



2012 REPORT

by

THE NEW MEXICO INTERSTATE STREAM COMMISSION

to the

**NEW MEXICO INTERIM WATER AND NATURAL RESOURCES
COMMITTEE**

on

THE 2004 ARIZONA WATER SETTLEMENTS ACT

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EXECUTIVE SUMMARY

Mr. Chairman and Members of the Committee,

This report presents the current and anticipated planning efforts and associated work that will take place under the Arizona Water Settlements Act (AWSA) over the next two years.

The AWSA

The AWSA was signed into federal law in December 2004. The AWSA allocates to New Mexico up to \$128 million in non-reimbursable federal funding and an annual average of 14,000 acre-feet of additional water from the Gila Basin, a 47% increase over New Mexico's current Gila apportionment. Sixty-six million dollars of the funding can be used for a New Mexico Unit to develop the new water. The \$66 million can also fund other water utilization alternatives to meet water supply demands in the Southwest Water Planning Region of New Mexico. The remaining \$62 million is available only for construction of a New Mexico Unit. All funding is adjusted for inflation.

The AWSA requires that the new Gila Basin water be consumed in New Mexico. Leasing any of the 14,000 acre-feet of Gila water outside New Mexico is not permitted. New Mexico must inform the U. S. Secretary of the Interior by December 31, 2014 whether New Mexico will utilize all or part of the 14,000 acre-feet of additional water. If New Mexico does not choose to develop any of the additional water, it will continue to flow to Arizona and up to \$62 million of the federal funding will be forfeited.

The Planning Process

To date, there have been over 200 public meetings on the AWSA, conducted in various venues throughout the region. In September 2007, the Southwest New Mexico Stakeholders Group (SWNMSG) was formed to reach a consensus among stakeholders on projects for use of the 14,000 acre-feet of water and federal funding in the AWSA. After several years of work, the SWNMSG was not able to find consensus on a small number of projects.

Consequently, in the spring of 2011, the New Mexico Interstate stream Commission (NMISC) began its own two-tiered evaluation process of forty-one project proposals submitted by stakeholders. The NMISC established an Evaluation Panel that reviewed and ranked the 20 proposals that passed Tier-1. On February 29, 2012, the NMISC approved sixteen projects for further assessment, integration, and/or refinement. See Figure 1 for locations of the selected projects. The Commission also approved additional study of wetlands restoration and agricultural conservation.

Next steps

New Mexico must inform the Secretary of the Interior by December 31, 2014 if New Mexico will utilize any of the additional AWSA water Congress allocated to New Mexico. To provide opportunity to gather final input from stakeholders, state and federal agencies, local governments, the legislature, and the general public, staff will recommend the NMISC make a preliminary selection of projects in September 2014, and a final selection in November 2014.

Each of the remaining sixteen proposals requires comprehensive assessments of technical feasibility, legal feasibility, economic costs and benefits, and ecologic impacts. In response to stakeholder requests, work is underway or in the contracting process for surveys of cropping patterns and agricultural conservation, wetlands studies, and climate change projections. The full AWSA Work Plan approved by the NMISC is attached as Exhibit 1.

Budgeting from the New Mexico Unit Fund

In January 2012, the New Mexico Unit Fund (the Fund) received \$9.04 million disbursed by the Bureau of Reclamation pursuant to the AWSA. Identical sums of monies will be deposited in the Fund in January 2013 and January 2014. The NMISC budgeted \$150,000 from the Fund into the FY2012 NMISC operating budget for 2.5 FTE's and supporting costs.

In FY13, the NMISC operating budget will include another \$264,000 from the Fund for 2.5 FTE and supporting costs. The ongoing agricultural conservation and wetland studies will be continued and expanded. As approved by the NMISC, \$2,796,000 will be budgeted from the Fund to cover the FY2013 AWSA Work Plan (Exhibit 1) for engineering, hydrologic, geologic, ecologic, and economic assessments of proposals. Additional funding may be budgeted if necessary and approved by the NMISC.

Public Involvement

The NMISC will continue its comprehensive process of public involvement, including facilitated quarterly public meetings. The NMISC has also created a website dedicated to the New Mexico portion of the AWSA (www.nmawsa.org). All scopes of work, reports, and ongoing efforts will be posted there.

Finally, the NMISC has convened a smaller group composed of fifteen members from local governments and stakeholder interests to provide representative, broad-based input on issues. The composition of this "Input Group" includes local governments, agricultural interests, municipalities, mining, and environmental NGO's. The various entities or interests selected their own representatives.

