five-year accounting cycle ending October 2, 1997 was 1,023,849 acre-feet and at the close, on September 30, 2001, of the fourth year of the current accounting cycle, Mexico's total inflow deficit was 1,303,818 acre-feet.
2. During the previous five-year accounting cycle and the first four years of the current five-year accounting cycle (through September 30, 2001), the total volume of inflows to the five largest reservoir on the Treaty Tributaries was approximately 11.7 million acre-feet.

During this period, Mexico released approximately 10.2 million acre-feet from these reservoirs primarily for use in irrigation upstream of the Rio Grande and in part for evacuation of water from flood storage in Luis L. Leon Reservoir on the Rio Conchos. Some stored water also was released to the Rio Grande. During this nine-year period, Mexico provided approximately 1,242,200 acre-feet of inflows from the Treaty Tributaries.

3. Examination of rainfall data in the Treaty Tributaries indicate that the annual rainfall amounts and patterns that occurred between 1994 and 1997 were similar to those that occurred in 1982-1985, but the quantities in inflows from the Treaty Tributaries to the Rio Grande were considerably different in the two periods. More information is needed concerning water demands in Mexico and Mexico's reservoir operations during those two periods.
4. Since 1992, Mexico's total usage of surface water for irrigation from the reservoirs in the Treaty Tributaries has been significantly reduced in some years with the exception of the irrigation district below Luis L. Leon Reservoir which has experienced an increase relative to conditions prior to 1992. More information is needed on irrigation application rates and system losses.

Minute No. 307

During the 1944 Treaty repayment period, representatives of both countries met to resolve the "crisis" developed by the Mexico deficit. One of the results of these meetings, at the highest levels of their governments, produced an agreement in Minute No. 307.⁸ Minute No. 307 was agreed to by high-level officials at a meeting of the two Governments at the Department of State

⁸ Minute 307 is attached as Appendix "A".

in Washington on March 16, 2001. The IBWC Commissioners made note of discussions by President George W. Bush and Mexican Presidente Vicente Fox Quezada held in Guanajuato on February 16, 2001, when a request was made of Mexico to provide to the U.S. a volume of 600,000 acre feet of water through July 31, 2001.

It was agreed that Mexico would attempt to provide this amount of water by contributing one-half of its portion of the unmeasured tributary flows in the Rio Grande, from flows from the named Mexican tributaries and releases from Mexican Interior reservoirs. If this amount of water could not be provided by July 31, 2001, a contingency plan was agreed upon so as to extend this period through September 30, 2001. This plan would consider an extension of the assignment of Mexico's share of water from unmeasured tributaries through September, 2001, and further releases from designated Mexican Interior reservoirs would be considered..

It was also agreed that the two Countries would continue further discussions on the deficit reduction so as to arrive at a plan on additional measures that will be taken before the end of 2001. Significantly, it was agreed by the two Governments to work jointly to identify measures of cooperation on drought management and sustainable management of the Rio Grande Basin so as to prevent a reoccurrence of this deficit.

After a limited amount of water was transferred by Mexico contributing its 50% share of unmeasured tributary flows pursuant to Minute 307, several lawsuits were filed by water users in the State of Tamaulipas against the Mexican Section of the IBWC ("CILA") and its federal water agency ("CNA") enjoining them from making these transfers. The contention was made that such transfers violated the provision of the Treaty that Mexico's deficits are to be repaid from waters from the Conchos and the named measured tributaries in the 1944 Treaty, and not from

unmeasured tributaries. However, for water accounting purposes, over the 5-year cycle and annual period, Mexico's 2/3's share of the water from the named tributaries is subject to transfer to make up the deficit, and use of the 50% water contribution is only a measure of an amount of water that ultimately can be accounted for as a portion of Mexico's 2/3's share from the named tributaries. All of these lawsuits were dismissed by Mexican courts.

Mexico failed in its commitments to provide the 600,000 acre feet contemplated by Minute No. 307. Thereafter, Mexico did not produce a plan by December 31, 2001, to repay the 1,024,000 acre feet deficit by October 2002. The U.S. Section of the IBWC presented technical proposals, but Mexico did not respond.

Minute 308

In view of these events, it was not until June 28, 2002, that the two Governments officially responded to the ongoing conditions under the 1944 Treaty dealing with the Mexico water deficit under 4B(c) of the Treaty. This was done by Minute 308.⁹

This Minute resulted from a meeting of the IBWC making note of conversations on these matters between United States President, George W. Bush, and Mexican President, Vicente Fox Quesada, in Monterrey, Nuevo Leon, on March 20, 2002, and their subsequent conversations in Washington, D.C., on June 6, 2002.

