

NAVAJO RESERVOIR WATER SUPPLY

1985 Bureau of Reclamation Hydrologic Determination -- 72,000 Acre-feet available for contract.

At the July 1985 meeting of the Interstate Stream Commission, the following requests for water were considered and those recommended by the Commission are indicated:

<u>Entity</u>	<u>Requested</u>	<u>Recommended</u>
Utah International	35,300 AF	<u>1/</u> 35,300 AF
Public Service	16,200	<u>1/</u> 16,200
Southern Union	50	<u>1/</u> 50
Subtotal	<u>51,550</u>	<u>1/</u> <u>51,550</u>
BPOE #1747	20	20
Bloomfield Refin.	340	340
Jicarilla	26,000	3,000
Paragon	17,000	---
Gallup-Navajo	24,000	---
Total	<u>118,910 AF</u>	<u>54,910 AF</u>

1/ Existing Contracts

Remainder from 1985 Determination = 17,090 AF (72,000 - 54,910).

1987 Bureau of Reclamation Hydrologic Determination -- 94,500 acre-feet available for contract.

Amount currently available for contracting = 39,590 AF (94,500 - 54,910).



DURANGO PROJECTS OFFICE

FACSIMILE COVER SHEET

DPO SEND FAX # FTS-323-6539 DPO CONFIRMATION FAX # FTS-323-6500  
(COMMERCIAL SEND #303-385-6539 AND COMMERCIAL CONFIRMATION #303-385-6500)

DATE: 2-6-90

TIME: 2:47

NO. OF PAGES INCLUDING COVER SHEET: 6

TO ATTENTION: Philip B. Mutz CODE \_\_\_\_\_

ORGANIZATION: New Mexico Interstate Stream Commission

FAX SEND # (505) 827-6188 CONFIRMATION # (505) 827-6160

FROM: Errol Jensen CODE: \_\_\_\_\_

ORGANIZATION Durango Projects Office

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_

Draft

Honorable Pete V. Domenici  
United States Senate  
Washington DC 20510

Dear Senator Domenici:

We have reviewed the issues summary concerning the Animas-La Plata Project provided by your letter dated January 26, 1990, and provide the following comments. Our comments follow the order of the issues as they are presented in the summary.

1. "The BOR's projected Animas/La Plata Project stream flows show that the Animas stream bed will be all but dry except during spring runoff. Verbal assurances by BOR personnel to the contrary have been relied upon to advance the project, while such statements are not supported by the Definite Plan Report. The 1979 Environmental Impact Statement did not take this type of impact into consideration."

Both the Animas-La Plata Project Definite Plan Report (DPR) and the Final Environmental Impact Statement (EIS) address the effects of the Animas-La Plata Project on the Animas River. As stated in both documents, the Animas River downstream of the Durango Pumping Plant would generally be decreased most of the year. In the DPR, Chapter VI-page 79 (attached), it discusses the impacts of the project. The table shows that there is water in the river at Farmington all year.

A discussion of projected effects on the Animas River can be found several places in the EIS. However, the discussion on page C-21 and Table C-5 (both attached) best describe pre and post project conditions. It should be noted that under project conditions the minimum flow at Farmington is increased. The pre-project condition of the Animas River at the confluence with the San Juan River shows no flow in the Animas River during the dry periods. This condition is caused by irrigation diversions between the water measurement gage at Farmington and the confluence of the San Juan River. Under project conditions, water would be delivered to the San Juan River from the Animas River to satisfy the exchange required to deliver water to the City of Bloomfield and to provide the Navajo Nation their annual 7600 acre-feet of project water.

2. "To construct an earthen dam on such a site constitutes an unacceptable failure potential and flood risk to all persons living downstream. Neither this risk nor the cost of stabilizing the site were considered in the A-LPP Definite Plan Report."

Detailed geologic research and investigations conducted through 1989 do not indicate that the dam site or reservoir area have been heavily mined. Mining around the reservoir rim and downstream of the dam did occur. Our research of these abandoned coal mines along with surface and subsurface geologic investigations have not revealed the presence of subsurface mining which will affect the reservoir.

Both the risk and cost of stabilizing any site were considered in the Definite Plan Report (page 23 of Appendix A).

Conditions similar to those at Ridges Basin Dam site have been experienced on past Reclamation projects, and as with these other dams, the site specific design for Ridges Basin Dam will treat the particular geologic conditions encountered.

3. "We can either pay an unspecified amount to be determined by the Secretary upon completion of the project or forfeit a prorata share of the water. BOR personnel are making public statements which are not true and misleading."

The funding agreement and repayment contract which has just recently been negotiated with the San Juan Water Commission provides certain safety checks to assure that the Commission has some say in what it's final investment is in the project and also provisions to assure the United States is fully reimbursed for all of the costs allocated to the 30,800 acre feet of municipal and industrial water. Simply stated, the contract provides:

Article 7 - The Commission will provide \$12,800,000 as up-front cost sharing on those project facilities necessary to provide M&I water to non-Indians in New Mexico. (The \$12,800,000 was derived using a 1985 construction cost estimate for the project.)

*deficient*  
Article 8(a) - The Commission agrees to pay, through a 50-year repayment obligation, any additional costs that exceed the \$12,800,000 justifiable by reasons of ordinary fluctuations in the cost of construction. However, the total obligation under this contract will not exceed \$16,640,000 (\$12,800,000 plus 30% of " *independent cost of construction* " 12,800,000).

*on option the Commission has*  
Article 8(e) - If the Commission's allocable share of construction costs exceed the \$16,640,000 cap provided in the contract, amendment of the contract or other financial arrangements will need to be made. One possible "other financial arrangement" might be for the Commission to receive a pro rata share of 30,800 acre feet commensurate with what they have obligated themselves to pay. *check 76*

These three provisions acknowledge that contrary to the old way of contracting for the repayment of M&I water, up-front cost sharing requires that the contracting entity must expend money prior to receiving benefits from the project and, therefore, should have some right to some portion of the benefits they prepaid without giving them a closed-ended contract.

4. "Since 1917, BOR water projects have cost three (3) times the projected amount. If history replays itself, A-LLP will cost \$1.5 billion, the non-federal cost will be \$1.2 billion and we either agree to pay our additional share or accept 1/100th of our water."

The total cost of the project allocable to the 30,800 acre feet of project water for the San Juan Water Commission is presently (Oct. 1989 price level) estimated to be \$14,135,000. This figure does not include any interest during construction charge. Interest during construction will not begin until the \$12,800,000 upfront cost sharing is depleted. The \$12,800,000 upfront cost sharing is to be provided concurrent with the construction of those project facilities that are necessary for storing and delivering the New Mexico

non-Indian water. If construction begins in 1990, those facilities are scheduled to be completed by the end of 1996. Assuming the present rate of inflation in construction costs, the Commission's share of the construction cost allocation would be \$16,572,000 at the time of completion of the facilities, within their total obligation cap in the contract. 16.64

5. "Phase I funding is comprised of \$354 million in Federal funding and \$66.33 million, plus all cost increases, in non-federal funding."

The statement that all cost increases will be borne by non-federal funds is in error. Cost increases experienced by the project in total will be distributed proportionately among all of the funding sources. Based on a final allocation of costs upon completion of the project, each user (irrigation, M&I, etc.) will be allocated a certain repayment obligation. M&I water users will repay their full allocation; the irrigators will repay up to their ability to repay with Upper Colorado River Basin Funds picking up that portion above their ability; Indian irrigators will have their final construction cost allocation deferred under the Leavitt Act; and a certain allocation of costs will be made to nonreimbursable uses such as recreation and fish and wildlife enhancements.

6. ". . . it was the BOR's intent to start construction without the required consent decree for settling the Indian water rights claims."

A stipulated consent decree is presently being finalized by the State of Colorado, the Animas-La Plata Water Conservancy District, the Southern Ute and Ute Mountain Indian Tribes, and other involved entities. This stipulated consent decree is scheduled to be filed with the court in April 1990. Informal discussions with the Department's Solicitor's Office indicate that it is not necessary to file this decree before a construction start. The decree cannot be finalized until water deliveries, as provided for in the Colorado Ute Water Rights Final Settlement Agreement, are being accomplished.

7. "They also stated that we should not be concerned about the unaccounted for \$171 million cost of Phase II because 'It may never be built'."

All of the facilities necessary to store and deliver the San Juan Water Commission's project water are being built under Phase I of the project. The Commission is under no obligation, as far as we know, to assist in funding any of the Phase II costs.

8. "We wonder if the Ute Indians are going to consider their water rights claims settled without their storage and delivery systems?"

Under Phase One of the project, both tribes will have their water made available to them in Ridges Basin Reservoir, or at the point on the Animas River where diversions are made to the Durango Pumping Plant, or for La Plata River water, at the point where water is diverted for project purposes. In addition, the Southern Ute Indian Tribe will receive most of their irrigation water through a pressurized lateral system provided in Phase One.

9. "Area land costs have risen to a point that has eliminated agriculture as a viable industry."

Area land costs should have a minimal affect on the success of the irrigated

Exclude statement from expert letter on water supply for build!

agriculture within the Animas-La Plata Project. The lands scheduled to be served are now privately owned and it is the private owners who are now petitioning for irrigation water from the project.

10. "Phoney accounting for electricity has been used to obscure the real cost of operating and maintaining the A-LPP."

*As a participating project of the Colorado River Storage Project (CRSP), the Animas-La Plata Project receives a special power rate. The combined energy and capacity charge using the current CRSP rate of 5.00 mills per kilowatt-hour consumed (energy charge) plus \$2.09 per kilowatt-month standby cost (capacity charge) equates to a power cost of approximately 10 mills per kilowatt-hour. Under full project development (Phases One and Two), nearly 163 million kilowatt-hours of electricity will be required. This equates to \$1.63 million of power costs annually (10 mills \* 163,000,000 kWhrs.).*

11. "Who owns and/or controls the 30,800 acre feet of San Juan County M&I water?"

*The 30,800 acre-feet of water which will be provided to the San Juan Water Commission is considered to be State of New Mexico Water under the Colorado River Compact. The Bureau of Reclamation (Department of Interior) does not own the 30,800 acre-feet but holds the rights to put the water to beneficial use under the Animas-La Plata project. If this right is not exercised under the Animas-La Plata Project, the water right would no longer exist and the water would revert back to the State of New Mexico for readjudication.*

12. "Placing the Indian storage and delivery systems in Phase II further jeopardizes a settlement. No specific source or means of repayment is provided for beyond the statement that the source will be 'one or more non-federal entities signatory to this agreement . . .'"

*Placing the Indian storage and delivery system in Phase II will not jeopardize the Colorado Ute Indian Water Rights Settlement. Both Ute Tribes were both full time participants when the water rights settlement and cost sharing negotiations were taking place. The tribes had full knowledge of the negotiations and were signatory to both agreements.*

13. "Only superficial consideration has been given to such alternatives."

*Planning on the Animas-La Plata Project has been taking place for many years. Throughout this planning period a great effort was made to involve the public, farmers, city officials, local and state governments and other state and federal agencies. Numerous alternatives have been studied throughout the years. The project, as now documented in the 1979 Definite Plan Report and Final Environmental Statement, is the result of the planning effort. The project is a multipurpose project and was formulated to benefit the whole project area rather than being a single purpose project.*

*Various single purpose alternatives to supply 30,800 acre-feet to the San Juan County New Mexico area were studied. Reclamation instructions require this be done in order to determine cost allocations. The San Juan Water Commission recently hired Black & Veatch, a engineering-architectural consulting firm from Aurora, Colorado to complete a "40-year Regional*

*revised by 150x*

Water Supply Plan" for the San Juan County, New Mexico area. The study was completed in October 1989. Black & Veatch report that a single purpose alternative to supply the San Juan Water Commission the same amount of water which they would get from the Animas-La Plata Project would cost approximately \$26,200,000. This is a much higher cost than is now being negotiated in the San Juan Water Commission contract. The San Juan Water Commission may not obtain water rights as good as those provided with the Animas-La Plata project.