Priority Concerns

New Mexico, Arizona, the U.S. Secretary of the Interior, and senior downstream water users agreed to the terms of the Consumptive Use and Forbearance Agreement (CUFA) and Congress ratified the CUFA in the AWSA. As long as New Mexico complies with the terms in the CUFA, New Mexico has a contractual right to divert and consume the additional 14,000 acre-feet of new Gila water without objection by senior downstream water users.

The water delivered through the Central Arizona Project (CAP) to effect the exchange for New Mexico depletions from the Gila is the senior priority on the CAP and represents less than 1% of the water currently delivered every year through the CAP. Both the ability of New Mexico to divert and consume the annual average of 14,000 acre-feet of additional water from the Gila Basin and the availability of the exchange water to effect those diversions and depletions of new Gila water were secured in the AWSA.

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2012 REPORT BY THE NEW MEXICO INTERSTATE STREAM COMMISSION TO THE NEW MEXICO INTERIM WATER AND NATURAL RESOURCES COMMITTEE ON THE 2004 ARIZONA WATER SETTLEMENTS ACT

This report presents a summary of the extensive planning process the New Mexico Interstate Stream Commission (NMISC) has undertaken to secure New Mexico's benefits under the 2004 Arizona Water Settlements Act (AWSA). Also discussed are the current and anticipated planning efforts and associated work that will take place over the next two years.

The AWSA

The AWSA was signed into federal law in December 2004. The AWSA allocates to New Mexico up to an annual average of 14,000 acre-feet of additional water from the Gila Basin and up to \$128 million in non-reimbursable federal funding. This 14,000 acre-feet of new water represents a 47% increase over New Mexico's current apportionment of water from the Gila Basin. Sixty-six million dollars of the funding can be used "for the purpose of paying costs of the New Mexico Unit or other water utilization alternatives to meet water supply demands in the Southwest Water Planning Region of New Mexico, as determined by the New Mexico Interstate Stream Commission in consultation with the Southwest New Mexico Water Study Group or its successor, including costs associated with planning and environmental compliance activities and environmental mitigation and restoration."¹ If New Mexico chooses to construct a New Mexico Unit to develop any of the additional Gila water, the remainder of the federal funding, up to \$62 million, would be disbursed on a construction cost-schedule basis only for construction of the Unit.

The AWSA requires that the 14,000 acre-feet of new Gila Basin water be consumed in New Mexico (see AWSA Section 212(d) attached). Neither the AWSA nor the Consumptive Use and Forbearance Agreement (CUFA)² permit leasing any of the new 14,000 acre-feet of Gila water outside New Mexico. New Mexico must inform the U. S. Secretary of the Interior by December 31, 2014 whether New Mexico will utilize any of the 14,000 acre-feet of additional water. Additionally, if New Mexico does not choose to develop any of the additional water, up to \$62 million of the federal funding is forfeited, and the additional water will continue to flow to and be depleted in Arizona.

The Planning Process

The NMISC began an AWSA planning process many years ago. The first public meeting regarding the AWSA was held in Silver City in the late spring of 2001, years before the AWSA was signed into law in December 2004. To date, there have been over 200 public meetings on the AWSA, conducted in various venues throughout the region.

¹ The successor to the Southwest New Mexico Water Study Group is the Gila San Francisco Water Commission. A "New Mexico Unit" is any facility that develops any of the additional water. The "Southwest Planning Region" is composed of Luna, Grant, Hidalgo, and Catron counties.

² The CUFA is an agreement signed by Arizona, New Mexico, the U.S. Secretary of the Interior, and Arizona water users and others that protects and firms New Mexico's ability to develop the 14,000 acre-feet.

In 2005, the Gila San Francisco Coordinating Committee (GSFCC) formed. The GSFCC was composed of representatives of the Office of the Governor, the Bureau of Reclamation, the Gila San Francisco Water Commission, the US Fish and Wildlife Service, the Interstate Stream Commission (NMISC), and later the New Mexico Department of Game and Fish. The purpose of the GSFCC was to develop baseline information, especially as to any impacts on the ecology or endangered species from development of the additional AWSA water. The GSFCC held a number of meetings open to the public, science forums, and began creating a decision support model to aid building consensus. In late 2005 the Technical Subcommittee of the GSFCC, composed of state and federal agencies and stakeholders, crafted a plan of integrated basic scientific studies. In 2006, the legislature appropriated full funding for those studies, but the appropriation was vetoed.

