

Problems of the Elephant Butte Irrigation District

By

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The Elephant Butte Irrigation District is located in the New Mexico portion of the Rio Grande project (New Mexico-Texas), a Bureau of Reclamation project situated in south central New Mexico and in West Texas. The district contains a gross area of 100,000 acres of which 90,000 acres have a first class water right. An additional 70,000 acres of water right land are located in the Texas portion of the Rio Grande Project, principally below El Paso, Texas. The Elephant Butte Irrigation District is the water users' organization formed for the purpose of cooperating with the United States government in connection with project management. The District has the authority to contract with the government and represents the water users in all matters relating to water supply. This discussion pertains mainly to the Elephant Butte Irrigation District, but certain data appearing below are applicable to the entire Rio Grande Project.

The present problems and difficulties facing the Elephant Butte Irrigation District originate from the current water shortage which is caused primarily by a prolonged drouth in the Upper Rio Grande Basin of Colorado and New Mexico, aggravated by the failure of the Rio Grande Compact to operate effectively and to cause the delivery of that portion of river flow to which the irrigated area below Elephant Butte Reservoir is entitled.

The average annual flow of the Rio Grande past San Marcial, at the head of Elephant Butte Reservoir, for the period 1895 to 1955, inclusive, is about one million acre feet. During the thirteen year period from 1943 to 1955, inclusive, the average annual flow past San Marcial has been only 550,000 acre feet. Eight years of this latter period (1943, 1946, 1947, 1950, 1951, 1953, 1954, 1955) have produced annual flows far below the long time average, ranging from a minimum of 113,000 acre feet in 1951 to a maximum of 434,000 acre feet in 1947; while only three years (1944, 1949, and 1952) equalled the 61 year average. The remaining two years (1945 and 1948) of the thirteen

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year period approached the average. The year 1951 produced the least flow past San Marcial during the period of record, amounting to only 113,000 acre feet. The past three years (1953, 1954 and 1955) have been extremely low, flows ranging from 218,000 acre feet in 1954 to 264,000 acre feet in 1955, as recorded at San Marcial. The year 1956, from all indications, will be no better than 1955. The significance of these figures is that the surface water supply difficulties of the District actually began in 1943, but were masked for several years by reason of the heavy carryover of stored water from 1941 and 1942 when river flow was far above normal; and that the most acute portion of the thirteen year period of low flow began in 1953 and apparently still continues. Spring inflow for 1956 from snowmelt, upon which we depend for the major part of our water supply under normal conditions, has been very disappointing, amounting to only 13,000 acre feet as of this date. Storage today is 181,700 acre feet, or only twenty percent of average storage at this time of the year for the past 21 years.

The impact of drouth conditions, as well as other factors, upon this District is shown by allotments of water available for delivery to the land during the past few years:

1951	-	1.75	acre	feet	per	acre	of	water	right	land
1952	-	2.75	"	"	"	"	"	"	"	"
1953	-	1.90	"	"	"	"	"	"	"	"
1954	-	Six	inches	per	acre	of	water	right	land	
1955	-	Five	inches	"	"	"	"	"	"	"
1956	-	Four	inches	"	"	"	"	"	"	to date

Normal use of water per acre ranges from three to three and one half acre feet per acre delivered to the land.

Another factor in the adverse water supply situation facing the Elephant Butte Irrigation District, and which has greatly aggravated the effects of douth, has been the failure of the Rio Grande Compact to operate properly and to protect our water supply to the extent of assuring us that we shall receive our share of whatever flow appears in the Rio Grande. The Rio Grande Compact is an agreement among, Colorado, New Mexico and Texas relative to the division of the flow of the Rio Grande among the three states. It became effective in 1939 after ratification by the three state legislatures, the Congress, and approval