A benefit that cannot be overlooked is the benefit of the Colorado Ute Indian water rights settlement which will be accomplished with the completion of the project.

14. "The most viable alternative for San Juan County M&I storage already exists: Navajo Reservoir."

New water rights would have to be obtained in order for San Juan County to obtain additional water from Navajo Reservoir. As stated above, these new water rights may be subordinate to most other rights on the river. With the Animas-La Plata Project the City of Bloomfield will be getting their water from the San Juan River, however water from the Animas-La Plata Project will be required to flow down the Animas River to the San Juan River to replace the water diverted by the City of Bloomfield.

15. "The La Plata Valley needs storage of La Plata River water. Such a gravity flow storage system was one of the only worthwhile elements of the A-LPP until 1986 when, in the cost reduction efforts, it was eliminated."

Everyone agrees that the La Plata Valley needs storage of the La Plata River water. Throughout the planning of the project various alternatives to store water in the La Plata drainage have been studied. Studies have included storage high up in the drainage and storage both on and off stream lower down in the drainage. Southern Ute Reservoir was found to be the most feasible storage area on the La Plata River, however there is not a sufficient supply to satisfy project demands.

Southern Ute Reservoir was not eliminated from the project, only delayed until Phase II is built.

We appreciate your interest and continuing support of the Animas-La Plata Project.

Sincerely,

Dennis B. Underwood  
Commissioner, Bureau of Reclamation





## MEMORANDUM

TO County Commissioners

FROM B. J. Baggett, County Attorney DATE September 20, 1989

SUBJECT ANIMAS-LA PLATA PROJECT DEPARTMENT Legal

This memorandum is to set out the present alternatives being discussed with reference to the 30,800 acre feet (a/f) of water appropriated by the Secretary of the Interior for use as municipal and industrial (M & I) water in San Juan County.

Prior to 1986 the idea of "cost sharing" in Western water projects was advanced by the Reagan administration. The Bureau of Reclamation (BOR) was required to enter into cost sharing contracts with the beneficiaries of the projects to help defray the construction costs.

Negotiations were undertaken with BOR, and the original costs to be paid by the County were estimated to be 30 million plus. The County thought that this figure was too high and commissioned a study by Black & Veatch, consulting engineers in Kansas City, Missouri, to estimate the cost of building local reservoirs for the storage of water in Barton and Cox Canyons. This study indicated that the least cost alternative just for the storage of water would be less than the amount estimated for cost sharing in the Animas-La Plata Project. 127

Further negotiations with BOR reduced the agreed upon cost sharing amount to 12.8 million, plus an escalation cap of up to 30 per cent, or 3.84 million, placing the total figure required of San Juan County at 16.64 million (12.8 + 3.84). This figure was less than the least cost alternative, and on June 30, 1986 the County Water Commission executed an Agreement in Principle agreeing to this amount as its share of the costs for the Animas-La Plata Project.

The County insisted on a fixed amount for the reason that New Mexico State law limits local governments in levying taxes, and the County did not want to chance being unable to raise its share of costs because of those limitations.

Several matters were left to be negotiated in the June 30, 1986 Agreement, such as the makeup of the Coordinating Committee, the point of measurement of the water delivered under the Agreement, and the amount and manner of repayment for administrative overhead. The 12.8 million is to be paid as construction progresses, with the idea being that the County's share would be paid in full when construction is completed. The 30% escalation and administrative costs could be amortized and paid back over a 30 to 40 year period. 40 50

In the past three years, the Ute Mountain Ute and Southern Ute Tribes, who had filed suits and laid claim to much of the water in the San Juan River System, which includes the Animas and La Plata Rivers, agreed to settle their claims for stipulated and recognized water rights in the Animas-La Plata Project. I believe Congressional action was required and obtained to approve that agreement, and the agreement is contingent upon the Animas-La Plata Project being built as planned. If it is not, the Ute Tribes are free to again file suits in Federal Court seeking more water rights than they had agreed to settle for if Animas-La Plata is completed.

*cite  
AIV  
UCC*

We are now told that the Project could be killed by the County's failure to execute a new cost sharing agreement being presented by the BOR, which removes the cap of 12.8 million and makes it an open ended contract with no set limit on the amount the County might be required to pay. Therein lies the rub.

If past history is repeated, this Project can far exceed the estimated or projected costs. The new contract provides that the BOR can amend, change, expand or modify this Project at any time before or during construction, and the County's share could be increased accordingly. By increasing the base share, you also necessarily increase the amounts represented by the 30 per cent escalation cap. As a result of the new contract, which the County will not execute at this time because of the uncertainties of the final costs, the idea of the least cost alternative is being revived by some of the County's governing officials.

One thing that we would like to point out is that under the pay-as-you-construct plan, the water would be paid for and no other payments would be required, other than our share of the annual operating costs. This is a departure from the usual situation where the users "rent" the water and pay for its use more or less in perpetuity.

*contract for*

The questions being posed are:

1. Is it cheaper to build our own storage facilities in San Juan County as a least cost alternative to an open ended contract with the BOR?
- \* 2. If San Juan County decided that the least cost alternative would be to construct its own storage reservoirs, can we get the 30,800 a/f of water, plus the 7,200 a/f for the Navajo town of Shiprock, and retain the 1956 appropriation date established by the Secretary of the Interior when he first appropriated the water?
- \* 3. Would we have anything of value in the way of water rights if the Secretary released the water to San Juan County and we had to apply through the Interstate Stream Commission and the State Engineer's Office and received a 1989 or 1990 priority date, instead of the priority date now held by the Secretary?

*Don't take*

*No*

4. Would Animas-La Plata survive as a water project if San Juan County pulls out of the deal? *No*
- \* 5. What would be the effect on existing water rights in San Juan County if Animas-La Plata goes down the tube and the Ute Tribes establish a senior priority to the New Mexico (and Colorado) irrigators, industrial and domestic water users? *unknown*
6. Could the Secretary (with Congressional approval) transfer the 30,800 a/f of water rights to San Juan County and retain the earlier priority date? Could he transfer it without Congressional approval and retain the earlier priority date? *Dubious  
not done  
before  
11.11.89*
7. If San Juan County cannot get the earlier priority date through a transfer or relinquishment by the Secretary, can we legally sign an open ended contract to construct Animas-La Plata when the total could exceed our ability to pay? *That open  
ended  
can you  
pay  
print*
8. If we can legally sign an open ended contract, should we?

The local governments agree that it is vital to acquire the 30,800 a/f of M & I water. This memorandum simply reiterates the differences some feel about the economics, legalities and mechanics of so doing.

*Proportional  
supply  
still  
available*

BJB/emj-m



M E M O R A N D U M

November 6, 1989

TO: Jon Barela, Esq., Assistant Attorney General  
FROM: S. E. Reynolds, State Engineer  
SUBJECT: San Juan Water Commission - Joint Powers Agreement

On the afternoon of November 3, 1989, I discussed the subject Agreement with Mr. Bill Baggett, San Juan County Commission Legal Adviser, he advised me that the Agreement dated March 5, 1986, was approved, as required, by the Secretary of the Department of Finance and Administration (DFA) on March 28, 1986, after consulting with the Attorney General. Mr. Baggett has nothing in writing from the Attorney General in his files. He reminded me that on the day that officials from San Juan County brought the Agreement to Santa Fe for the DFA approval, I accompanied them to consult with Ms. Kay Marr, then an Assistant Attorney General.

Mr. Baggett also advised me that those who were drafting the Joint Powers Agreement carefully considered Sections 72-4-2 and -8, NMSA 1978, probably at my suggestion. It is Mr. Baggett's opinion that the phrase "untreated water" in the last Whereas clause at page 2 of the Joint Powers Agreement was inserted to make clear that they were paying for raw water in the river and not acquiring any part of a water supply system. I have no clear recollection of making the suggestion, but I do note that the two relevant sections of Article 4 are clearly marked on my desk copy of the water statutes.

OSE-1161

Please feel free to call me if some further discussion of this subject would be helpful.

Sincerely,

S. E. Reynolds  
State Engineer

SER:rav





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RFP8 (1-13-09)  
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July 12, 1990  
SJ County Comm  
meeting Aztec 7pm

*D. Stone*

NOTES FOR MEETING REGARDING ANIMAS-LA PLATA PROJECT  
AZTEC, NEW MEXICO, MARCH 29, 1990, 7:00 P.M.

1. The State Engineer Office and the Interstate Stream Commission are responsible for the administration, development, conservation and protection of New Mexico's water resources. In accordance with the long standing tradition and practice of the two agencies, I am here tonight to provide factual information to proponents and opponents of the Animas-La Plata Project.
2. The records of the State Engineer Office reflect that the water rights for the New Mexico portion of the Animas-La Plata Project are held by the Secretary of the Interior (under permit number 2883, with a priority date of May 1, 1956) pursuant to New Mexico statutes dealing with water rights for Reclamation projects (Section 72-5-33 NMSA 1978).
3. The Constitution and statutes of New Mexico require proper administration of the water rights on the Animas River in New Mexico to ensure that prior water rights are protected against junior appropriators. The records of the State Engineer Office reflect that a maximum rate of diversion of 598.55 cubic feet of water per second was adjudicated in the 1948 San Juan Decree for 18 ditches serving about 21,620

acres of irrigated land. In addition a maximum rate of diversion of about 18.381 cubic feet of water per second has been permitted by the State Engineer since the 1948 decree and prior to the Secretary of Interior's permit. Therefore the total maximum rate of diversion having a priority earlier than that of the Secretary's is about 617.0 cubic feet of water per second. It is important to note that the maximum diversion limit is not the legal entitlement to water for the water rights having a priority earlier than that of the Secretary's. Rather the legal entitlement is based upon the amount of water required for beneficial use as set forth in the Constitution and New Mexico statutes.

4. The Animas-La Plata Project will operate to ensure that sufficient water will bypass the Durango pumping plant to satisfy the current demand for senior water rights. If it becomes necessary, the State Engineer may demand sufficient control of pumpage from the Durango pumping plant to ensure that the current demand for senior water rights is fully satisfied.
5. If the U.S. Congress were to deauthorize the Animas-La Plata Project, as might happen if the San Juan Water Commission

does not contract for the 30,800 acre-feet of water, the Secretary of the Interior would likely, but not necessarily, release his rights to the 49,510 acre-feet per year of New Mexico's water to be delivered from the Animas-La Plata Project. If the Secretary did release his rights to New Mexico water for the project, the water would revert to the *state in trust for the* public ~~supply~~; however, the Secretary still holds rights for the diversion of 1,504,000 acre-feet per year of New Mexico's water for other purposes, including the San Juan-Chama Project, the Navajo Project, the Hammond Project and for contracts for municipal and industrial water supply from Navajo Reservoir. Because that amount is more than enough to use the entire ~~727,000 acre-feet per year~~ of consumptive use that New Mexico is entitled to pursuant to the Upper Colorado River Compact, the State Engineer may not be able to grant new permits for the released Animas-La Plata Project water. *Of course, under New Mexico law, the person, firm or corporation making an application for a new appropriation of public surface water in the state, has the burden to show that water is available for appropriation and that the granting of the application would not be to the detriment of any existing water right acquired prior to the filing of the application, would not be contrary to the conservation of water in the state and would not be detrimental to the public welfare of the state. That burden can be heavy.*



## Bypass Conditions

Durango has a water right on the Animas River for 6.00 cfs absolute and 44.00 cfs conditional with an appropriation date of 1883 and a decree date of 1966. The Animas-la Plata Project right in Colorado which is junior to Durango's rights has an appropriation date of 1938 and the same 1966 decree date. The project permit in New Mexico has a priority date of May 1, 1956.

Downstream rights determined for the Animas-La Plata Project operation study were considered to be also applicable to Durango since there are only 6 cfs of downstream rights in Colorado that are senior to the project but junior to Durango. The project bypass for downstream rights was estimated to be the net depletion of the river by senior diversions below the Durango Pumping Plant over and above tributary inflows. The net depletion has the following components:

1. The historical net depletion between the Durango gage and the Cedar Hill gage or the Durango gage and the Farmington gage whichever is larger.
2. The diversions of Farmer's Mutual Ditch, the only diversion located downstream of the Farmington gage.
3. The portion of any senior water rights that were not being diverted during the critical 1951-56 drought period used to size the project.