In September 2007, the Southwest New Mexico Stakeholders Group (SWNMSG) was formed. The SWNMSG's purpose was to reach a consensus on a small set of projects for use of the 14,000 acre-feet of water and federal funding allocated to New Mexico in the AWSA. In November 2010, the SWNMSG suggested fifty-five projects to the NMISC. The NMISC asked the SWNMSG to reduce the number of projects to a workable size. The SWNMSG was not able to find consensus on a smaller set of projects.

The NMISC consequently began its own two-tiered evaluation process in the spring of 2011. Any stakeholder, tribe, federal or state agency, or local government was encouraged to submit proposals. The NMISC crafted the process and criteria for the evaluation process with input from stakeholders and local governments in the region. Forty-one project proposals were accepted from May 2011 to June 2011. To evaluate and rank the 41 proposals submitted, the NMISC established an Evaluation Panel with one representative each from the New Mexico Environment Department; the Energy, Minerals and Natural Resources Department; the Office of the State Engineer; NMISC; and the Department of Game and Fish. Twenty proposals met the Tier-1 criteria and passed to the Tier-2 ranking process.

The NMISC staff, considering the ranking and comments of the evaluation panel, the independent rankings of the Gila San Francisco Water Commission, the results of the New Mexico First Gila Town Hall, and hundreds of hours of public comment before the Commission and in public meetings, recommended sixteen proposals for further assessment, refinement, or combination. On February 29, 2012, the NMISC approved the staff recommendations. The sixteen projects are grouped in five categories: municipal conservation (1 project), diversion and storage (3 projects), effluent re-use and municipal infrastructure (4 projects), watershed restoration (5 projects), and agricultural infrastructure improvements for conservation (3 projects). Figure 1 presents the categories and general locations of the selected projects. The Commission also approved additional studies of wetlands restoration and agricultural conservation.

Next steps

To provide the Commission with the information needed to make an informed and considered decision, a large amount of work must be completed between now and mid 2014. Each of the remaining sixteen proposals will require assessments of technical feasibility (engineering, hydrology, geomorphology,

geology, etc.), legal feasibility (compliance with the AWSA, with other federal statutes, with New Mexico statutes, etc.), economic costs and benefits, and ecologic impacts (protection of the environment, endangered species impacts, watershed health, etc.). Should the NMISC select a New Mexico Unit to develop the new 14,000 acre-feet of Gila water, the AWSA requires compliance with all federal environmental mandates prior to construction.

Some of the work to assess the technical, ecologic, economic, and legal feasibility of proposed projects is already underway or in the planning/contracting stages. For example:

- In response to stakeholder requests to study agricultural conservation, the NMISC has contracted with a consultant to survey cropping patterns and report if a transition from higher water use/lower return crops to lower water use/higher return crops could be accomplished, and if so, what economic and environmental benefits might accrue. The first results of that study are complete and posted on the NMISC AWSA website (www.nmawsa.org). The NMISC is also negotiating scopes of work for studies to quantify water use increase or decrease attendant to conversion from flood irrigation to drip irrigation in the Deming area.
- To ensure the five watershed proposals are properly and thoroughly assessed, experts from the University of New Mexico and the New Mexico Forest and Watershed Institute at Highlands University have provided the NMISC with a paper discussing implementation, monitoring, maintenance, integration, and oversight watershed restoration projects. The Forestry Division of the Energy, Minerals, and Natural Resources department has been invited to assist. Recent wildfires in the region may result in modification of watershed restoration proposals.
- Doctoral students and academics from the University of New Mexico will produce GIS/watershed models, wetlands surveys, and other ecologic assessments. Their deliverables will be in the form of published, peer-reviewed papers that will inform the NMISC's assessment of related proposals.
- The NMISC has also contracted for assessments of climate change impacts with experts in that field.

New Mexico must inform the Secretary of the Interior by December 31, 2014 if New Mexico will utilize any of the additional AWSA water Congress allocated to New Mexico. Because of this looming deadline, the process going forward is no longer solely a planning process. It is focused on providing the Commission with the information required to make an informed and considered decision.

To provide ample opportunity to gather final input from stakeholders, state and federal agencies, local governments, the legislature, and the general public, the schedule calls for NMISC preliminary selection of projects in September 2014, and final selection in November 2014. Final project selection in November will still allow for timely transmittal of New Mexico's intentions to the Secretary of the Interior by the December 2014 deadline.

Budgeting and Fiscal Report

During its 2011 session, the New Mexico Legislature passed H.B. 301, creating the New Mexico Unit Fund (the Fund) in the State Treasury. The 2011 New Mexico Unit Fund Act requires the Interstate

Stream Commission (NMISC) to report by November 15th every year to the Interim Committee on Water and Natural Resources and to the Legislative Finance Committee on the following three points:

- (1) The status of the New Mexico Unit Fund;
- (2) The distribution of money from the New Mexico Unit Fund to implement the purpose of the Fund pursuant to the Act; and
- (3) Proposed uses and levels of funding projected for the following fiscal year.

