

COLORADO WATER CONSERVATION BOARD  
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CLOSED BASIN PROJECT

The Closed Basin project lies in south central Colorado in the San Luis Valley. The project is bounded on the east and north by the Sangre de Cristo mountain range and on the west and south by the Rio Grande River. The project was authorized by the Congress in 1972. The Rio Grande Water Conservation District was created by an act of the legislature in 1967 and is acting as the sponsoring agency for the project. The district includes the counties of Alamosa, Conejos and Rio Grande and parts of Mineral and Saguache counties. The project is also being supported by the Conejos Water Conservancy District, the San Luis Valley Water Conservancy District and the Rio Grande Water Users Association.

Plan of Development

The project would salvage unconfined ground water and available surface flows in the Closed Basin now being lost through evaporation. The salvage water would be delivered through a conveyance channel to the Rio Grande River below Alamosa.

The present plan contemplates salvaging about 100,800 acre-feet of water annually, of which about 85,600 acre-feet would be pumped ground water and 15,200 acre-feet would be surface water. The project would be constructed in successive stages and would include a main conveyance channel about 39 miles long beginning where Saguache Creek crosses State Highway 17, thence southeast along the west side of San Luis Lake and south of the confluence of the Rio Grande with La Jara Creek. Outlets would be provided at the lower end of the main channel to provide water for the Alamosa National Wildlife Refuge. About 129 shallow wells would be constructed and pumped to salvage the waters now being evaporated in the lower end of the Closed Basin.

The Mishak National Wildlife Refuge would be established as a part of the project and additional water would be provided for the existing Alamosa National Wildlife Refuge. Recreational facilities would be provided at San Luis Lake and at the proposed Mishak National Wildlife Refuge.

The salvaged waters would be used to ameliorate the effects of the Mexican Water Treaty and the Rio Grande Compact. This would mean that existing water uses in Colorado could continue with little or no curtailment. At the present time, existing uses in Colorado are being curtailed to meet treaty and compact requirements.

Project Costs (Estimated)

Water salvage	\$19,661,800
Fish and wildlife enhancement	1,201,400
Recreation	<u>1,136,800</u>
Total Cost	\$22,000,000

Water allocation

Mexican Treaty	60,000 a.f.
Irrigation and compact debits	35,500 a.f.
Alamosa National Wildlife Refuge	<u>5,300 a.f.</u>
Total	100,800 a.f.
Benefit-cost ratio (4 7/8%)	1.9 to 1

Environmental Impact

The environmental impact occasioned by the proposed project would be favorable. The project would cause the Rio Grande River to become a continuous live stream throughout the Rio Grande Gorge, an area which is a part of the National Wild and Scenic Rivers system. Much of the Closed Basin area is now virtually sterile as a result of salt accumulations. The project will reverse the salt trend and permit the re-establishment of native vegetation and native wildlife. Unlike many projects of this nature, no resources would be irreversibly committed.

An additional beneficial effect will be the sustained flow in the channel of the Rio Grande downstream from Alamosa. This continuous flow will reduce siltation and aggradation in the channel, a condition which has resulted from upstream diversions. This continuous flow from

the project will promote migratory bird and fish habitat and tend to restore the river to its earlier condition.

The Rio Grande Compact provides that the state of Colorado shall not be credited with any water delivered from the Closed Basin unless a proportion of sodium ions in such water shall be less than 45 percent of the total positive ions when the total dissolved solids in such water exceeds 350 parts per million. The project is designed to do and will meet these water quality standards.

#### Current Status

Advance planning has not been initiated on the project and no funds were included in the President's recommended budget for F.Y. 1974 to initiate such planning. However, because of the great amount of work already done on the project and the long feasibility investigations, very little advance planning is necessary. Construction could start almost immediately if funds were made available.

Because of the continued opposition of a small group of people in the San Luis Valley to the project, the state of Colorado independently and in concert with the United States Geological Survey has undertaken and completed an exhaustive research of the possible effect of the project on existing irrigation practices in the Closed Basin. This research, which was conducted over a considerable period of time and included the construction of an electric analog model, indicates that the project will have no adverse effect upon existing irrigation practices in the Closed Basin. In addition, the present plan of development provides for construction of the project in stages in order that the effect of each stage can be evaluated. Nevertheless, the witch-hunt on the part of a few people in the valley is still being carried on.

There is now pending in the United States Supreme Court a suit filed against Colorado by the states of Texas and New Mexico alleging that Colorado is in violation of the terms of the Rio Grande Compact. In 1967, the three states and the United States agreed to a stay of proceedings in the pending litigation in order to "afford a reasonable time for the interested parties to demonstrate the feasibility and imminence of an equitable administrative solution. In the meantime, the United States will explore the matter of an administrative solution in conjunction with the three states."

There appears to be only two feasible administrative solutions to the pending litigation. These are either to curtail water uses in

Colorado, which is being done at the present time, or to construct the Closed Basin project to salvage waters now being nonbeneficially evaporated in the Closed Basin.

#### Conclusions and Recommendations

At the present time, an excess of 600,000 acre-feet of water is being lost in the Closed Basin. Much of this water is being diverted from the Rio Grande. This is a staggering waste of water which should not be tolerated in a state which is constantly struggling to match its available water supplies with an ever-increasing demand. The Closed Basin project is an example of reclamation in its truest sense.

As a result of demands on the Rio Grande River under the Mexican Treaty and the Rio Grande Compact, and more specifically as a result of the pending litigation, the state engineer has been curtailing diversions in the state of Colorado. This has resulted in severe economic hardship to an area which is already economically depressed.

It is recommended:

1. That funds in the sum of \$100,000 be sought for F.Y. 1975 to initiate advance planning on the project.
2. That funds in the sum of \$2,200,000 be sought for F.Y. 1976 to complete the advance planning and to initiate construction on phase I of the project.