The historical flows at Cedar Hill and Farmington prior to 1963 were adjusted for the estimated effects of the Florida Project. The same adjustment was used at both gages because flow data indicate that the Farmer's Mutual Ditch below the Farmington gage is the only ditch to have shortages. Their right with a priority date of 1920 is the most junior of the San Juan Decree rights on the Animas River.

The net depletion between the Durango and Farmington gages adequately represents the bypass needed for the ditches above the Farmington gage because the location of the ditches relative to tributary inflow generally allows for full utilization of the inflow. In addition, Farmer's Mutual Ditch is capable of using all return flows available at their diversion so an extra bypass allowance for wasted return flow at the mouth of the Animas River is not required.

Diversions by Farmer's Mutual Ditch were limited to a monthly demand pattern based on the annual farm delivery limitation of their water right. According to the San Juan Decree, the Farmer's Mutual Ditch serves 4181.51 acres and their water right stipulates a maximum diversion rate of 104.53 cfs. Individual allotments in acre-feet were based on 3.16 acre-feet per acre measured at the farm headgate. The portion of the decree pertaining to the Animas River specified 3.00 acre-feet per acre for irrigation plus water for domestic and livestock uses. The .16 acre-feet per acre added on to the allotments for Farmer's Mutual Ditch

evidently was intended for domestic and livestock uses. The monthly farm delivery was assumed to be proportional to the farm delivery requirement computed for the La Plata, New Mexico area at elevation 5,740 feet which has an annual demand of 4.00 acre-feet per acre based on a 45% farm irrigation efficiency. It is noted that with a farm delivery of 3.16 acre-feet per acre, a farm irrigation efficiency of 57% would have to be achieved in order to supply the same amount of water for crop consumptive use as was designed for the La Plata, New Mexico area. Ten percent was added to the farm delivery to account for flow measurement errors, administrative errors and variance in cropping patterns and timing of irrigations.

Conveyance losses for the 20-mile long Farmer's Mutual Ditch were estimated using the Moritz formula assuming an average flow of 50 cfs, an average velocity of 2 fps, and a loss of .5 cubic foot per square foot per day.

$$\begin{aligned} \text{Loss per mile} &= .2(.5) (50/2) \cdot 5 = .5 \text{ cfs/mile} \\ \text{Total loss} &= 20 \text{ miles} \times .5 \text{ cfs/mile} = 10 \text{ cfs} \end{aligned}$$

The conveyance loss was assumed to be constant from April through October.

To account for the diversion needed to initially fill the soil profile in a dry year, it was assumed that the May demand was equal to the June demand. This assumption was equivalent to having a soil profile diversion demand of .46 acre-feet per acre in May. The monthly diversion requirements for April through October are computed in Table 3. A diversion requirement of 10 cfs was assumed for November through March to allow for winter stock watering.

The only downstream senior water rights that probably were not being diverted during the 1950's drought were portions of the Farmington and Aztec water rights. According to the State Engineer, the City of Farmington has a total right of 18,103 acre-feet of which 1,156 acre-feet is on the San Juan River and 16,947 acre-feet is on the Animas River. The Animas rights are listed below.

<u>Amount</u> <u>(acre-feet)</u>	<u>Decree</u>	<u>Priority Date</u>
9,747	1948 San Juan Decree	Several Dates (All Prior to 1900)
<u>7,200</u>	Permit No. 2995	Aug. 20, 1959
Total	16,947	

The 7,200 acre-feet is junior to the Animas-La Plata Project but would not have shortages with the project in operation because of the existing 6,400 acre-feet of storage in Farmington Lake. In 1956, Farmington had a population of about 15,000 with an estimated diversion of 5,000 acre-feet. Therefore, the unused portion of their senior water right was about 4,800 acre-feet.

Aztec has a total right of 846 acre-feet which is all senior to the project as shown below.

<u>Amount</u>	<u>Decree</u>	<u>Priority Date</u>
174	1948 San Juan Decree	1877
<u>672</u>	Permit No. 2801	Dec. 18, 1953
Total	846	

Aztec diverted about 500 acre-feet in 1956 under their 1953 water permit. The 174 acre-feet of old adjudicated water had not been acquired yet but it is assumed it was being diverted by others. Their unused water right in 1956 was about 200 acre-feet (672-500 rounded).

The total unused right of 5,000 acre-feet was assumed to have a monthly distribution proportional to Farmington's average water use pattern as shown in the following table. The table also shows the total bypass needed over and above the net depletion between the Durango and Farmington gages.

	<u>Average Demand (%)</u>	<u>Unused Water Rights</u>		<u>Farmer's Mutual Ditch (CFS)</u>	<u>Total Added Bypass (CFS)</u>
		<u>(AF)</u>	<u>(CFS)</u>		
January	5	250	4	10	14
February	5	250	4	10	14
March	6	300	5	10	15
April	8	400	7	16	23
May	11	550	9	74	84
June	12	600	10	74	84
July	14	700	11	73	84
August	12	600	10	53	63
September	10	500	8	38	46
October	7	350	6	16	22
November	5	250	4	10	14
December	<u>5</u>	<u>250</u>	<u>4</u>	<u>10</u>	<u>14</u>
Annual	100	5000	7	29	36

The estimated 5,000 acre-feet of unused water right is also a reasonably good estimate for the 1934 drought. In the San Juan decree, water allotted in acre-feet to a town is doubled to compensate for excessive loss by seepage and evaporation when diverted into numerous small laterals for irrigation of small lots and tracts of land. The population of Farmington at the time of the San Juan Decree was only about 3,500 so most of the irrigated land in the city limits referred to in the decree (about 1800 acres) was probably not yet divided into small lots and tracts. In other words, the allotment to towns was doubled mainly in anticipation of future development. Actual irrigation used in 1934 was probably much less and maybe only one-half of the present right of 9,747 acre-feet.



Since water use in Farmington and Aztec in 1976 was 12,300 and 1,000 acre-feet, respectively, their senior water rights were being entirely used during the drought of 1977 and that use is reflected in the Farmington gage.

In the Animas-La Plata Project operation study, the unused rights estimated for 1956 were added to the downstream rights in all years of the 1929-77 study period. In the operation study for Durango alone, the unused rights estimated for 1956 were only added to the downstream rights in 1934 and 1956 but not in 1977.

The bypass for Farmer's Mutual Ditch and unused rights cannot exceed the flow at the Farmington gage. It was assumed that there are no required non-project deliveries from the Animas River to the San Juan River. The Animas-La Plata Project would increase the flow of the San Juan River during dry periods as a result of return flows from storage water delivered to the Farmington and Shiprock areas.

The Animas-La Plata Project minimum aquatic bypass would be 125 cfs in October through March and 225 cfs in April through September. These same minimum bypass conditions were used to size Durango's single purpose alternative.

One of the bypass conditions used in the Black and Veatch report included an estimate of the Southern Ute Indian Winters Doctrine water right claims on the Animas River. The report assumed that water claims by the Southern Ute would be the same as their planned allocation from the Animas-la Plata Project. The Southern Ute have been allocated 26,500 acre-feet for industrial purposes and 3,300 acre-feet for irrigation with the following monthly demand pattern.

	<u>Industrial Demand (cfs)</u>	<u>Irrigation Demand (cfs)</u>	<u>Total Demand (cfs)</u>
January	37	0	37
February	37	0	37
March	37	0	37
April	37	1	38
May	37	6	43
June	37	15	52
July	37	16	53
August	37	10	47
September	37	6	43
October	37	1	38
November	37	0	37
December	37	0	37

Several alternative bypass conditions were considered for the sizing of single purpose alternatives that would serve Durango only. However, it was decided that the bypass for the single purpose alternatives should be the same as used for the Animas-La Plata Project.

ANIMAS FLOW AT CEDAR HI WITH THE PROJECT (AVE. CFS)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1929	214.89	244.58	363.74	843.35	2557.71	3243.91	1272.10	1479.84	1126.07	544.95	382.75	250.03	763472.
1930	222.37	292.67	381.96	1404.77	1594.20	2244.24	476.96	596.85	323.58	191.79	177.34	170.16	486663.
1931	184.47	180.28	170.48	225.92	708.77	1015.80	384.88	329.90	320.39	253.77	168.94	159.09	247762.
1932	168.69	186.05	352.68	1155.49	2919.33	3241.72	1347.58	781.64	368.47	183.66	176.00	168.37	668519.
1933	221.07	145.16	201.71	276.69	1150.59	2503.28	588.71	328.29	368.13	190.00	171.86	170.16	380896.
1934	205.46	181.72	207.90	537.91	958.63	381.24	320.14	303.71	328.29	197.00	156.83	176.50	239340.
1935	184.80	195.05	321.60	673.89	1411.51	4161.71	1186.37	446.70	358.21	323.35	192.97	154.05	572924.
1936	149.01	187.31	377.73	1281.90	2759.75	1316.52	366.83	553.90	373.17	174.06	178.69	154.38	476750.
1937	162.07	166.23	422.79	1482.27	3361.96	1543.28	582.69	367.97	291.48	196.67	179.19	192.28	542367.
1938	185.12	185.69	382.44	1431.84	2155.26	4424.27	1383.86	348.28	530.34	349.91	197.01	159.74	542367.
1939	160.88	160.47	346.98	810.72	1708.55	1075.14	430.11	343.24	461.59	188.38	192.64	166.74	365732.
1940	208.38	200.74	230.67	545.47	1597.12	846.70	380.65	278.17	363.42	380.49	182.05	212.61	329073.
1941	213.10	239.18	403.59	784.67	4780.64	5242.73	2879.64	598.31	838.46	2086.77	994.12	546.09	1188610.
1942	389.44	350.12	464.43	1869.56	2697.61	3546.98	1090.40	373.99	327.95	205.78	205.92	194.56	706558.
1943	209.20	205.68	305.50	1429.48	1884.89	4719.28	544.79	503.64	384.27	226.44	215.83	171.29	470969.
1944	184.15	239.36	328.27	651.37	3350.09	4370.31	1614.20	330.71	281.90	166.58	196.67	169.07	718311.
1945	168.69	164.61	195.70	444.11	2283.93	2238.19	729.26	291.18	296.52	163.97	164.90	149.33	441061.
1946	146.24	182.26	180.40	509.67	829.31	1876.62	369.11	319.00	285.59	164.63	183.56	154.05	313019.
1947	141.36	173.62	172.76	313.50	2126.95	2251.30	1075.92	685.67	529.84	517.79	249.29	293.62	516930.
1948	259.79	279.80	327.14	1422.42	3298.03	3499.75	1022.89	386.19	286.10	188.70	172.80	171.95	683442.
1949	225.14	202.62	312.98	1097.66	2780.24	5206.25	1946.71	437.75	346.11	195.53	173.47	151.45	709279.
1950	183.98	195.59	194.07	986.55	1211.26	1550.68	460.53	363.57	345.60	210.34	183.73	176.50	365522.
1951	181.38	182.62	157.63	271.81	956.52	1555.89	415.63	325.02	250.80	151.29	151.62	189.51	289003.
1952	237.18	199.01	338.20	1375.36	3324.55	5048.08	1476.58	386.84	330.31	190.00	184.06	142.66	798721.
1953	152.59	157.23	168.69	470.16	949.69	2054.97	406.68	114.94	286.77	200.09	183.22	186.75	332264.
1954	173.08	183.52	185.28	475.37	1254.21	852.08	608.72	344.54	323.25	346.66	151.45	127.21	304337.
1955	131.60	142.64	164.63	322.74	1215.66	1729.20	416.12	375.94	298.54	168.53	146.75	168.69	318920.
1956	157.47	164.43	264.34	392.17	1622.66	1457.56	395.62	310.05	232.98	185.28	119.85	140.55	329333.
1957	141.20	181.00	180.73	528.66	1400.78	5175.49	1226.72	1226.72	553.71	251.33	432.85	247.59	813075.
1958	183.98	324.36	400.18	1341.91	4545.74	3521.94	523.64	363.90	292.65	151.61	136.49	120.87	719731.
1959	123.63	152.19	127.05	214.49	831.42	1285.26	371.87	314.45	239.20	234.57	275.00	185.45	262856.
1960	154.05	161.01	633.61	1305.93	1626.89	2732.22	574.40	340.31	276.35	162.84	163.05	154.86	499626.
1961	164.14	158.67	211.80	559.42	2151.03	1647.00	387.81	329.74	352.83	255.23	180.87	145.76	396020.
1962	148.85	157.59	199.11	1299.38	1903.76	2122.71	952.78	385.70	251.81	166.90	172.30	159.91	478471.
1963	141.36	210.18	280.61	510.51	1837.72	639.77	398.71	374.80	358.38	148.85	130.44	120.38	312269.
1964	134.69	129.31	138.11	284.75	1628.52	1049.59	396.11	413.19	289.46	203.99	170.45	185.61	303386.
1965	172.11	169.66	215.05	1059.17	2251.39	3886.03	2674.91	801.49	597.75	406.19	248.11	193.42	766863.
1966	185.61	142.64	439.38	890.57	2391.94	1524.79	509.17	358.69	276.35	182.68	170.62	175.52	439141.
1967	169.02	176.86	173.73	297.87	1213.70	995.13	396.60	327.30	289.96	209.85	160.03	160.07	276500.
1968	150.64	187.85	208.06	328.12	1644.95	3541.94	621.57	616.86	317.20	195.70	177.34	167.23	491814.
1969	172.11	162.45	265.81	1085.22	2419.60	2123.05	1253.40	321.77	327.28	458.09	274.84	170.32	546958.
1970	179.43	170.38	194.88	312.32	2205.36	1748.02	616.04	343.57	1557.40	287.77	210.86	288.26	490804.
1971	298.18	305.27	360.97	731.72	1078.52	1858.63	530.15	316.40	316.19	221.07	210.29	173.90	385607.
1972	163.32	177.94	446.37	650.70	1241.36	1203.23	406.85	326.16	289.63	1109.27	440.75	185.12	402141.
1973	191.14	193.79	540.89	1296.02	4560.21	4814.25	2408.54	446.21	381.24	188.86	184.06	188.38	932135.
1974	234.41	206.40	305.99	347.29	1404.36	765.17	336.08	297.04	238.02	205.29	177.68	168.69	283902.
1975	168.53	165.51	330.88	787.19	2345.09	4533.07	2897.68	471.91	359.56	202.62	175.32	171.78	762772.
1976	162.02	202.43	196.82	355.35	1679.27	1855.77	450.60	316.24	329.80	209.69	158.68	178.29	368163.
1977	203.18	165.15	149.66	303.41	387.32	470.50	391.88	287.93	274.16	185.61	145.07	144.13	187757.
AVERAGE	184.98	193.82	284.15	776.67	2004.05	2401.88	906.30	438.49	388.31	287.36	212.99	182.71	499349.
MAXIMUM	389.44	350.12	633.61	1869.56	4780.64	5242.73	3136.50	1479.84	1557.40	2086.77	994.12	546.09	1188610.
MINIMUM	123.63	129.31	127.05	214.49	387.32	381.24	320.14	278.17	232.98	148.85	119.85	120.38	187757.