2011 N.M. Laws, Ch. 99, NMSA 1978, § 72-14-45 (2011). Included here is the NMISC report to the Interim Committee on Water and Natural Resources Committee for 2012.

1. Status of the New Mexico Unit Fund

In January 2012, pursuant to the AWSA, the Bureau of Reclamation disbursed \$9.04 million in the Fund. Identical sums of monies will be deposited in the Fund in January 2013 and January 2014.

2. Distribution of money from the Fund to implement the purpose of the Fund pursuant to the Act

For the last half of FY12, NMISC has budgeted \$150,000 of the \$9.04 million in the Fund into the NMISC operating budget for 2.5 FTE's and supporting costs. The NMISC has also budgeted \$1.5 million to support contractual services for AWSA work in FY12 and FY13. That work will include engineering, hydrologic, geologic, ecologic, and economic assessments of proposals. As detailed scopes of work are crafted, additional funding may be budgeted.

3. Proposed uses and levels of funding projected for the following fiscal year

In FY13, the NMISC operating budget will include another \$264,000 from the Fund for 2.5 FTE and supporting costs. Any unexpended balances from either the operating budget or the contractual services budget will revert to the Fund. The ongoing agricultural conservation and wetland studies will be continued and expanded. As we craft scopes of work, additional funding may be budgeted if required.

In FY14, engineering, hydrologic, geomorphic, ecologic, wetlands, watershed, economic, and agricultural conservation assessments and work must be completed. In addition, if a New Mexico Unit is anticipated, the NMISC must complete a study to confirm that those who would contract for the water are willing and able to pay local cost shares.

Public Involvement

Through the completion of this planning and decision process, the NMISC will continue its comprehensive process of public involvement. To ensure all stakeholders and the public are afforded opportunity for input and comment, NMISC will hold facilitated quarterly public meetings throughout the remaining process. The NMISC has also created a website dedicated to the New Mexico portion of the AWSA (www.nmawsa.org). All scopes of work, reports, and ongoing efforts are posted there as well. Any member of the public may post comments.

Finally, the NMISC has convened a smaller group composed of fifteen members from local governments and stakeholder interests to provide facilitated input on specific issues as needed. This “Input Group” will provide representative, broad-based input to the NMISC, but is not focused on reaching consensus. To ensure NMISC receives input from all interests in the region, the composition of the Input Group is as follows: 1 representative each from Luna, Grant, Hidalgo, and Catron Counties, 1 representative from the Town of Silver City, 1 representative from the City of Deming, 2 representatives from the environmental interests, 1 representative from the mining industry, 2 representatives from farming interests, 2 representatives from ranching interests, and 2 representatives from the business community. Each entity or interest chose its own representative(s). To date, the Input Group has met three times, reviewed all ongoing scopes of work, and provided the NMISC with comprehensive input including over 150 questions related to the selected projects that the group felt should be asked and answered over the next two years. The NMISC will schedule additional meetings of the Input Group to review ongoing work and work product, including draft and final reports.

Priority Concerns

New Mexico was first allocated the additional water from the Gila Basin in the 1968 Colorado River Basin Project Act (CRBPA). However, the priority of this additional water in the 1968 CRBPA was set at September 30, 1968, a date junior to many downstream Arizona water rights. The junior priority date made use of New Mexico’s additional water very difficult. The primary focus in negotiating New Mexico’s portion of the 2004 AWSA was to ensure the additional Gila water in the 1968 CRBPA became “wet water” that New Mexico could develop with certainty.

In the 2004 AWSA, New Mexico, Arizona, the U.S. Secretary of the Interior, and senior downstream water users agreed to the terms of the Consumptive Use and Forbearance Agreement (CUFA). In the AWSA Congress ratified the CUFA. The CUFA gives New Mexico a contractual right to divert and consume the additional 14,000 acre-feet of new Gila water without objection by senior downstream water users.

The terms of the CUFA include strict constraints on diversion and consumption of any new Gila water. Table 1, Bypass Flows, presents the minimum flows, by month, that must be bypassed before New Mexico may divert any of the AWSA water. New Mexico negotiated those minimum bypass flows with senior downstream water users. In the CUFA, the holders of those senior rights have agreed that bypassing those minimum flows (and meeting other constraints in the CUFA) protects their senior rights. As long as New Mexico complies with the terms of the CUFA, the holders of senior downstream water rights – and the Secretary of Interior – have agreed that New Mexico may divert and consume the 14,000 acre-feet of additional water without objection. In addition, the Arizona signatories agreed to use their own water to make whole any non-signatories who could bring a valid claim of impairment against New Mexico. In effect, as long as New Mexico complies with the terms of diversion in the CUFA, New Mexico may divert the additional 14,000 acre-feet without threats of a priority call.

