



**STATE OF NEW MEXICO  
INTERSTATE STREAM COMMISSION**



**MEMORANDUM**

**TO:** New Mexico Interstate Stream Commission

**FROM:** ISC Gila Staff, Special Projects Bureau

**DATE:** November 14, 2014

**SUBJECT:** Staff recommendations for utilization of funding and water provided to New Mexico in the 2004 Arizona Water Settlements Act

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**INTRODUCTION**

This memorandum presents the ISC staff's recommendation to the Commission regarding the allocation of the funds available under the 2004 Arizona Water Settlements Act (AWSA) and the AWSA water.

The AWSA allocates an annual average of 14,000 acre-feet of additional water from the Gila Basin. The act also allocates to New Mexico up to \$128 million in non-reimbursable federal funding. According to the act, \$66 million of the funding may be used to fund a New Mexico Unit to develop the new water and/or to fund water utilization alternatives that will meet water supply demands. The \$66 million must be expended in Luna, Grant, Hidalgo, and Catron counties. The remaining \$62 million may only be disbursed on a construction cost-schedule basis for construction of a New Mexico Unit.

In 2011, the Commission created a two-tiered evaluation process to solicit and encourage stakeholders, tribes, federal and state agencies, and local governments to submit project proposals. On February 29, 2012, the ISC approved 16 proposals for further assessment, integration, and/or refinement. One of the proponents subsequently withdrew its proposal. On December 2, 2013, the staff requested permission to optimize some of the proposals. After the Commission approved the optimizations, the ISC staff continued to evaluate the following 15 proposals:

- 1) Catron County (San Francisco Watershed Proposal)
- 2) Catron County (Ditch Proposal)
- 3) City of Deming, Hidalgo County and Gila Basin Irrigation Commission (combined Diversion & Storage, a.k.a. Southwest Regional Water Supply Proposal)
- 4) City of Deming (Effluent Reuse)
- 5) Gila Basin Irrigation Commission (Irrigation Diversion Structure)
- 6) Gila Conservation Coalition (Municipal Conservation Fund)
- 7) Gila National Forest (Watershed Proposal)
- 8) Grant County (Recreational Reservoir)
- 9) Grant County Water Commission (Well Field & Pipeline)
- 10) Grant Soil & Water Conservation District (Watershed Proposal)
- 11) New Mexico Forest Industries Association (Watershed Proposal)
- 12) New Mexico State University (Watershed Proposal)
- 13) Pleasanton East-side Ditch Company (Ditch Improvement)
- 14) Sunset and New Mexico New Model Canals (Ditch Improvement)
- 15) 1892 Luna Irrigation Ditch (Ditch Improvement)

The proposals listed above vary greatly in quantity of water, effort to construct, cost, and number of beneficiaries. In addition, they vary greatly in goals and intent. To assist in evaluating such a disparate set of proposals, staff used the following methods for constructing decision-making matrices:

- Choosing By Advantages (CBA)
  - Based on importance values, and
  - Using cost factor
- CBA as modified by ISC to best reflect ISC Gila Policy
- Multiple-Criteria Decision-Making (MCDM)

Staff also used rankings by benefit to cost ratios as calculated by the Bureau of Reclamation and Harvey Economics. Additionally, staff included proposal rankings by the Gila San Francisco Water Commission.

The proposals were ranked using seven different methods. Those methods are presented in the Staff Report (November 11, 2014). Because the results between ranking methods differed, sometimes significantly, staff calculated median and mean values, and then ranked the proposals on the median-first, mean-second basis. Table 1 shows the final ranking of the proposals, including the rankings under the different methods, with median and mean values.

Table 1. Rankings by the seven ranking methods with mean, medians, and final rankings by proposal.

Proposals	MCDM	CBA (importance)	CBA (using cost factor)	CBA as Modified By ISC	GSFWC	HE BC Ratio	Reclamation BC Ratio	MEDIAN RANKING	MEAN RANKING	FINAL RANKING
<b>Municipal Conservation</b>	2	2	1	3	8	1	1	2	2.6	1
<b>SWRWS</b>	3	1	2	1	1	4	8	2	2.9	2
<b>GBIC Diversion</b>	3	6	3	4	-	6	-	4	4.4	3
<b>Catron County Ditches</b>	5	3	9	2	3	7	-	4	4.8	4
<b>Deming Effluent Reuse</b>	1	5	5	5	9	2	2	5	4.1	5
<b>Grant County Reservoir</b>	10	4	6	8	2	3	5	5	5.4	6
<b>Pleasanton Ditch</b>	5	10	4	7	6	8	3	6	6.1	7
<b>Sunset/New Model Ditch</b>	5	8	8	6	5	10	4	6	6.6	8
<b>GCWC Wellfield and Pipeline</b>	9	7	7	9	7	5	6	7	7.1	9
<b>Luna Ditch</b>	8	9	10	10	4	9	7	9	8.1	10
<b>Watershed Proposals (all)</b>	-	-	-	-	-	-	-	-	-	-

While these rankings are informative and are presented for the Commission's consideration, the staff did not base its final recommendation solely on these results. In addition, staff considered all data and information, qualitative and quantitative, that have been gathered from studies and investigations, stakeholder input, and public comments over the past 10 years.