AVERAGE ANNUAL FLOW IN ACRE-FEET = 499348.94

ANIMAS FLOW AT CEDAR H' WITHOUT PROJECT (MODIFIED - AVE. CFS)

	JAN	FEB	MAR	APR	MAY	JUN	AUG	SEP	OCT	NOV	DEC	ANNUAL	
1929	255.40	246.74	366.01	1015.30	275R.93	3659.44	1688.55	1895.14	1522.95	745.04	384.94	252.14	894926.
1930	224.49	293.57	383.91	1455.71	1795.91	2660.95	876.81	937.00	401.75	339.99	253.82	214.73	593751.
1931	216.36	176.50	175.69	270.63	1089.91	1432.17	559.40	422.95	425.28	450.74	242.06	222.86	344247.
1932	222.86	248.54	556.34	1568.33	3334.80	3657.76	1763.38	1140.34	529.50	325.35	275.68	204.97	836812.
1933	214.73	142.28	283.05	403.43	1431.52	2919.82	922.36	400.18	541.27	357.88	235.33	217.98	487223.
1934	229.37	210.72	266.78	756.43	1351.81	484.11	250.52	260.20	342.91	244.01	188.27	188.70	288772.
1935	201.71	221.53	422.95	1018.66	1821.94	4577.24	1600.70	836.14	563.12	414.82	292.49	204.97	734586.
1936	198.46	226.93	556.34	1605.31	3175.38	1733.06	619.78	884.94	554.72	326.97	319.38	221.24	631159.
1937	211.47	230.53	574.24	1823.84	3777.27	1959.99	920.73	409.94	342.91	338.36	267.27	231.00	671670.
1938	222.86	234.13	543.33	1768.36	2571.86	4841.15	1800.79	554.72	825.35	320.47	379.90	255.40	883023.
1939	234.25	210.72	452.23	912.76	1973.22	1491.01	494.53	305.83	694.23	320.47	280.72	209.85	458116.
1940	239.13	239.54	339.99	820.31	2013.89	1242.23	398.55	278.17	500.92	624.66	319.38	274.92	441212.
1941	270.04	347.60	579.12	1079.17	5197.40	5658.09	3295.76	964.65	1134.64	2404.31	1080.85	548.21	1367345.
1942	392.04	351.20	466.87	1879.31	2789.84	3955.29	1506.35	595.38	418.56	315.59	289.12	244.01	796801.
1943	253.77	264.75	431.08	1706.17	2085.47	2134.81	930.49	907.72	569.84	390.42	368.13	273.29	623257.
1944	226.12	241.34	330.23	753.07	3565.79	4785.68	2030.16	559.60	300.89	351.37	317.70	235.88	828610.
1945	222.86	235.93	296.06	663.98	2524.69	2654.23	1128.95	575.86	324.42	359.51	295.85	213.10	574644.
1946	219.61	239.54	252.14	749.71	1096.42	2282.74	735.28	518.93	353.00	346.49	324.42	255.40	444613.
1947	211.47	241.34	270.04	539.59	2542.58	2667.68	1478.70	1044.36	879.14	787.34	443.77	296.06	690674.
1948	261.90	280.96	330.23	1521.26	3539.77	3914.94	1439.66	642.56	314.34	343.24	274.00	222.86	791000.
1949	273.29	252.14	419.70	1305.11	3081.03	5622.79	2362.01	692.99	371.49	361.13	309.30	235.88	928134.
1950	271.66	282.76	317.21	1069.09	1420.14	1966.72	788.96	320.47	366.45	305.83	245.42	226.12	457216.
1951	211.47	192.71	185.45	317.70	1311.14	1971.76	610.02	396.92	255.51	222.86	201.71	226.12	368692.
1952	297.69	280.96	408.31	1754.92	3739.85	5464.78	1891.89	740.16	479.07	318.84	262.23	195.21	956141.
1953	214.73	221.53	283.05	707.68	1303.01	2471.00	692.99	435.96	258.67	276.54	302.57	224.49	445812.
1954	185.45	199.91	208.22	793.41	1689.03	1267.44	974.41	471.75	437.05	588.88	277.36	222.86	441209.
1955	203.34	198.11	258.65	511.01	1631.61	2144.90	662.08	598.64	289.12	201.71	208.44	226.12	431209.
1956	221.24	226.93	395.30	1694.23	2038.29	1872.58	447.35	263.53	171.46	182.19	183.22	165.93	414804.
1957	191.95	259.35	270.04	788.37	1812.18	5590.86	352.78	1643.00	800.13	475.01	660.62	458.74	997653.
1958	391.37	461.06	559.60	1623.80	4961.53	3938.48	847.53	424.58	426.96	313.96	270.63	226.12	870620.
1959	203.34	230.53	216.36	329.47	1171.25	1701.13	439.22	453.86	211.46	445.72	442.09	261.90	368893.
1960	211.47	234.13	772.70	1721.30	2043.17	3148.43	943.50	351.37	284.08	325.35	284.08	248.89	637660.
1961	237.50	201.71	305.83	685.86	2566.98	2062.53	569.36	548.21	633.72	553.09	403.43	266.78	558741.
1962	231.00	329.59	341.61	1670.87	2196.09	2538.24	1364.83	437.59	305.93	370.89	337.87	258.65	626058.
1963	208.22	304.37	406.68	864.01	2104.99	1043.87	479.89	531.94	588.33	255.40	218.52	170.81	434109.
1964	169.18	156.69	154.54	371.49	1913.03	1464.11	505.91	632.80	332.83	239.13	235.33	242.38	388897.
1965	235.88	228.73	305.83	1307.78	2667.84	4301.56	3090.79	1207.03	985.04	712.51	472.35	385.54	962343.
1966	348.12	289.96	636.05	1146.41	2593.01	1941.50	795.47	426.20	289.12	266.78	247.10	257.02	559039.
1967	209.85	234.13	297.69	405.11	1520.99	1412.00	627.92	388.30	388.30	273.29	211.80	203.34	383396.
1968	198.46	248.54	356.25	618.59	2057.81	3958.65	1016.71	959.77	329.47	296.06	257.19	231.00	635660.
1969	232.62	219.72	357.88	1497.73	2835.39	2539.92	1669.03	593.76	605.14	764.56	502.61	348.12	734585.
1970	278.17	262.95	261.90	437.05	2583.25	2163.39	995.56	567.73	1923.01	582.37	411.83	330.23	652565.
1971	300.95	306.17	364.39	832.07	1345.31	2274.33	917.48	494.53	405.11	457.11	415.20	320.47	508929.
1972	274.92	282.76	562.85	751.39	1507.98	1618.76	276.54	403.43	1359.95	669.02	669.02	411.56	517831.
1973	388.79	372.81	767.82	1485.96	4616.66	5181.15	2824.00	821.50	400.10	348.12	263.91	253.77	1085773.
1974	237.50	208.92	309.08	448.81	1670.65	1181.71	575.86	293.05	186.59	291.18	275.68	221.24	356790.
1975	214.73	198.11	444.10	1030.43	2760.56	4950.41	3313.65	803.60	507.65	323.72	237.01	217.90	907929.
1976	209.85	275.56	312.33	652.21	2088.72	2272.65	793.84	460.36	435.37	302.28	220.61	222.86	503726.
1977	224.49	176.50	146.41	290.81	457.11	727.85	431.08	448.98	339.55	255.40	203.40	188.70	235060.
AVERAGE	240.13	249.42	377.60	993.96	2328.71	2806.51	1205.44	632.10	513.31	452.70	327.99	253.80	627662.
MAXIMUM	392.04	461.06	772.70	1879.31	5197.40	5658.09	3552.78	1895.14	1923.01	2404.31	1080.85	548.21	1367345.
MINIMUM	169.18	142.28	146.41	270.63	457.11	484.11	250.52	260.20	171.46	182.19	183.22	165.93	235060.