Figure 2 is a schematic of the relative locations of the signatories to the CUFA, showing the downstream senior users (Gila River Indian Community, San Carlos Irrigation and Drainage District, and Upper Valley

Diversers, etc.). Because the CUFA provides that New Mexico may divert the additional AWSA water only when there are river flows in excess of amounts required to meet existing senior downstream rights, it is unlikely that priorities will ever play a role in this matter. During negotiations, the NMISC modeled the effects of those terms of diversion and found that, in any historical running ten-year period, New Mexico could realize the annual average of 14,000 acre-feet of additional water allocated in the 2004 AWSA while fully complying with both the AWSA and the CUFA.

For New Mexico to obtain the additional water from the Gila Basin, the AWSA requires the Secretary of the Interior to implement an exchange, through the Central Arizona Project, of an amount of mainstem Colorado River water equal to the additional Gila Basin water depleted in New Mexico. Concerns have been raised that drought shortages could prevent that exchange. One provision in the 1968 CRBPA (Section 304 (e)) sets the priority of that exchange water. The provision states that in case of a shortage or reduction on the Colorado River, users who have yielded water from other sources in exchange for mainstem Colorado River water shall have the first priority on the Central Arizona Project. The seniority of the exchange water is not modified by the 2004 AWSA. If shortages on the Colorado River do occur, as well they might, the 14,000 acre-feet of mainstem water necessary to effect New Mexico's exchange will have the first priority. By way of scale, the annual average of 14,000 acre-feet of exchange water represents less than 1% of the water currently delivered every year through the Central Arizona Project.

Both the ability of New Mexico to divert and consume the annual average of 14,000 acre-feet of additional water from the Gila Basin and the availability of the exchange water to effect those diversions of new Gila water appear secure.

Section 212 (d) of the Arizona Water Settlements Act

(d) Amendment to Section 304- Section 304(f) of the Colorado River Basin Project Act (43 U.S.C. 1524(f)) is amended--

(1) by striking paragraph (1) and inserting the following: `(1) In the operation of the Central Arizona Project, the Secretary shall offer to contract with water users in the State of New Mexico, with the approval of its Interstate Stream Commission, or with the State of New Mexico, through its Interstate Stream Commission, for water from the Gila River, its tributaries and underground water sources in amounts that **will permit consumptive use of water in New Mexico [emphasis added]** of not to exceed an annual average in any period of 10 consecutive years of 14,000 acre-feet, including reservoir evaporation, over and above the consumptive uses provided for by article IV of the decree of the Supreme Court of the United States in *Arizona v. California* (376 U.S. 340). Such increased consumptive uses shall continue only so long as delivery of Colorado River water to downstream Gila River users in Arizona is being accomplished in accordance with this Act, in quantities sufficient to replace any diminution of their supply resulting from such diversion from the Gila River, its tributaries and underground water sources. In determining the amount required for this purpose, full consideration shall be given to any differences in the quality of the water involved.';

(2) by striking paragraph (2); and

(3) by redesignating paragraph (3) as paragraph (2).

FIGURE 1. Categories and locations of projects selected for assessment, integration, and/or refinement