The Minute outlined various conditions of flows to that date ending at the accounting period October 26, 2002, and forecast additional flows in the Basin in the future. It also indicated financing by both governments for improvements in the irrigated areas in the Basin and

⁹ Minute 308 is attached as Appendix "B".

further collaboration regarding the collection and sharing of data between the two Governments. The Minute contained certain commitments regarding the accounting of water between the parties to reduce the ongoing Mexico deficit, and importantly indicated actions to be taken by both Governments in establishing Advisory Councils. Both Countries agreed to establish a forum for the exchange of information, and to encourage information flow to the IBWC from governmental and non-governmental organizations in their respective Countries.

Since the text of the Minute is attached, no further detail is deemed necessary in this paper at this time, except to note that both Countries agreed to convene a " . . . binational Summit meeting of experts and water users from each Country for the purpose of providing the proper authorities and stakeholders information concerning sustainable management of the Rio Grande Basin. Taking the recommendations of the Summit into account, the two Governments will consider a Bi-National sustainable management plan for the Basin". Minute 308, paragraph G. 2.

This is the basis for this Summit meeting over 3 years later. Another important provision of Minute 308 was that the two Governments recognized that the additional funding for projects in the Basin would conserve waters in Mexico in that those conserved waters would be dedicated to " . . . ensure their conveyance to the Rio Grande". (Recommendation No. 2, page 4, of Minute 308). This is a significant agreement between the two Countries meaning that whatever water is conserved in the projects on the Rio Conchos and the other named tributaries in the 1944 Treaty will be dedicated to " . . . ensure their conveyance to the Rio Grande".

Minute 309

Minute 309 principally addresses the conservation projects being funded by the North

American Development Bank (NADBank) and the estimated volumes of water saved by the projects undertaken by the Government of Mexico so as to modernize and improve the technology of irrigation districts and units in the Rio Grande Basin in Mexico so as to make them sustainable and taking the necessary measures to ensure conveyance of saved waters to the Rio Grande.¹⁰

At this point in time, it is only noted that this is an important Minute in that it reports on the activities directed toward conservation projects in Mexico so as to ensure deliveries pursuant to the 1944 Treaty under Article 4B(c) and Minute No. 234.

VI. PRINCIPLES OF MEXICAN WATER DEFICIT ACCOUNTING IMPOSED BY THE TREATY

A. "Extraordinary Drought"

As previously noted, annual deficits caused by extraordinary drought or serious hydraulic accident are recognized by the 1944 Treaty, and shall be made up in the following 5-year cycle. If an annual deficit is not caused by extraordinary drought or hydraulic accident, it is not a *qualified deficit* and must be made up by Mexico within that 5-year cycle in which it occurs. It is not deferred for repayment in the following 5-year cycle.

The term "extraordinary drought," although not expressly defined in the Treaty, as other terms were in Article 1, it is implicitly defined in the second subparagraph of Article 4 B(d) as an event which makes it difficult for Mexico "... to make available the run-off of 350,000 acre feet (431,721,000 cubic meters) annually." In other words, it is a drought condition when there is less than 1,050,000 acre feet (350,000 acre feet U.S. share and 700,000 acre-feet Mexican share)

¹⁰ Minute 309 is attached as Appendix "C".

of run-off waters in the watersheds of the named Mexican tributaries to allow Mexico to deliver to the Rio Grande the required amount of 1,050,000 acre feet to the Rio Grande. This amount is measured at the Rio Grande, without regard to conveyance losses in Mexico. In other words, Mexico must assume conveyance losses in Mexico, and deliver to the Rio Grande this required amount.

If there is sufficient run-off water in the watershed of the Mexican tributaries, then an extraordinary drought event does not exist.

The Treaty contemplates that the guaranteed 350,000 acre-feet annual amounts is a *minimum* and that normally more than this amount would flow into the Rio Grande. In order to clarify the 350,000 acre-feet guarantee, the Treaty states in Article 4 B.(c) that the U.S. does not acquire a continuing right to these excess flows but has the right to use them once they reach the Rio Grande.

The Treaty allocated to the U.S. one-third (1/3) of the run-off in the watersheds of the named Mexican tributaries, and two-thirds (2/3) of the run-off to downstream Mexican users.