AVERAGE ANNUAL FLOW IN ACRE-FEET = 627662.39

ANIMAS FLOW AT DUR' WITH PROJECT (AVE. CFS)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1929	179.10	194.15	253.12	787.02	2448.72	2921.16	1098.04	1071.53	907.55	429.46	313.83	212.61	654145.
1930	180.08	233.23	266.46	1053.45	1416.88	2025.72	410.26	439.05	231.13	128.35	126.91	126.23	399941.
1931	125.91	138.86	134.69	209.11	533.08	936.80	298.67	246.94	221.21	198.46	126.91	126.56	198950.
1932	126.40	165.60	165.60	800.81	2745.27	2890.40	1171.90	602.70	252.48	128.35	127.25	126.07	560791.
1933	126.83	112.74	126.88	227.94	999.30	2380.57	509.00	246.94	242.06	129.81	126.58	126.23	321581.
1934	125.75	125.89	126.56	502.61	812.23	277.02	264.83	235.39	197.18	127.05	126.58	134.21	184927.
1935	131.11	126.61	132.90	1007.90	925.12	3391.83	989.54	292.16	230.46	133.88	127.42	126.40	416885.
1936	126.23	126.07	132.09	845.18	2722.66	1395.36	385.86	289.88	224.24	128.35	127.08	128.84	364322.
1937	126.88	126.61	128.35	1083.88	1942.15	3627.50	1095.93	745.80	315.18	252.31	138.17	127.21	401731.
1938	128.19	126.25	148.20	671.21	1586.55	888.55	356.90	299.32	332.16	120.19	127.70	127.00	556590.
1939	126.72	126.69	134.69	410.99	1514.16	729.03	304.20	203.34	274.33	274.75	128.26	128.02	303016.
1940	128.67	127.51	136.81	283.75	3936.36	4254.33	2228.95	422.62	567.83	1549.95	728.53	411.07	264157.
1941	126.88	126.07	280.61	1309.80	2347.86	3308.29	1009.06	313.80	228.78	127.70	126.91	126.23	896136.
1942	290.21	126.43	144.45	1148.76	1767.77	1689.02	469.96	378.38	276.69	128.84	128.42	127.37	586828.
1943	164.63	187.13	237.18	530.34	3187.42	4089.59	1490.57	265.65	228.11	129.16	127.75	126.72	393249.
1944	126.40	126.79	127.37	331.48	2196.09	2231.47	743.90	297.69	225.92	129.81	127.92	126.56	650894.
1945	126.40	126.43	126.72	319.75	822.80	1932.09	295.90	229.53	226.76	130.46	128.09	128.02	411054.
1946	126.72	126.79	127.21	301.73	2136.71	2335.35	975.06	547.39	380.23	468.99	197.18	277.36	484822.
1947	126.72	126.79	127.21	1225.75	3187.42	4355.69	931.79	288.58	233.99	128.51	127.42	126.40	613525.
1948	245.15	126.97	127.54	816.94	2454.90	3555.69	1642.51	271.83	250.29	128.84	128.09	127.05	637441.
1949	127.54	126.97	127.54	897.46	1142.94	1390.99	330.39	290.37	214.49	127.37	126.58	127.70	303507.
1950	127.05	127.15	130.63	897.46	1142.94	1390.99	330.39	290.37	214.49	127.37	126.58	127.70	303507.
1951	127.70	130.39	128.35	244.92	816.62	1266.77	339.17	302.25	200.37	126.88	126.41	126.07	237590.
1952	126.56	126.97	126.72	943.35	2859.30	4580.77	1274.87	250.19	229.45	144.45	126.91	126.40	658786.
1953	126.56	126.61	131.28	330.64	780.51	1890.23	294.44	251.73	226.26	126.88	127.75	128.19	272749.
1954	132.42	133.10	133.23	391.33	1109.43	761.30	398.87	229.04	239.20	253.93	127.92	127.21	244422.
1955	126.72	126.43	127.21	262.23	1022.07	1586.32	302.25	231.16	254.83	173.41	126.58	126.40	269408.
1956	126.56	126.61	165.11	267.78	1430.71	1326.44	335.43	288.91	209.45	165.76	126.58	127.54	284222.
1957	126.56	126.97	127.05	362.25	1039.64	4711.55	2570.40	824.92	383.93	132.58	241.22	133.72	650834.
1958	128.67	128.05	128.51	812.41	3812.08	3079.85	422.79	282.56	240.54	135.34	128.09	127.37	570394.
1959	126.88	126.97	127.05	269.96	782.62	1149.10	271.01	228.23	222.39	130.46	133.80	126.88	222946.
1960	126.40	126.79	236.69	979.83	1480.49	2401.08	447.51	283.38	244.41	128.67	127.75	127.21	404402.
1961	126.72	126.25	127.21	382.92	1866.35	1566.31	290.21	230.51	253.66	186.91	143.89	127.86	328403.
1962	127.70	128.77	134.04	1065.73	1889.12	2132.80	812.88	356.42	224.91	129.49	128.59	127.37	438461.
1963	126.72	127.33	199.27	328.96	1520.50	496.89	325.51	275.57	242.39	166.74	127.08	126.88	246752.
1964	128.19	129.31	133.23	271.05	1563.45	955.45	347.31	244.01	220.54	174.71	126.74	127.05	264977.
1965	126.56	126.43	127.21	790.22	1948.82	3401.92	2269.45	638.82	473.36	367.15	172.47	129.98	639731.
1966	128.67	128.23	244.17	621.62	2108.89	1321.40	421.32	306.64	225.92	140.39	126.91	131.60	357820.
1967	128.35	126.43	128.19	270.97	1215.33	914.44	381.96	257.35	229.45	149.66	126.41	127.54	245592.
1968	126.23	126.61	147.87	240.71	1648.20	3266.26	536.98	410.26	231.47	127.37	126.91	126.56	429098.
1969	126.56	126.43	132.42	698.60	2388.69	1768.36	1159.05	246.94	249.96	310.05	232.81	131.28	458946.
1970	127.37	127.15	126.56	229.95	2047.57	1621.95	560.87	289.88	1332.16	151.12	134.81	206.92	420886.
1971	249.38	271.05	346.33	777.11	1024.84	1744.33	518.76	248.08	227.10	156.00	139.69	128.35	351199.
1972	127.54	127.51	376.43	580.10	1215.33	1159.52	330.52	272.48	234.16	790.43	323.08	147.71	344727.
1973	129.33	128.95	179.75	635.40	3380.83	4234.33	1931.91	304.69	229.95	128.67	126.91	126.56	698276.
1974	182.36	177.58	221.40	306.94	1441.77	781.98	258.00	214.49	127.21	127.25	127.25	126.40	255794.
1975	126.23	125.89	127.54	382.08	2013.24	4106.91	2573.98	327.14	228.44	127.86	126.58	126.23	628638.
1976	126.23	126.79	127.70	288.12	1550.76	1739.79	344.87	228.39	230.63	134.86	126.74	126.23	311248.
1977	129.98	134.54	139.90	259.71	392.20	425.11	284.52	239.13	253.99	151.45	126.58	126.23	160851.
AVERAGE	139.20	140.74	166.36	576.05	1782.65	2157.63	763.11	328.71	290.91	209.71	155.26	140.18	414083.
MAXIMUM	290.21	271.05	376.43	1309.80	3936.36	4711.55	2573.98	1071.53	1332.16	1549.95	728.53	411.07	896136.
MINIMUM	108.83	112.74	126.56	209.11	392.20	277.02	258.00	203.34	197.18	126.88	126.41	126.07	160851.

AVERAGE ANNUAL FLOW IN ACRE-FEET = 414082.55

ANIMAS FLOW AT DURANGO WITHOU' E PROJECT (AVE. CFS)													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL AF
1929	219.61	196.31	255.40	858.97	2649.94	3336.70	1514.49	1486.83	1304.42	629.54	316.02	214.73	785598.
1930	182.19	234.13	268.41	1104.39	1618.60	2442.43	810.11	779.20	309.30	276.54	203.40	170.81	507028.
1931	157.79	135.08	139.90	253.82	914.22	1353.17	473.38	339.99	326.11	403.43	200.03	190.33	295474.
1932	180.57	189.11	369.27	1213.65	3160.74	3306.44	1507.69	961.40	413.51	270.04	226.93	162.67	729084.
1933	102.48	109.86	208.22	354.68	1280.24	2797.11	842.45	318.84	415.20	297.69	189.95	174.06	427908.
1934	149.66	154.89	185.45	721.13	1205.41	379.90	195.21	191.95	211.80	174.06	150.01	146.06	234359.
1935	148.03	153.09	234.25	660.62	1335.55	3807.36	1403.87	681.60	435.37	325.15	226.93	177.31	578546.
1936	175.69	165.69	310.71	1331.32	2589.75	1544.80	621.41	662.08	421.92	281.42	268.95	193.58	518731.
1937	165.93	174.70	309.08	1420.41	2358.76	4044.38	1512.86	452.23	610.19	540.07	321.06	222.86	732285.
1939	200.09	176.50	339.99	773.24	1851.22	1304.42	421.32	261.90	564.80	260.28	215.16	170.81	395400.
1940	159.42	158.49	244.01	685.83	1930.33	1124.56	322.09	203.34	411.83	518.93	265.59	190.33	376295.
1941	183.82	235.93	312.33	576.25	4353.13	4669.69	2645.06	788.96	864.01	1867.49	815.26	413.19	1074871.
1942	292.81	261.15	283.05	1319.55	2440.10	3716.59	1425.02	535.19	319.38	237.50	210.12	175.69	677071.
1943	170.81	185.51	270.04	1425.45	1968.34	2104.56	855.66	782.46	462.26	292.81	280.72	229.37	545538.
1944	206.59	189.11	239.13	632.04	3403.12	4504.96	1906.53	494.53	247.10	313.96	248.78	193.58	761192.
1945	180.57	198.11	227.74	551.35	2436.84	2647.50	1143.59	582.37	253.82	325.35	258.87	190.33	544637.
1946	200.09	183.70	190.46	759.79	1089.91	2338.21	662.08	429.46	294.17	312.33	268.95	229.37	420006.
1947	196.83	194.51	224.49	527.82	2552.34	2751.72	1377.84	906.09	729.53	738.54	391.66	279.80	658566.
1948	247.26	226.93	281.42	1324.59	3429.15	3568.67	1348.56	544.95	262.32	283.05	228.61	177.31	721082.
1949	175.69	176.50	234.25	1104.39	2755.68	4772.23	2057.81	527.06	275.68	294.44	263.91	211.47	776296.
1950	214.73	214.32	253.77	980.00	1351.81	1807.03	658.83	247.26	235.33	222.86	188.27	177.31	395200.
1951	157.79	140.48	156.17	290.81	1171.25	1862.64	533.57	374.15	205.08	198.46	176.50	162.67	317280.
1952	187.07	208.92	196.83	1322.91	3274.61	4997.48	1690.17	603.52	378.21	273.29	205.08	178.94	816200.
1953	188.70	190.91	245.64	568.16	1133.83	2306.27	580.74	362.76	194.35	203.34	247.10	165.93	385297.
1954	144.78	149.48	156.17	709.36	1524.25	1176.67	764.56	356.25	353.00	496.15	253.82	222.86	381996.
1955	198.46	181.90	221.24	450.50	1438.03	2002.02	548.21	453.86	245.42	206.59	188.27	183.82	381996.
1956	190.33	189.11	290.06	569.84	1844.34	1741.47	387.16	242.30	147.92	162.67	189.95	152.91	369693.
1957	177.31	205.32	216.36	621.95	1451.04	5126.91	2986.68	1241.20	630.36	356.25	468.99	344.87	835411.
1958	296.06	264.75	287.93	1094.30	4227.87	3496.39	746.67	343.24	374.85	297.69	262.23	232.62	721282.
1959	206.59	205.32	216.36	384.94	1122.44	1564.97	338.36	367.64	196.67	341.61	300.89	203.34	328983.
1960	183.82	199.91	375.77	1395.19	1896.77	2817.28	816.62	294.44	252.14	291.18	248.78	221.24	542437.
1961	200.09	169.30	221.24	709.36	2281.30	1981.85	471.75	448.98	534.54	484.77	366.45	248.89	491124.
1962	209.85	300.77	276.54	1437.22	2181.45	2548.33	1224.93	408.31	279.04	333.48	294.17	226.12	586848.
1963	193.58	221.53	325.35	682.47	1787.78	900.99	406.68	432.71	472.35	273.29	215.16	177.31	368597.
1964	162.67	156.69	149.66	327.79	1847.97	1369.98	457.11	463.62	263.91	209.85	191.63	183.82	350488.
1965	190.33	185.51	217.98	1038.83	2365.27	3817.45	2685.73	1044.36	860.65	673.47	396.71	322.09	435211.
1966	291.18	275.56	440.84	877.46	2309.96	1738.11	707.63	374.15	238.70	224.49	203.40	213.10	477720.
1967	169.18	183.70	252.14	378.21	1522.62	1331.32	613.28	481.51	327.79	213.10	170.18	170.81	352489.
1968	174.06	187.31	296.06	531.18	2061.07	3682.97	932.12	753.18	243.74	227.74	206.76	190.33	572944.
1969	187.07	183.70	224.49	1111.11	2804.48	2185.24	1574.68	518.93	527.82	616.53	460.58	309.08	648563.
1970	226.12	219.72	193.58	354.68	2425.46	2037.32	948.38	514.05	1697.76	445.72	327.79	248.89	582647.
1971	252.14	271.95	349.75	877.46	1291.62	2160.03	906.09	426.20	316.02	392.04	344.60	274.92	474520.
1972	239.13	232.33	492.90	680.79	1481.95	1575.05	372.52	222.86	347.96	1041.11	551.35	374.15	460416.
1973	326.97	307.97	406.68	825.35	3437.28	4614.22	2347.37	679.97	448.81	287.93	206.76	191.95	851915.
1974	185.45	180.10	224.49	408.47	1708.07	1198.52	497.78	244.01	163.03	225.25	178.94	172.43	328683.
1975	172.43	158.49	240.76	625.32	2428.71	4523.93	658.83	658.83	376.53	248.89	180.27	172.43	773795.
1976	174.06	199.91	244.01	584.97	1960.21	2156.66	688.11	372.52	336.19	307.45	196.67	170.81	446813.
1977	151.29	145.88	136.65	247.10	461.99	682.47	323.72	400.18	319.38	221.24	184.91	170.81	208152.
AVERAGE	194.34	196.35	259.81	793.34	2107.31	2562.26	1062.25	522.31	415.92	375.04	270.26	211.28	542396.
MAXIMUM	326.97	307.97	492.90	1437.22	4353.13	5126.91	2989.93	1486.83	1697.76	1867.49	815.26	413.19	1074871.
MINIMUM	102.48	109.86	136.65	247.10	461.99	379.90	195.21	191.95	147.92	162.67	158.01	146.41	208152.