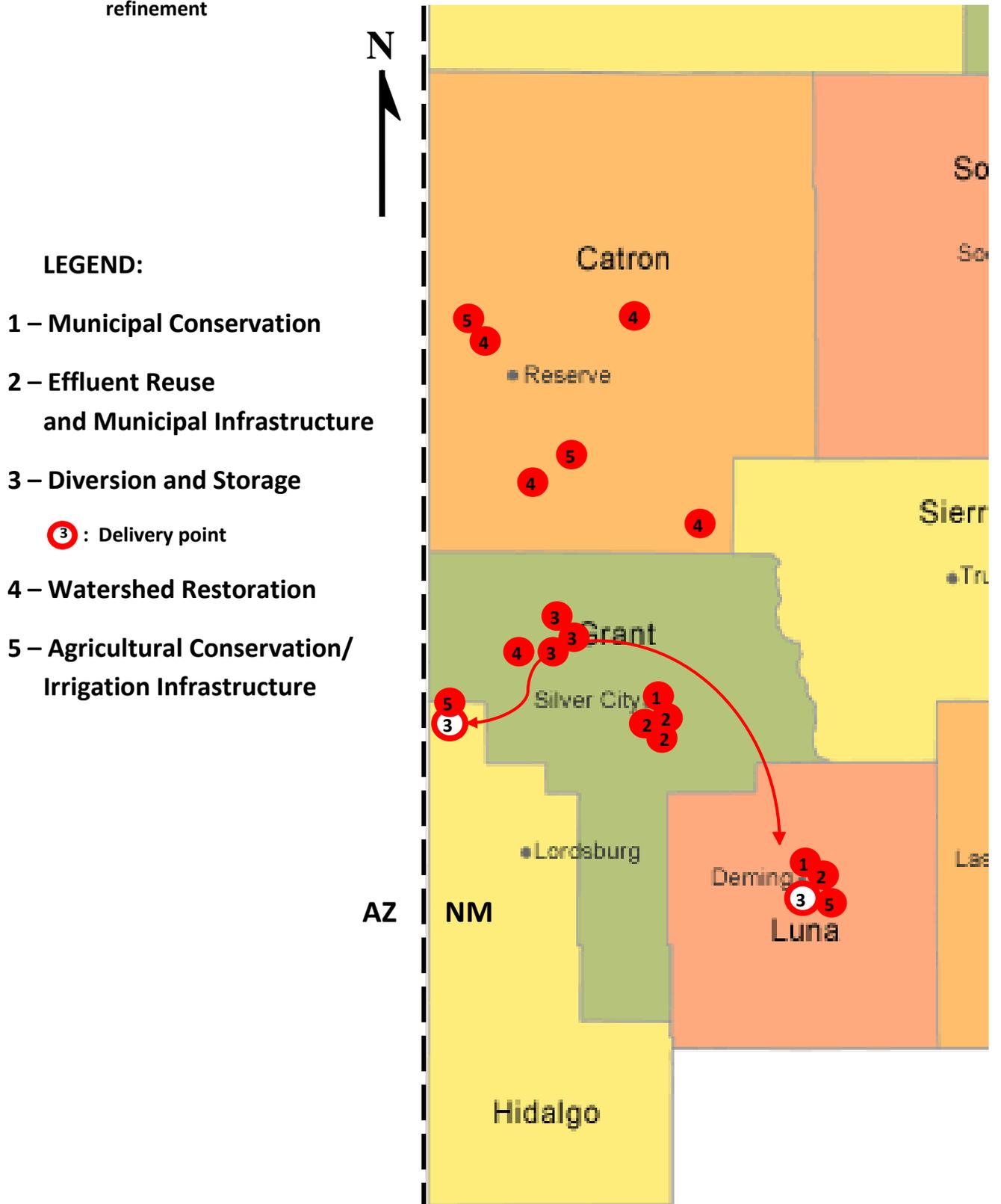


TABLE 1. MINIMUM BYPASS FLOWS BY MONTH

<u>Month</u>	<u>Bypass</u>
January	82.5 (cfs)
February 1-13	137.5
February 14-28/29	215
March	292.5
April	432.5
May	437.5
June	442.5
July	442.5
August	442.5
September	442.5
October	267.5
November	152.5
December	75.5

GILA SYSTEM SCHEMATIC
(GENERAL AND NOT TO SCALE)

