IRRIGATION DEVELOPMENTS BY THE BUREAU OF RECLAMATION IN NEW MEXICO

By

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The Bureau of Reclamation operates in the 17 Western States and its activities are governed by what is known as the Federal Reclamation Laws. In the early history of our country Congress recognized the importance of widespread ownership of lands, and to carry out this objective, the homestead laws were enacted which provided free lands to settlers. In adopting this policy to arid lands of the west irrigation was essential. Consequently, Congress went a step farther and enacted the Reclamation Act of 1902 providing for reclaiming arid lands of the west by constructing irrigation works. Costs of such works have to be repaid over a period of years without interest.

To facilitate administration of the Reclamation Program the Commissioner established seven regional offices. The Regional office in Amarillo, Texas is responsible for work in Texas, Oklahoma, New Mexico east of the Continental Divide, that portion of Colorado drained by the Rio Grande, and a small portion of Southern Kansas. Each Region establishes such additional offices as are needed. For example, the Rio Grande Project office is located in El Paso, Texas, and we have a Middle Rio Grande Project office in Albuquerque.

In briefly describing reclamation developments in New Mexico I will omit the Rio Grande Project because it will be handled by Mr. Moser, representing Mr. W. F. Resch, Manager of the Rio Grande Project. Dr. Stucky also advised me that the Upper Colorado River Project, and particularly the San Juan Chama Diversion Project, will be the subject of a subsequent presentation and, therefore, my remarks will not extend to these proposed developments. Since the College is located on the Rio Grande Project you are, no doubt, familiar with how the Bureau of Reclamation operates and, therefore, I will limit my presentation largely to a description of the Bureau's projects and will try to answer any specific questions you may have during the discussion period.

The next project upstream in which the Bureau of Reclamation is interested is the Middle Rio Grande. A comprehensive

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plan for the Middle Rio Grande Valley resulted from investigations conducted by both the Bureau of Reclamation and the Corps of Engineers. The plans of the respective agencies were coordinated by Secretarial agreement between the Departments of Army and Interior, which assigned to the Bureau of Reclamation rehabilitation of El Vado Reservoir, rehabilitation of the Conservancy District's irrigation and drainage systems, acquisition of the outstanding bonds of the District, and channel rectification from the head of Elephant Butte Reservoir throughout the Middle Valley, including the Espanola and Hot Springs reaches. To accomplish this work by the Bureau of Reclamation, Congress authorized an expenditure of approximately 30 million dollars. The first reach of the river to be channelized extends from Elephant Butte Reservoir to San Marcial, a distance of about 35 miles. Channelization consisted of constructing a low flow channel of 2000 cu. ft. per second capacity, and a cleared floodway of about 1000 feet in width. Dirt excavated form the channel section farms a levy to protect the channel during flows in the floodwqy. Other minor segments of the river have been cleared and improved, and currently channel work is underway in the Espanola area. The next segment of the river to be channelized reaches from San Marcial to San Acacia and the first contract on this section of the work is scheduled for award soon. In addition, most of the drainage rehabilitation and extension has been accomplished and the work on El Vado Reservoir and diversion headings has been completed or is near completion. Priority has been given to channelization and drainage rehabilitation so as to salvage as much irrigation water as possible to alleviate the current water shortages.

Although it is the Bureau's policy to have completed irrigation projects operated by water user organizations, the Bureau did assume the operation and maintenance of the Middle Rio Grande Conservancy District works February 1, 1955 with the exception of El Vado Dam and Reservoir. Under terms of our contract with the Middle Rio Grande Conservancy District the Bureau will operate and maintain the project during the construction period with funds advanced by the District. The contract further provides that on completion of the rehabilitation and construction work the District will resume operation and maintenance.

Although not in the State of New Mexico, you are probably also interested in the San Luis Valley Project. The Bureau constructed the Platoro Dam and Reservoir on the Conejos River to regulate and provide a late season water supply for some 80,000 acres of land in the Conejos Water Conservancy

District. The reservoir has a capacity of 60,000 acre-feet and the structure cost about $3,800,000, which is allocated 60 percent to irrigation and 40 percent to flood control. Before the dam and reservoir could be placed in operation, Colorado was alleged to be incurring water indebtedness under the Rio Grande Compact, and consequently this structure since completion has been operated for flood control only. The Bureau has also completed and is processing a report on the Wagon Wheel Gap Dam and Reservoir, and is currently completing a reconnaisaance report on the Closed Basin Drain.