AVERAGE ANNUAL FLOW IN ACRE-FEET = 542395.91

Table 58  
NEW MEXICO M+I SUPPLIED FROM RIDGES BASIN RESERVOIR

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1929	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	0.9	0.0	0.2	4.0	2.4	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.3	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.4	0.5	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.5	0.0	0.0
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	0.1	0.0	0.0	0.4	0.0	1.4	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.3	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.3	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.9	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.6	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	1.8	0.9	0.0	2.0	0.0	0.0	0.0	0.0	0.0
AVENS.	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.4	0.2	0.0	0.0	0.0

Table 28  
Population projections, municipal water requirements,  
existing supply, supply needed, and project supply

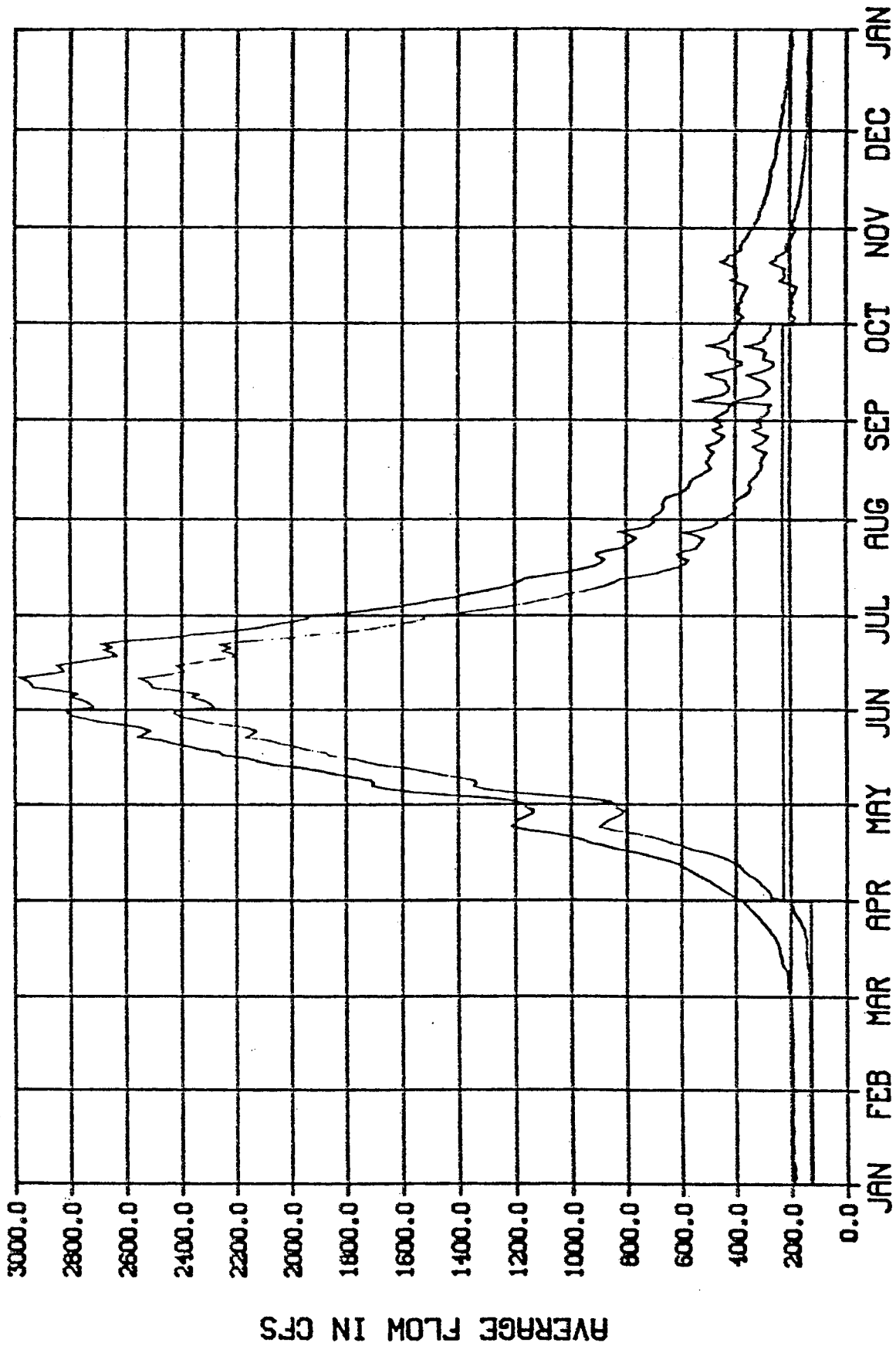
	Colorado service areas		New Mexico service areas				Total
	Durango	La Plata	Farmington	Aztec	Bloomfield	NTUAL <sup>1/</sup>	
<u>1980</u>							
Population	19,000	1,600	47,000	8,600	8,100	10,300	94,600
Per capita use <sup>2/</sup>	275	175	240	215	215	215	235
Water requirements <sup>3/</sup>	5,800	300	12,600	2,100	1,900	2,500	25,200
Existing supply <sup>3/</sup>	5,300	0	12,600	200	400	0	18,500
Supply needed <sup>3/</sup>	500	300	0	1,900	1,500	2,500	6,700
Project supply <sup>3/</sup>	500	300	0	1,900	1,500	2,500	6,700
<u>1990</u>							
Population	26,500	2,200	74,100	13,500	12,800	16,100	145,200
Per capita use <sup>2/</sup>	252	175	240	215	215	215	235
Water requirements <sup>3/</sup>	7,500	400	19,900	3,200	3,100	3,900	38,000
Existing supply <sup>3/</sup>	5,300	0	18,100	200	400	0	24,000
Supply needed <sup>3/</sup>	2,200	400	1,800	3,000	2,700	3,900	14,000
Project supply <sup>3/</sup>	2,200	400	1,800	3,000	2,700	3,900	14,000
<u>2000</u>							
Population	33,600	2,800	105,600	19,200	18,200	23,000	202,400
Per capita use <sup>2/</sup>	252	175	240	215	215	215	235
Water requirements <sup>3/</sup>	9,500	600	28,400	4,600	4,400	5,500	53,000
Existing supply <sup>3/</sup>	5,600	0	18,100	200	400	0	24,300
Supply needed <sup>3/</sup>	3,900	600	10,300	4,400	4,000	5,500	28,700
Project supply <sup>3/</sup>	3,900	600	10,300	4,400	4,000	5,500	28,700
<u>2010</u>							
Population	40,600	3,400	133,800	24,300	23,000	29,200	254,300
Per capita use <sup>2/</sup>	252	175	240	215	215	215	235
Water requirements <sup>3/</sup>	11,500	700	36,000	5,900	5,500	7,000	66,600
Existing supply <sup>3/</sup>	5,600	0	18,100	200	400	0	24,300
Supply needed <sup>3/</sup>	5,900	700	17,900	5,700	5,100	7,000	42,300
Project supply <sup>3/</sup>	5,900	700	17,900	5,700	5,000	7,000	42,200
<u>2020</u>							
Population	48,900	4,100	169,600	30,900	29,200	37,000	319,700
Per capita use <sup>2/</sup>	252	175	240	215	215	215	235
Water requirements <sup>3/</sup>	13,800	800	45,600	7,400	7,000	8,900	83,500
Existing supply <sup>3/</sup>	5,600	0	18,100	200	400	0	24,300
Supply needed <sup>3/</sup>	8,200	800	27,500	7,200	6,600	8,900	59,200
Project supply <sup>3/</sup>	8,200	1,000	19,700	5,800	5,300	7,600	47,600

<sup>1/</sup> Navajo Tribal Utility Authority.

<sup>2/</sup> Gallons per capita per day.

<sup>3/</sup> Acre-feet per year.

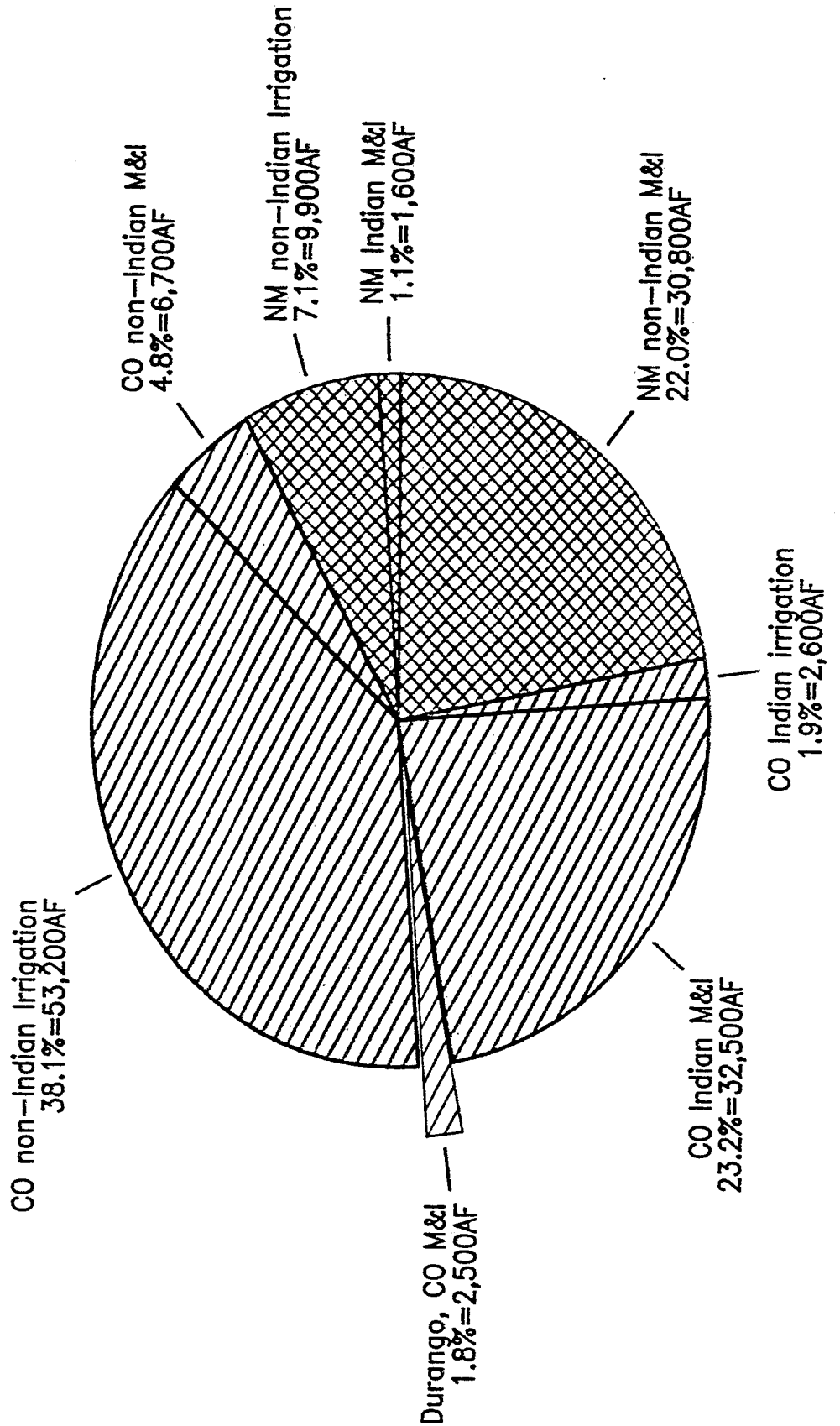
ANIMAS - LA PLATA PROJECT  
 AVERAGE FLOWS IN THE ANIMAS RIVER  
 WITH\* AND WITHOUT THE PROJECT\*\*