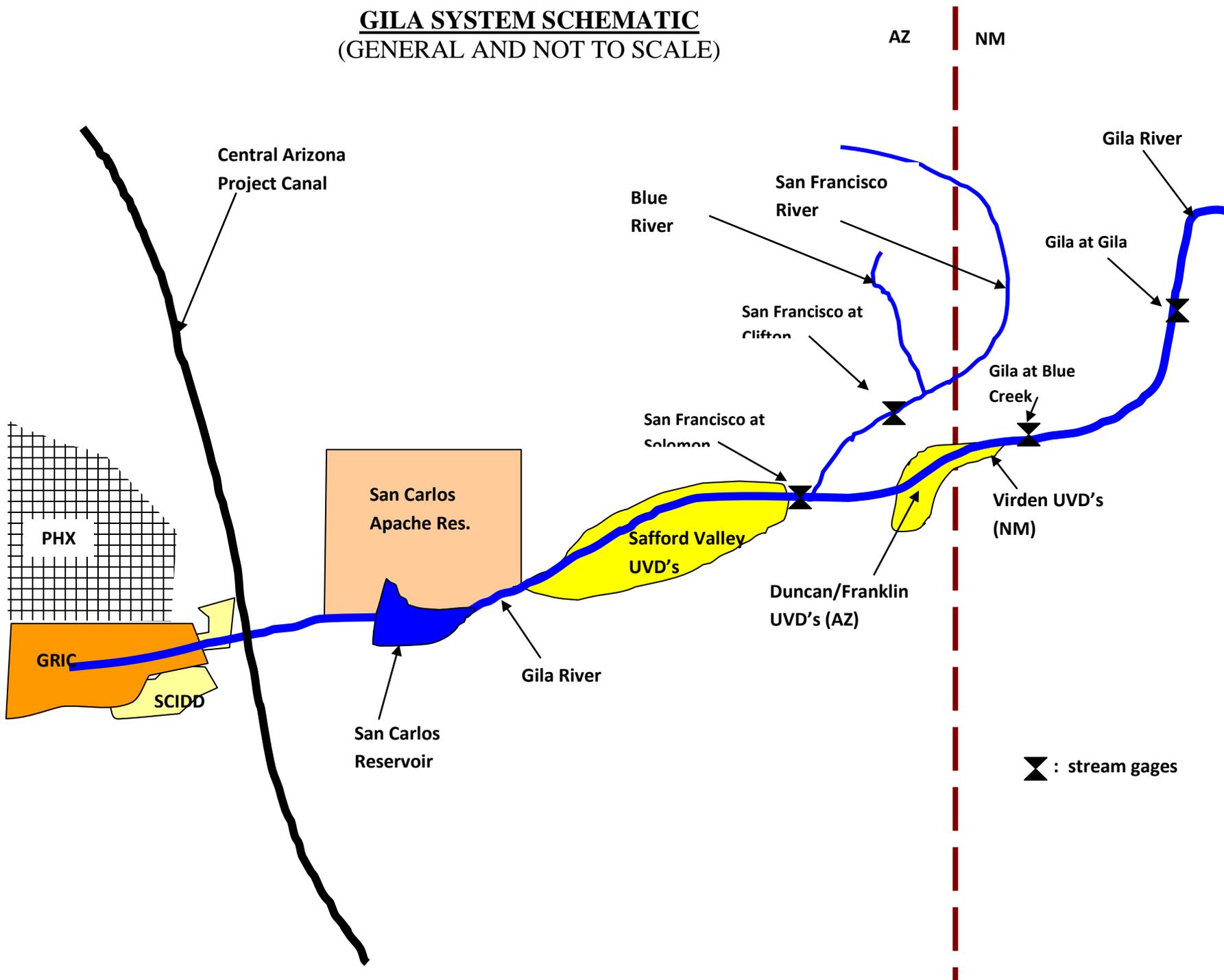


EXHIBIT 1. FY2013 AND FY2014 AWSA WORKPLAN

MEMORANDUM

DATE: June 21, 2012

TO: Interim Water and Natural Resources Committee

FROM: Craig Roepke, ISC

SUBJECT: Gila/Arizona Water Settlements Act (AWSA) Work Plan and Planning Schedule for FY2013 and FY2014

On June 20, 2012, at its monthly public meeting, the New Mexico Interstate Stream Commission approved the following AWSA work plan for FY 2013 and FY 2014. In June 2011, stakeholders submitted forty-one proposals to the Commission for allocation of the funding and water available to New Mexico in the AWSA. In February 2012, after nine months of evaluations, the Commission selected sixteen of the forty-one proposals for further study and assessment. The further study and assessment will provide the commission with information and data on all sixteen projects and allow the Commission to make an informed decision prior to the 2014 deadline on what projects to pursue. The AWSA work plan for FY 2013 and FY 2014 includes eleven elements that will serve to fully or partially assess the proposals selected by the Commission:

1. Grant County Effluent Reuse and Water Supply Infrastructure Engineering Assessments
2. City of Deming Effluent Reuse Expansion Engineering Assessments
3. Hidalgo County and Gila Basin Irrigation Commission Diversion and Storage Projects Engineering Assessments
4. AWSA/Gila Website and Meeting Facilitation FY 2013
5. High Value - Low Water Use Crop Assessments, Phase II
6. Municipal Conservation Trial Implementation
7. Wetlands Study
8. Watershed GIS Modeling
9. Baseline Macro Invertebrate Survey and Risk Assessment
10. Remote Sensing Estimation of Agricultural Evapotranspiration
11. Contractual Engineering Assistance

The total funding request for FY13 is \$2,796,000. The total funding estimated for FY14 is \$1,082,000. The FY 2014 funding estimate will likely increase and once accurate costs are known, a revised AWSA work plan for FY2014 will be presented to the Commission for approval. In

addition to assessments of the sixteen proposals, the work plan also addresses investigations and studies of agricultural conservation and wetlands, as requested by stakeholders.