Watershed proposals could not be included in the ISC's matrices because all ranking methods required firm estimates of water yield, and none are available. However, staff did not exclude watershed proposals from consideration for funding.

The discussion and the recommendation for each proposal are presented below.

## **RECOMMENDATIONS**

### **1. GILA CONSERVATION COALITION: MUNICIPAL WATER CONSERVATION TO REDUCE NET DEPLETIONS TO GROUNDWATER**

**ECONOMIST'S ESTIMATE: \$10.4M (FUNDING UP TO 2050)**

**RECOMMENDED FUNDING: \$1.5M**

The staff recommends that the Commission allocate \$1.5 million from the New Mexico Unit Fund for initiation of municipal conservation programs within the Southwest Planning Region of New Mexico. The staff recommends that said funds be administered under the following conditions:

- The monies shall remain in the New Mexico Unit Fund until expended to reimburse municipalities
- Funding will be administered by the ISC
- Payees shall submit water conservation action plans for review by the Office of the State Engineer Water Use & Conservation Bureau and approval by the Commission
- Funds to be matched with 30% local cash contribution (total \$1,950,000)
- Local contribution cannot include administrative costs

In addition to the above criteria, staff recommends that payees be required to keep data, in a form and manner acceptable to ISC, on their respective programs for at least five years in order to assess the effectiveness of the programs.

Lastly, because municipal governments should require water conservation as part of their water management, this funding terminates when the funds are expended but no later than Fiscal Year 2020. In addition, municipalities may apply for grants and loans from the Water Project Fund, as well as other sources, to fund conservation programs.

## **2. SOUTHWEST REGIONAL WATER SUPPLY**

**ENGINEERS' ESTIMATES: \$600M**

**STAFF RECOMMENDATION: FUNDING TO BE DETERMINED**

The staff recommends that the Commission notify the Secretary of the Interior that New Mexico intends to pursue construction of a New Mexico Unit of the Central Arizona Project for the purpose of water development pursuant to the AWSA.

Staff also recommends that the Commission direct staff to do the following:

- Investigate creation of New Mexico CAP Entity
- Investigate project phasing
- Investigate financing
- Begin 30% engineering design
- Coordinate with the U.S. Bureau of Reclamation to begin the National Environmental Policy Act (NEPA) process
- Conduct further geotechnical, socioeconomic, and ecologic studies as required

## **3. GILA BASIN IRRIGATION COMMISSION (IRRIGATION DIVERSION STRUCTURE)**

**ENGINEER'S ESTIMATE: \$1.8M**

**RECOMMENDED FUNDING: \$750K**

The project would replace temporary earthen diversion dams with permanent structures, that would accomplish the following:

- Prevent disruption of water delivery after floods
- Prevent repeated disturbance of river channel and environmentally harmful sediment disturbance caused by point of diversion reconstruction
- Prevent repeated disturbance of the riparian zone caused by movement of equipment to the diversion sites

Staff recommends that \$750,000 be provided from the New Mexico Unit Fund, plus \$150,000 from the ISC Acequia Program, for construction of a permanent point of diversion. The GBIC would be responsible for obtaining the balance of funding necessary. Additional funding might be obtained through local contributions, state restoration programs, the U.S. Natural Resources Conservation Service (NRCS) EQIP Program, or ISC loans.

#### **4. SAN FRANCISCO WATERSHED (CATRON COUNTY DITCHES)**

**ENGINEER'S ESTIMATE: \$4.7M**

**RECOMMENDED FUNDING: \$500K**

Catron County's proposal would improve diversions and/or conveyances on each of the 10 ditches listed in the proposal. Given the earthen "push-up" diversion dams currently in place, staff believes that at least some ditches could benefit from permanent diversion structures.

Staff recommends the Commission allocate \$500,000 for construction of permanent diversion structures on Catron County Ditches. Design assistance can be obtained from the NRCS. Additional financial assistance may be obtained the ISC Acequia Program and the NRCS.

#### **5. DEMING EFFLUENT REUSE**

**REQUIRED AMOUNT: \$3.5M**

**RECOMMENDED FUNDING: \$1.75M**

The aquifer near Deming is rapidly depleting. This project would alleviate a portion, albeit small, of the draw on the aquifer. Deming has been able to secure partial funding from other sources. Staff recommends that the Commission provide \$1,750,000 from the New Mexico Unit Fund to this project, with Deming responsible for the balance.

#### **6. GRANT COUNTY RESERVOIR**

**ENGINEER'S ESTIMATE: \$18M**

**RECOMMENDED FUNDING: TO BE DETERMINED**

This proposal is dependent upon construction of the Southwest Regional Water Supply. Because the reservoir would greatly benefit the local economy, staff recommends that the Commission direct staff to further study its economic impact and the utility of combining the Grant County Reservoir with the Southwest Regional Water Supply.