1929-1973

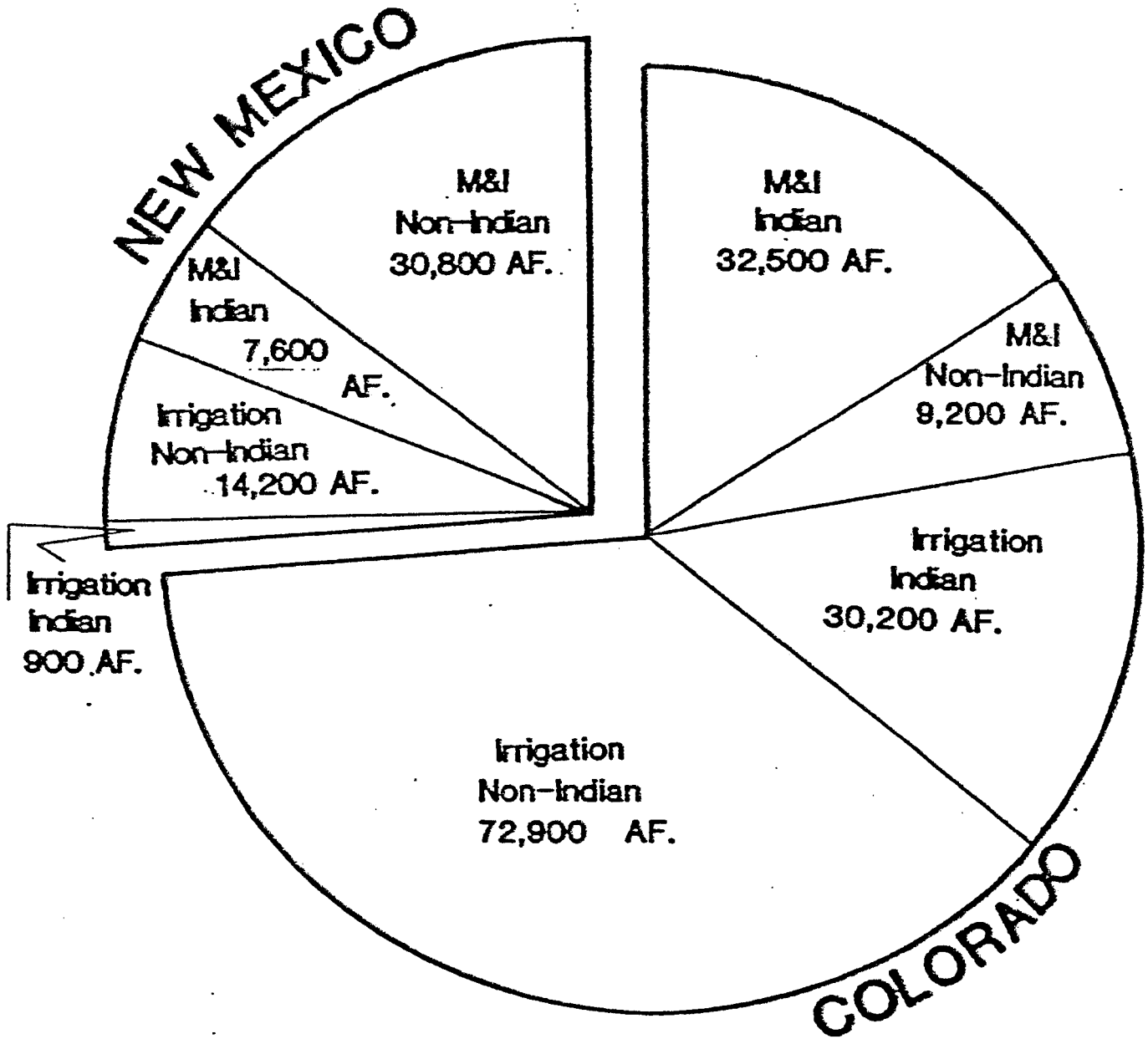


# Average Year Water Supply Phase 1



# Water Supply

ANIMAS-LA PLATA FULL PROJECT OPERATION





SJ-3  
ALP

Faxed to Max Stodolski on March 21, 1990

AKR

Notes for Durango

Question: Who owns and controls the 30,800 acre-feet per annum proposed to be contracted to the San Juan Water Commission from the Animas La Plata Project?

Section 2 of Article XVI of the New Mexico Constitution reads as follows:

The unappropriated water of every natural stream, perennial or torrential, within the state of New Mexico, is hereby declared to belong to the public and to be subject to appropriation for beneficial use, in accordance with the laws of the state. Priority of appropriation shall give the better right.

The Secretary of the Interior holds the rights for the use of New Mexico's water from the Animas-La Plata Project in New Mexico, under Section 72-5-33, NMSA 1978 (copy attached for convenient reference).

If the Congress were to deauthorize the Animas-La Plata Project, as might happen if the San Juan Water Commission does not contract for the 30,800 acre-feet, the Secretary of the Interior would likely, but not necessarily, release his rights to the 49,510 acre-feet per year of New Mexico's water to be delivered from the Animas-La Plata Project.

It is important to note that if the Secretary released his rights to New Mexico water for the Animas-La Plata Project, he would still hold rights for the diversion of 1,504,000 acre-feet per year of New Mexico water for other purposes, including the San Juan-Chama Project, the Navajo Project, the Hammond Project and for contracts for municipal and industrial water supply from Navajo Reservoir. Because that amount is more than enough to use

up the entire 727,000 acre-feet per annum of consumptive use that New Mexico is entitled to, the State Engineer likely could not justify granting new permits for the released Animas-La Plata Project water.

If the Animas-La Plata Project were not to be constructed, it might be possible to meet part of the long-term requirements of the San Juan Water Commission and the Navajo Nation from the Navajo Reservoir supply; but that would diminish the supply available for the long list of others who have already expressed interest in contracting for water from Navajo Reservoir. In any event, it is very doubtful that there would be economic justification for works to serve Aztec from that supply.

If the Animas-La Plata Project were not constructed, it would not be possible to develop the planned works for irrigation in the La Plata Conservancy District. The cost of that work is estimated at about \$30 million and only \$6 million of that would be repayable by the irrigator.

If the Animas-La Plata Project is not constructed, the water rights settlement with the Ute Mountain Ute and the Southern Ute Tribes in Colorado would be invalidated. In that event, the U. S. Justice Department would be obliged to sue to settle those water rights. The Department would likely claim all of the flow of the Animas River. The Compact protects all of the uses being made from the Animas River in 1948 in Colorado and New Mexico, but Colorado and New Mexico non-Indians could lose all or most of their rights for uses established later than 1948.

While it might be possible to construct offstream storage capacity for Animas River flows in New Mexico, to meet at least

part of the requirements of the San Juan Water Commission, that construction would be costly, estimated at \$26 million for 12,000 acre-feet of capacity. If the Ute Indian Tribes' water rights settlement is invalidated, such construction might have little value.



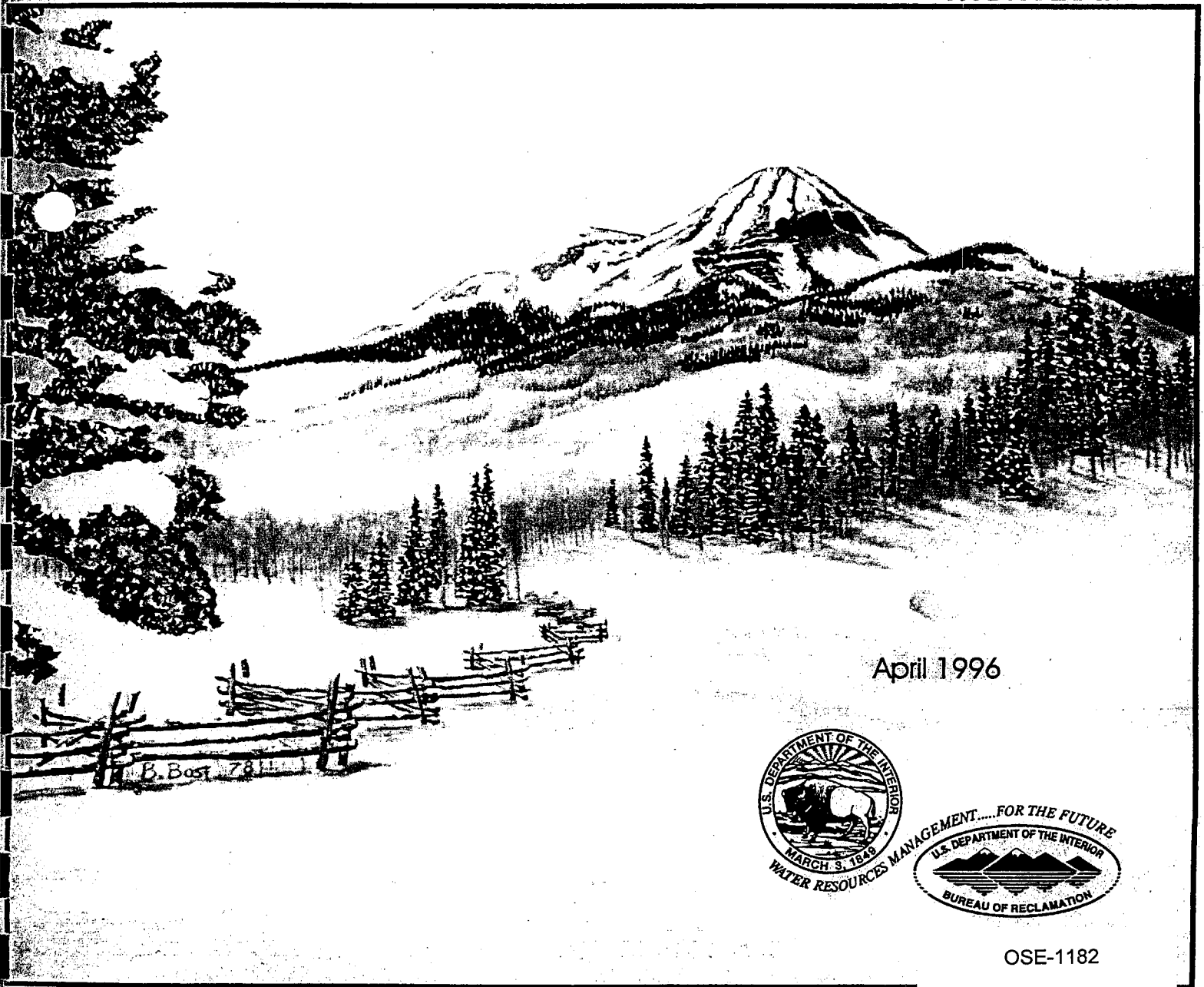
J. Whipple  
Bookshelf.



