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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. The project is also being supported by the Conejos Water Conservancy District, the San Luis Valley Water Conservancy District, the Rio Grande Water Users Association and the San Luis Valley Irrigation Well Owners, Inc.

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 44 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 136 shallow wells would be constructed and pumped to salvage the waters now being evaporated in 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.

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	\$27,686,300
Fish and wildlife enhancement	1,746,400
Recreation	<u>1,207,300</u>
Total Cost	\$30,640,000

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 1.4 to 1

Total annual benefits \$3,235,400

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 studies in Stage I of the Closed Basin Project were initiated in April, 1976, with write-in funds of \$125,000 included in the FY 1976 appropriation bill. These studies continued during FY 1977 in Stage I and were initiated in Stage II with an appropriation of \$377,000.

The FY 1978 appropriation for the project totaled \$574,000. As of February, 1978, about one-half of a 42-hole exploration drilling program was completed, which includes permanent observation wells to monitor the confined aquifer. A contract has been prepared to drill and conduct pump tests at five to ten test well locations in the southern part of the project area. A re-evaluation of available surface waters for salvage is nearing completion. Land surveys in Stages I and II have been completed.

Work presently under way or scheduled for the remainder of this fiscal year includes U. S. Geological Survey aquifer modeling studies; surveys of vegetation and wetlands; land surveys; drilling programs; and engineering studies for development of the Definite Plan Report.

The Administration's budget for FY 1979 includes \$500,000 for the Closed Basin Project. Advance planning studies will be continued. The Definite Plan Report and the Draft and Final Environmental Impact Statement are scheduled for completion in FY 1979.

Local Support

There is strong local support for the project. The project is being supported by the Rio Grande Water Conservation District, the Conejos Water Conservancy District, the San Luis Valley Water Conservancy District, the Rio Grande Water Users Association, the San Luis Valley Irrigation Well Owners, Inc., and numerous other organizations and entities. It is a reasonable assumption that at least 90 percent of the water users in the San Luis Valley support the project.

The substantial support which has always existed for project construction has increased considerably in recent years. This increased support has resulted largely from the unfortunate effects of the pending case of Texas and New Mexico v. Colorado. As a result of this case, the Colorado State Engineer has been forced to curtail water uses in Colorado. This reduction in water diversions has caused severe financial hardships, particularly to well owners who for the most part have junior decrees. The well owners are now attempting to raise approximately one million dollars to purchase surface water rights to replace the junior water being pumped from wells. If the Closed Basin project were constructed, it would not be necessary for the well owners to bear this heavy financial burden.

Considerable additional support for the project by the valley residents came about through the incorporation of numerous safeguards in the authorizing legislation (P.L. 92-514; 86 Stat. 964), as follows;

1. No project wells, other than observation wells, shall be permitted to penetrate the aquiclude, or first confining clay layer.
2. Construction of any stage of the project after stage one can be undertaken only with the consent of the Colorado Water Conservation Board and the Rio Grande Water Conservation District.

3. There must be incorporated into the project plans a control system of observation wells which must be designed to provide positive identification of any fluctuations in the water table of the area surrounding the project attributable to the operation of the project or any part thereof.

4. The project facilities must be operated in a manner that will not cause the water table available for any irrigation or domestic wells in existence prior to the construction of the project to drop more than two feet, and in a manner that will not cause reduction of artesian flows in existence prior to the construction of the project.

5. Construction of the project may not be started until the state of Colorado agrees that it will convey to the United States easements and rights-of-way over lands owned by the state that are needed for project purposes and wildlife refuge areas. Acquisition of privately owned lands, where possible and consistent with the development of the project, shall be restricted to easements and rights-of-way in order to minimize the removal of land from local tax rolls.

6. The authorizing act establishes an operating committee consisting of one member appointed by the Secretary of the Interior, one member appointed by the Colorado Water Conservation Board and one member appointed by the Rio Grande Water Conservation District. This committee is authorized to determine from time to time whether the requirements of the act are being complied with. In the event that the committee finds that there is any violation of the safeguards contained in the act, the Secretary of the Interior must modify the operation to the extent necessary to eliminate any adverse effect.

In addition to the many safeguards contained in the authorizing legislation, the board staff proposes that the Colorado Water Conservation Board appoint an advisory committee to monitor and make recommendations concerning the project construction and subsequent operation. As a minimum, the advisory committee should consist of representatives from the Rio Grande Water Conservation District, the Conejos Water Conservancy District, the San Luis Valley Water Conservancy District, the Rio Grande Water Users Association, the San Luis Valley Irrigation Well Owners, Inc., and the Colorado Water Conservation Board.

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 the result of demands on the Rio Grande River under the Mexican Treaty and the Rio Grande Compact, and more specifically as

the result of the pending litigation, the state engineer has been forced to curtail water diversions in the San Luis Valley. This has resulted in severe economic hardship to an area which is already economically depressed. The resulting bitterness towards state officials and among neighbors in competition over the same water supply is a condition which can be eliminated by construction of the project. Unless remedial action is undertaken, a series of protected legal battles will take place over the next many years, none of which will produce an additional drop of water.

The President has recommended that the sum of \$500,000 be appropriated for FY 1979 to continue advance planning on the Closed Basin project. Actually, the original time schedule contemplated a construction start in FY 1979. The proposed delay is a result of the President's "no new start" policy for FY 1979. Stage I of the project will be ready for construction during the latter part of FY 1979.

In light of the critical situation in the San Luis Valley and some construction capability during next year, it is the staff recommendation that the board request the Governor and Colorado's congressional delegation to seek a \$100,000 construction appropriation for the Closed Basin project for FY 1979, in addition to the President's recommendation of \$500,000 for advance planning, as Colorado's priority number two.

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