Treaty water accounting in this respect takes place on an annual basis,¹¹ and only annual deficits created by extraordinary drought or hydraulic accident are qualified and entitled to the remedy of repayment during the following 5-year cycle established by the Treaty for repayment of deficits.

Since the 1944 Treaty, there has been considerable reservoir development and improved reservoir management techniques in Mexico on the named Mexican tributaries associated with

¹¹ See, e.g. United States of America Department of State, Water Bulletin Number 63 entitled "*Flow of the Rio Grande and Related Data from Elephant Butte Dam, New Mexico to the Gulf of Mexico, 1993*" which is one of the annual reports released and agreed to by both countries each year.

the Treaty guaranteed water. These developments have enhanced Mexico's ability to capture and conserve the run-off water from the watershed of the tributaries.

Mexico has the sovereign right to pursue better reservoir management and development. Such development was made in view of its responsibility under the 1944 Treaty, which requires the required deliveries to the Rio Grande. This development has the positive effect on its ability to perform its Treaty obligations to provide this run-off water so as to comply with its obligations set forth in Article 4 B.(c) and (d). Article 4 of the Treaty assures the U.S. that it will receive a minimum of 350,000 acre feet annually constituting its $\frac{1}{3}$ of the **run-off** of the named Mexican tributaries unimpeded by reservoir systems. It is subject to Mexico's historical normal use of the run-off water before it is stored, however, stored water is subject to the minimum required by the 1944 Treaty to flow to the Rio Grande for U.S. and other Mexico users on the Rio Grande downstream. In any event, an average annual minimum of 350,000 acre-feet must reach the Rio Grande to assure downstream U.S. users, and to provide Mexican users on the Rio Grande an average minimum of 700,000 acre feet (Mexico's $\frac{2}{3}$'s share) under the 1944 Treaty.

B. Measurement of Water at Fort Quitman

Pursuant to the 1906 Convention, among other things, Mexico is entitled to 60,000 acre feet of water annually from Elephant Butte Reservoir, and in exchange for this water, Mexico waived any interest or claim to waters downstream from its delivery point to Fort Quitman, Texas. This guarantee is subject to drought conditions when both Countries share in shortages on a pro-rate basis.

The 1944 Treaty between the U.S. and Mexico, among other things noted above, divided the flows in the Rio Grande **from** Fort Quitman downstream to the Gulf between the U.S. and

Mexico.

Mexico waived its claims to waters in the Rio Grande **above** Fort Quitman in the 1906 Convention, and Rio Grande waters constituting inflows from Fort Quitman downstream to the Gulf of Mexico are governed by the 1944 Treaty. By virtue of the interaction between the 1906 Convention and the 1944 Treaty, waters in the Rio Grande flowing at Fort Quitman are U.S. waters.

Historical precedent shows this interaction between the 1906 Convention and the 1944 Treaty. During the negotiations for the 1944 Treaty, Mexico expressed its desire to increase the 60,000 acre feet delivery guarantee from Elephant Butte Reservoir provided for in the 1906 Convention by demanding more Upper Rio Grande water than the 60,000 acre feet, and also insisted “. . . on ½ of the run-off entering the stream between El Paso and Fort Quitman.” The U.S. refused to consider this request with the contention that the earlier 1906 Convention had settled the question and accordingly, Mexico’s requested change in ownership of water in the Rio Grande downstream from Mexico’s 1906 Convention delivery point and upstream of Fort Quitman was not included in the 1944 Treaty.¹²

Water in the Rio Grande between El Paso and Fort Quitman, including return flows from each Country, is 100% owned by the U.S. Accounting of water ownership consistent with these long-standing agreements between the U.S. and Mexico is entrusted to the IBWC because, as noted above, Article 24 of the 1944 Treaty granted the IBWC the power and duty to enforce the 1944 Treaty and other treaties and agreements, including the 1906 Convention, between the two

¹² See, Hundley, *supra* footnote 3 at pg. 131.

countries.

It is clear under the 1906 Convention that Mexico waived all flows of the River to Fort Quitman, Texas. This was in exchange of the United States's agreement to commit 60,000 acre feet under the circumstances outlined in the 1906 Convention.

Therefore, in water accounting all flows at Fort Quitman should be 100% U. S. waters.

C. Mexico Conserved Waters is Dedicated to U. S. Deliveries to the Rio Grande

Under the terms of Minutes 308 and 309 and the various funding mechanisms provided by the NADBank, all waters conserved by these projects in Mexico are dedicated to the obligations of Mexico in fulfilling its obligations under Article 4B(c) of the 1944 Treaty to provide an annual minimum of 350,000 acre feet, averaged over 5 year cycles, from the named Mexico tributaries. For the future of the Lower Rio Grande, below Fort Quitman, Texas, this will be significant as is shown by future water planning in Texas, which is the only State in the United States which depends on this water supply.