## **7. PLEASANTON EAST-SIDE DITCH COMPANY**

**ENGINEER'S ESTIMATE: \$2.5M**

**RECOMMENDED FUNDING: \$50K**

The Pleasanton East-Side Ditch Company is comprised of 24 water users and approximately 280 irrigated acres. The proposed project would replace open ditch with pipe and re-line a portion with concrete. Staff recommends \$50,000 be allocated from the New Mexico Unit Fund to initiate the project. Up to \$150,000 per phase could be obtained through the ISC Acequia Program. Engineering and additional funding could be obtained through NRCS.

## **8. SUNSET/ NEW MEXICO MODEL CANALS**

**ENGINEER'S ESTIMATE: \$13M**

**RECOMMENDED FUNDING: \$100K**

These two irrigation canals serve a combined 2,551 acres in New Mexico. Staff recommends that the Commission allocate \$100,000 from the New Mexico Unit Fund for priority construction projects on the canals, such as reinforcement of ditch segments prone to washout during floods. Up to \$150,000 per phase could be obtained through the ISC Acequia Program. Engineering and additional funding could be obtained through NRCS.

## **9. GRANT COUNTY WATER COMMISSION WELLFIELD AND PIPELINE**

**ENGINEER'S ESTIMATE: \$14M**

**RECOMMENDED FUNDING: \$2.1M**

The Town of Hurley, in Grant County, which would benefit from this project, has no water rights of its own. The town receives water under an agreement with Freeport McMoRan, Inc., which expires in 2018.

Thus, the staff recommends that the Commission provide \$2,100,000 (70 percent of the funds necessary to deliver water to the Town of Hurley via the Wellfield and Pipeline project) from the New Mexico Unit Fund. Staff also recommends that the Commission require that Silver City convey title to the necessary well field water rights to Hurley as a condition of funding.

## **10. 1892 LUNA IRRIGATION DITCH**

**ENGINEER'S ESTIMATE: \$1.4M**

**RECOMMENDED FUNDING: \$100K**

One component of the 1892 Luna Irrigation Ditch's proposal is construction of a permanent point of diversion. The present point of diversion is a temporary earthen dam. A permanent structure would accomplish the following:

- Prevent disruption of water delivery after floods
- Prevent repeated disturbance of river channel and sediment caused by point of diversion reconstruction
- Prevent repeated disturbance of the riparian zone caused by movement of equipment to the diversion sites

Due to the potential for the environmental benefits described, as well as the benefits to water users, staff recommends that \$100,000 be granted from the New Mexico Unit Fund for construction of a permanent point of diversion. One-Hundred Fifty Thousand dollars could be obtained for each phase through the ISC Acequia Program. The Luna Ditch would be responsible for obtaining the balance of funding necessary. Additional funding might be obtained through local contributions, state restoration programs, the NRCS EQIP Program, or ISC loans.

## **11. WATERSHED PROPOSALS (COLLECTIVE)**

**REQUESTED AMOUNT: \$21.1M**

**RECOMMENDED FUNDING: \$1M**

The staff recommends up to a \$1,000,000 from the New Mexico Unit Fund as a one-to-one match of the total combined local, state, and federal funds, for a single watershed study in the Gila River Basin. As a condition of funding, the staff recommends that a steering committee consisting of representatives from the watershed proposal proponents; the ISC; the U.S. Forest Service; the New Mexico Environment Department; the New Mexico Energy, Minerals, and Natural Resource Department; and the New Mexico Watershed Institute develop a 10-year study that is well monitored and designed to quantify water yield. In addition, staff recommends that the study be designed to determine potential environmental benefits. Staff recommends that all members of the steering committee must contribute matching funds.

## Conclusion

All of the stakeholder proposals have merit. Of the recommendations presented above, the item with the most pressing time element is the notification, to the US Secretary of Interior by December 31, 2014, that the State of New Mexico intends to build the New Mexico Unit to develop the AWSA water from the Gila Basin. Staff recommends that sending this notice be given the highest priority. Staff also recommends distributing up to \$7.85 million from the New Mexico Unit Fund as enumerated above. Staff also anticipates a need for significant litigation support.

No project received full funding as staff believes that local stakeholders, who would benefit from each project, should share in paying the cost. There are also other programs, at both state and federal levels, available for assisting with the projects proposed for AWSA funding. The ISC staff encourages proponents to seek other sources of funding.

For example, the US Natural Resources Conservation Service (NRCS, formerly Soil Conservation Service) can do engineering design for the irrigation diversion and ditch projects. The US Bureau of Reclamation funds research projects through the Desert LCC and the WaterSmart Program. The New Mexico Finance Authority issues financial grants for engineering design and construction through the Colonias Infrastructure Project Fund. The New Mexico Water Trust Board also can provide funds through loans and grants. The State of New Mexico River Stewardship Program and the ISC Acequia Program can also support some projects.

The ISC Acequia Restoration Program is appropriated funds for acequia improvements. Staff recommends that the Commission prioritize one ditch each fiscal year from the Southwest Planning Region to receive funding from the Acequia Program.

Staff respectfully submits these recommendations for your consideration.