by the President. Operation actually began on January 1, 1940. The basis for the division of the water was historical flow of the Rio Grande, and certain tributaries, during certain periods of time that were considered representative of conditions along the river immediately prior to the period of litigation and of negotiation which led to the signing of the compact. The Rio Grande Compact provides that the obligation of Colorado to deliver water to New Mexico shall be determined by the flow of the river at Del Norte, Colorado, above the irrigated area of the San Luis Valley, plus the flow of the Conejos River, a tributary of the Rio Grande in Colorado. Based upon a schedule developed from inflow-outflow data for the representative period referred to above, combined flow at the above points determines Colorado's obligation to deliver water to New Mexico. Similarly, the obligation of New Mexico to deliver water to Elephant Butte for the use of the Rio Grande Project is determined by flow passing the Otowi gauging station, located a short distance below the junction of the Chama and the Rio Grande in New Mexico, which flow is related to an inflow-outflow schedule based upon data for the representative period referred to above. The area below Elephant Butte Reservoir, consisting of Rio Grande Project lands, was placed under the jurisdiction of the State of Texas for compact administration purposes. This area agreed to limit its annual releases from storage to an average of 790,000 acre feet, including water due Mexico under the provisions of the treaty of 1906.

The manner in which the Rio Grande Compact has operated is best shown by cumulative figures compiled as of December 31, 1955. On that date, New Mexico had failed to make deliveries of water to Elephant Butte Reservoir to the extent of 477,000 acre feet, and had accumulated a debit under the Compact to that extent over a period of years. As of the same date, Colorado had failed to make deliveries to New Mexico to the extent of 287,000 acre feet and had an accumulated debit of that amount. The Rio Grande Project had an accumulated under-release (below an average of 790,000 acre feet per year) of 1,742,000 acre feet which reflects both the effects of the drouth and the failure of upstream areas to make required deliveries, as well as the careful use of water made on the Rio Grande Project. In 1951, after a period of unsatisfactory experience under

the Rio Grande Compact, the State of Texas, acting for the Rio Grande Project area below Elephant Butte, filed suit in the Supreme Court of the United States against the State of New Mexico for the purpose of compelling New Mexico to comply with the Compact. Various violations were cited such as illegal storage and release of water, and the accumulation of a debit in excess of permissible limits, and, among other things, the Court was asked to appoint a Federal Watermaster to supervise the distribution of water on the Rio Grande in New Mexico in order to assure delivery to the area below Elephant Butte. The State of New Mexico immediately raised the issue of the indispensability of the United States as a party to the suit on the grounds that Pueblo Indians, who are wards of the government, living in the Middle Rio Grande Conservancy District in the vicinity of Albuquerque, would be affected by the Texas demands and, therefore, the United States has an interest in, and should be a party to, the suit. Hearings and oral arguments have been held, and numerous briefs have been written by both sides, but the suit has not yet progressed beyond this point and the Supreme Court is still in the process of deciding whether or not the United States is an indispensable party to the suit. If the decision is in the affirmative, the case will be dismissed because the United States cannot be joined in a suit without its consent. If the decision is in the negative, the case will proceed to trial. At the present time, the Special Master appointed by the Court to hear the case has recommended that the United States be not considered an indispensable party to the suit, but the Court is awaiting comments from the Department of Justice before making its decision.

The Rio Grande Compact is of great importance to the area below Elephant Butte because it is our only guarantee that we shall receive our share of water that is available in the Rio Grande. As additional storage facilities are constructed above us, and as greater demands are made upon the stream in northern New Mexico and southern Colorado, the Compact will become increasingly important as a source of protection for our water supply. We are, in effect, situated in the lower end of a river basin, since practically all water appearing in the Rio Grande in Colorado and New Mexico is fully used in the area extending from the San Luis Valley, in Colorado, to Fort Quitman, located eighty miles southeast of El Paso. No substantial amount of outflow occurs from this area into the Lower Rio Grande Valley of Texas. Because of our location, we are vulnerable to upstream encroachments upon our water supply and some method of protecting ourselves must be made available. The Rio Grande Compact offers that protection if it can be made an effective instrument.