# Animas-LaPlata Project Colorado-New Mexico

FINAL SUPPLEMENT TO THE  
FINAL ENVIRONMENTAL IMPACT STATEMENT

APPENDIX A  
HYDROLOGY

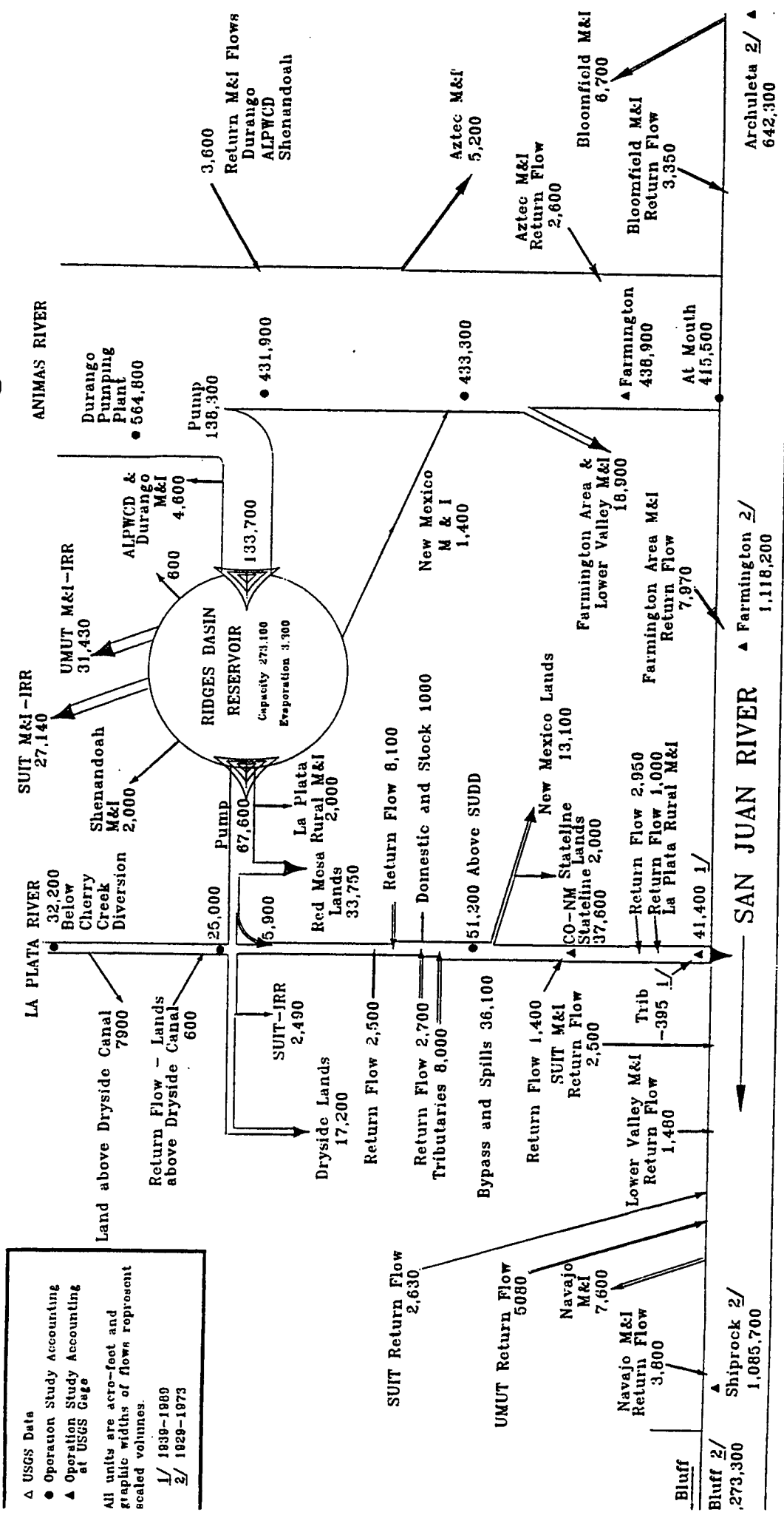


April 1996



OSE-1182

# ANIMAS-LA PLATA PROJECT PHASE I - Stage B




PROJECT WATER SUPPLY DISTRIBUTION DIAGRAM  
AVERAGE ANNUAL ACRE-FEET 1929-1989 (except where noted)

FIGURE 7-9


MM 1147  
Demand  
1979 Dependent Plan  
Report 33,480 AM  
Muzgo 1147  
7,600 AF



REF P4  
RTN 1005 1935

 Attachments can contain viruses that may harm your computer. Attachments may not display correctly.

**Whipple, John J., OSE**

**From:** Page, Patrick J [PPage@usbr.gov] **Sent:** Wed 7/22/2009 7:20 AM  
**To:** Whipple, John J., OSE  
**Cc:** Thomas, Susannah; Warner, Ed  
**Subject:** Letter to SJWC - re: Permit 2883  
**Attachments:**  [Ltr to SJWC - 2883\\_revised.doc\(46KB\)](#)

John,

As I briefly mentioned a few weeks ago in Albuquerque, our solicitor has suggested we write a letter to the San Juan Water Commission in light of their appeal on the State Engineer's rejection of their application for "excess" water under Permit 2883, coupled with the passage of PL 111-11 and the language regarding Permit No. 2883. We feel that, procedurally, we need to do this to protect our water right (since we are not a party in the case) and to convey to SJWC that a federal statute now governs in this case. So, we plan to send the letter to them but wanted to give you an opportunity to comment on it before we send it.

I know you mentioned a couple of concerns regarding this letter and I'll try to address those here:

1) Concern: Making a final determination on the quantity of water needed under 2883 prior to the reservoir being completely filled and the Project being transferred from construction to O&M status.

Response: The Project is substantially complete and all features have been designed and sized and, with the exception of NNMP, have been constructed. The 2000 Amendments locked in the allocation to the individual sponsors. For NM entities, the allocations in the 2000 Amendments is what will be used out of Permit No. 2883.

2) Concern: Need to include the NM interests' portion of reservoir evaporation in Permit No. 2883.

Response: I couldn't find anywhere in Permit No. 2883 where reservoir evaporation had been identified therefore I'm concluding that an earmark in 2883 for evap does not need to be included now. I recognize that quantification of NM's portion of Lake Nighthorse evap will eventually be needed as it counts towards NM's Colo River apportionment, but I'm thinking the physical water right covering this evaporation comes out of Southwestern Water Conservation District's Project water right in Colorado.

Please note that we didn't address the issue of priority date of the "excess water" that I believe you are trying to clarify in the Settlement Agreement. We don't feel we need to address this because it's not our issue.

If there are any other concerns you have, please let me know. Also, since we do plan on sending the letter, please feel free to provide edits to the letter that might diffuse any concerns the State may have with us sending the letter.

Thanks,

OSE-1185

Pat

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This inbound email has been scanned by the MessageLabs Email Security System.

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OSE-1186





**DRAFT 7/21/2009**

Mark Duncan, Chairman  
San Juan Water Commission  
7450 East Main Street - Suite B  
Farmington, NM 87402

Subject: New Mexico State Engineer Permit No. 2883, Animas-La Plata Project,  
Colorado and New Mexico

Dear Mr. Duncan:

The purpose of this letter to is address the issue regarding transferring the water allocation from Permit No. 2883 that is in addition to the water allocations to users in New Mexico made by Section 302 of the Colorado Ute Settlement Act Amendments of 2000 (2000 Amendments). In 2001, the San Juan Water Commission (Commission) submitted an application to appropriate this additional water in the amount of 15,080 acre-feet per year of consumptive use. The New Mexico State Engineer rejected the application, noting that the United States had not made a decision regarding the construction of the remaining features of the Project that were not included in the 2000 Amendments. On October 31, 2008, the Commission filed a Notice of Appeal in the state district court for de novo review of the State Engineer's decision.

The filing of the appeal noted above has compelled us to offer the following information that may be relevant to this case:

- Permit No. 2883, was assigned to the Bureau of Reclamation by the State Engineer on April 6, 1959, to develop and use up to 49,510 acre-feet per year of surface water from the Animas and La Plata Rivers.
- The Project features necessary to divert, store, and deliver the non-Navajo portion of the New Mexico allocation have been determined to be substantially completed. The Navajo Nation Municipal Pipeline, the feature necessary to deliver the Navajo Nation's allocation from Farmington to Shiprock has been designed and is being constructed. Therefore, with the current status of the Project, Reclamation has determined that the Project has reached its ultimate size for New Mexico in terms of water allocations.
- The 2000 Amendments allocated 13,520 af per year of depletion to New Mexico users (the Commission, the Navajo Nation, and the La Plata Conservancy District). With the assumption that was used in the July 2000 Final Supplement to the Environmental Impact Statement (FSEIS) that the Project water supply allocations will result in 50% depletion, the water supply allocated to the New Mexico users is calculated as 27,040 afy. That means of

*Bob's right for  
ALP only - how  
does Bob maintain  
interest in right  
to protect?  
(if they are  
recognizing it?)*

*raised where?*

*48,000 AF  
div.*

*later  
amended  
appl. to  
20,000+  
AF*

*CU  
language of  
letter*

*Rip, so  
advert.*

*other features  
not depleth.  
until 2010*

the total water supply associated with File No. 2883 (49,510 afy) 22,470 could be considered "additional" and available for reallocation to New Mexico.

*Res. evap share noted in 2883 (ie Navajo part of 49,510 of ditto already for NM.)*

- The San Juan Basin in New Mexico Navajo Nation Water Rights Settlement Agreement (Settlement Agreement) was recently approved, ratified, and confirmed by Congress with the passage of Public Law 111-11. Section 8.1 of the Settlement Agreement states that the water supply associated with New Mexico State Engineer File No. 2883 that is in addition to the water allocations to users in New Mexico made by Section 302 of the 2000 Amendments may be allocated to New Mexico water users if the allocation can be made without impairment to existing water rights in New Mexico. Thus, the State Engineer must first determine if such an allocation could be made without impairing existing water rights, but assuming he finds no impairment, Section 8.1 of the Settlement Agreement then describes how such an allocation would be made. Specifically, 50% of the additional water would go to the Navajo Nation and the remaining would be reserved for uses of water by member entities of the Commission, subject to approval by the State of New Mexico.

*US returns it first NM makes any alloc*

- Based upon the percentages identified in Section 8.1 of the Settlement Agreement, coupled with the water allocation Reclamation has concluded to be "additional" (22,470 afy), we have determined that 11,235 afy is available to be allocated to the Commission, subject to the approval of the State of New Mexico, acting through the Interstate Stream Commission.

*US makes no alloc. or deten about to impair existing rights (how about 2001)*

While we recognize that the water supply under File No. 2883 was appropriated pursuant to New Mexico state law, we believe that the state statute has been pre-empted by the more recent federal statute (P.L. 11-111), which specifically governs the use and allocation of this water. Therefore, given that 1) this is a Reclamation water right, 2) the state court has no jurisdiction at this time over Reclamation, and 3) a federal statute now governs the use and allocation of this particular water right, we feel that your application to appropriate this water must be governed by the terms of the Settlement Agreement.

Consequently, Reclamation has initiated discussions with the State Engineer's Office and the New Mexico Interstate Stream Commission regarding this issue and will continue to work with them as well as you and your staff to bring closure to this issue. If you have any questions, please contact \_\_\_\_\_.

Sincerely,

cc: Randy Kirkpatrick, Executive Director  
San Juan Water Commission

bc: FCCD-100, FCCD-110, WCG-CDeAngelis; WCG-EWarner; WCD-PPage

*Statute pre-empted*

*lot so statute conditions for multiple contracts seeking to regain contract water lost UN/STW/C*

*subject to ECA (joint WGP Bo)? subject to forfeiture/judication*