VII. TEXAS REGIONAL WATER PLANNING

After a drought in 1996 in Texas, the 75th Texas Legislature, in 1997, enacted Senate Bill 1 ("SB 1"). This legislation provided a major overhaul of many longstanding Texas water laws and policies. It was in part a response to the statewide drought of 1996 and increasing public awareness of the state's rapidly increasing water demands. SB 1 addressed a wide range of issues and concerns including state, regional, and local planning for water conservation, water supply and drought management; administration of state water rights programs; interbasin transfer policy; groundwater management; water marketing; state financial assistance for water-related projects; and state programs for water data collection and dissemination.

SB1 radically altered the manner in which future Texas water plans are to be prepared. Historically, the Texas water plan was prepared by the Texas Water Development Board (TWDB), with input from other state and local agencies and the public. With SB 1, the Texas Legislature established a "bottom up" approach whereby future state water plans are based on regional water plans prepared and adopted by appointed regional water planning group (RWPGs). The RWPGs serve without compensation and are responsible for overseeing the preparation of the regional water plans.

The regional water plans are based on an assessment of future water demands and available water supply. They include specific recommendations for meeting identified water needs through 2030. The plans may also include recommendations regarding strategies for meeting long-term (2030-2050) needs, as well as recommendations regarding legislative designation of ecologically unique rivers and streams, reservoir sites, and policy issues. By law, the regional water plans were completed by January 5, 2001, at which time the TWDB compiled a new state water plan, which has been approved. The regional water plans and the state water plan are to be updated every five years, and a new plan is currently in progress.

In February 1998 the TWDB to accelerate the planning process adopted administrative rules, which included the delineation of 16 regional water planning areas in the state and the definition of the procedures and requirements for the development of the regional water plans. The TWDB also appointed the initial members of 16 RWPGs. Subsequently, the RWPGs adopted by-laws, selected a political subdivision to act as its administrative agent, and developed a scope of work and budget for preparation of the regional water plans. Funding for the preparation of the regional water plans was provided in the form of grants from the TWDB.

Initially designated by TWDB as "Region M", the Rio Grande Regional Water Planning Area (herein referred to as the "Rio Grande Region") consists of the eight counties adjacent to or in proximity to the middle and lower Rio Grande from essentially Amistad Reservoir to the Gulf. It is composed of Cameron, Hidalgo, Starr, Webb, Maverick, Jim Hogg, Zapata and Willacy counties in Texas, where more than 95% of the irrigation and urban development in the Lower Reach has historically occurred. In the 3 lower Texas counties, there was over 750,000 acres under irrigation, and population of near 1,000,000 not considering the population across the border in Mexico of an amount in excess of 1,000,000.

The Rio Grande Regional Water Planning Group, who initially adopted the Regional Plan in 2001, consisted of 17 voting members representing 10 of the 11 interest groups categories specified in SB 1. In addition to its voting membership, the Rio Grande RWPG includes non-voting members representing state agencies and the Mexican federal government. Region E was established which is the other significant planning group in the Upper Rio Grande in Texas.

The 2001 Regional Water Plan for the Rio Grande Regional Water Planning Group approved by the state included in its projections of water supply, an assumption that Mexico would comply with the 1944 Treaty. In its Plan, specific fact findings and recommendations were adopted. The details of these findings are set out on Attachment A to this article.

In summary, the findings in its 2001 Plan indicate the efforts for several years in coordination of water affairs between Texas and Mexico in the Lower Reach, and the extreme and vital importance that Mexico's compliance to the 1944 Treaty is to the welfare of the South Texas region included in the Lower Reach of Rio Grande in Texas.

VIII. CONCLUSION

After decades of disputes between the U.S. and Mexico over the rights to water in the Rio Grande, the rights were determined and allocated in the first half of the 20th Century by the 1906 Convention and 1944 Treaty. In the last half of the 20th Century dams and reservoirs contemplated by these agreements have been constructed, in the U. S. and others have been constructed in Mexico pursuant to its sovereign authority. Experience has been gained by the IBWC in the implementation of the international agreements and existing circumstances. It can be expected that challenges will occur in the 21st Century testing the integrity of these agreements in view of activities in both Countries, and the Rio Grande's ability to serve those in both countries who rely on its waters.

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