The Carlsbad Project on the Pecos River is one of the first in reclamation developments. Initially this project consisted of McMillan and Avalon dams and reservoirs and irrigation and drainage works to serve approximately 25,000 acres. As the capacity of these reservoirs was lost through sedimentation, Alamogordo Dam and Reservoir, located above Fort Sumner, New Mexico, was constructed to provide replacement storage. The spillway is currently being enlarged and this work is scheduled for completion in June of 1956. As you know, McMillan Reservoir has been subject to considerable leakage, particularly along the escarpment along the east side. To alleviate this situation approximately 10,000 feet of levy was constructed to dike off the worst sink holes through a cooperative program with the State Engineer's office, the Carlsbad Irrigation District, and the Bureau participating. The Bureau operated the Carlsbad project for many years, but operation and maintenance was assumed by the Carlsbad Irrigation District October 1, 1949. The District has been doing an excellent job including an extensive replacement and improvement program. The Carlsbad Irrigation District has repaid all of the initial cost of the project and have been making regular payments since 1946 on Alamogordo Dam and Reservoir.

The next Bureau project upstream on the Pecos is the Fort Sumner Project. The work for this project consisted of constructing a new concrete diversion dam, lowering and lining the Main Canal, and the installation of a hydraulic turbine pumping plant, rehabilitation of part of the distribution system and rehabilitating and extending the drainage system. These works provide irrigation to 6500 acres of land, and the project works cost $2,432,000, which the Fort Sumner Irrigation District will repay in 80 annual installments. This project is also operated and maintained by the District.

The Bureau has constructed two projects on the Canadian River in New Mexico. The largest is the Tucumcari Project, which

consists of canals, laterals and drains to serve 42,000 acres of irrigated land. The system cost approximately 16 million dollars, of which the District is required to repay approximately $5,900,000 over a 40 year repayment period with repayment to begin in 1959 following a five year development period. Water is supplied the Tucumcari Project from Conchas Reservoir which was constructed by the Corps of Engineers. The project is operated and maintained by the Arch Hurley Conservancy District.

Upstream on the Canadian in the vicinity of Maxwell, New Mexico, is the Vermejo Project. Project works consist of a series of offstream reservoirs, canals, laterals and drains to serve 7300 acres of irrigated lands. These works cost approximately $2,800,000 of which the water users will repay $2,107,000 over a period of approximately 78 years. The project was completed last year and the works are operated and maintained by the Vermejo Conservancy District.

Statistics relating to acreages and gross crop value on irrigation developments by the Bureau of Reclamation in New Mexico follows:

Crop Summary
1955 Census of Region 5

Project	Irrigable Area	Net Acres in Cultivation	Gross Crop Value	Average Gross Crop Value per Cultivated Acre
	Acres	Acres	$	$
Rio Grande	159,650	142,694	32,446,623	227.37
Carlsbad	25,055	23,289	3,695,724	158.69
Tucumcari	42,214	38,677	1,869,467	48.33
Ft. Sumner	6,500	5,732	464,416	81.02
Middle Rio Grande	121,680	66,887	4,192,452	62.68
Vermejo	7,379	-	-	-

Aside from the investigations of the San Juan Chama Diversion Project, the Bureau has recently completed a number of reconnaissance reports on small projects on the upper Canadian River and is currently conducting investigation of the Pecos Basin in cooperation with the Pecos Compact Commission and the State of New Mexico. Investigations in the Pecos Basin are primarily for the purpose of determining ways and means of salvaging and conserving the limited water supply. In this connection, Congress now has under consideration a bill which would authorize channelization work above McMillan Reservoir

area similar to that previously described on the Rio Grande.

I have given you a birdseye view of reclamation projects in New Mexico and will attempt to answer any specific questions you may have during the discussion period.