The detail for the work plan elements is attached below as Attachment 1, AWSA FY2013 and FY 2014 Work Plan. The AWSA work plan will be presented to stakeholders at the facilitated June 27, 2012 meeting of the AWSA Input Group. That group is comprised of representatives from interests in the region. It will also be presented at the July 2012 AWSA public meeting for input and comment.

ATTACHMENT 1, AWSA FY2013 and FY 2014 Work Plan

1. GRANT COUNTY EFFLUENT REUSE AND WATER SUPPLY INFRASTRUCTURE ENGINEERING ASSESSMENTS

Work Plan Description

Three proposals would treat effluent to replace potable water currently used for irrigation, provide for more recreation, and/or link municipalities water supply systems. The Commission selected these three projects for further assessment over the next two years. This element of the AWSA work plan will assess the projects' technical and engineering validity. The proposed work includes meetings with the communities to help combine the three proposed projects into a single project that will meet all the communities' needs more efficiently and at lower cost. More detailed task descriptions are contained in the table in the "Work Plan Cost" section below.

Purpose of Work Plan

The work will provide the Commission with information and recommendations on value and efficacy of the projects and recommendations for best solutions to combine the projects.

Current Status

This work will begin in FY 2013.

Work Plan Timeframe

This request is for work and expenditures through FY 2013 and FY2014. Tasks and costs are estimated.

Work Plan Cost

Grant County Effluent Reuse and Water Supply Infrastructure Projects

Task	Task Description	FY13 Cost	FY14 Cost	Total Cost
1	Kickoff meeting, progress meetings and present summary of findings (Item 3) for ISC and stakeholders	\$20,000	\$45,000	\$65,000
2	Review existing studies and relevant documents associated with project	\$20,000	\$0	\$20,000
3	Evaluate and recommend best solution and phasing for utilizing Bayard, Santa Clara, Ft. Bayard, and Hurley treated effluent for irrigation and/or recharge, thus conserving potable water supply	\$150,000	\$50,000	\$200,000
4	Evaluate and prepare basis of design report for best solution infrastructure required to treat and deliver reuse effluent for irrigation and/or recharge water for the benefit of Bayard, Santa Clara, Ft. Bayard, Hurley and/or Silver City	\$100,000	\$300,000	\$400,000
5	Perform environmental surveys, identify all relevant permits, and summarize in EID Report + coordinate and identify easements and rights-of-way for Item 4	\$65,000	\$200,000	\$265,000
6	Evaluate and recommend recreational benefits and feasibility of creating multi-purpose storage reservoir with earthen dam or alternate impoundment(s)	\$300,000	\$200,000	\$500,000
	Total:	\$655,000	\$795,000	
Total FY13 and FY14:				\$1,450,000

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

Contractual services will be required for engineering, environmental and economic assessments.

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The Commission will be provided information to help make an informed decision whether to fund these projects (or a combined alternative) using Arizona Water Settlements Act (AWSA) funding.

2. CITY OF DEMING EFFLUENT REUSE EXPANSION ENGINEERING ASSESSMENTS

Work Plan Description

This AWSA proposal treats effluent to replace potable water currently used for irrigation. This element of the AWSA work plan will assess the technical validity of that proposal. This element includes meetings with Deming and completion of engineering reports and designs. More detailed task descriptions are contained in the table in the “Work Plan Cost” section below.

Purpose of Work Plan

The Commission selected this project for further assessment over the next two years. This element of the AWSA work plan will assess the projects’ technical and engineering viability. The work will provide the Commission with information and recommendations on value and efficacy of the project.

Current Status

This work will begin in FY 2013

Work Plan Timeframe

This request is for work and expenditures for FY 2013 through FY 2014. Tasks and costs are estimated.

Work Plan Cost

Deming Effluent Reuse System Expansion Project

Task	Task Description	FY13	FY14	Total Cost
1	Kickoff meeting, progress meetings and Present Summary of Findings (Item 3) for ISC and Stakeholders	\$25,000	\$10,000	\$35,000
2	Review existing studies and relevant documents associated with Deming Reuse Project	\$5,000	\$0	\$5,000

3	Perform environmental surveys, coordinate and identify all relevant permits, and summarize in EID Report + coordinate and identify easements and rights-of-way	\$20,000	\$40,000	\$60,000
4	As necessary, prepare additional design documents beyond existing Preliminary Design Report	\$30,000	\$0	\$30,000
	Total:	\$80,000	\$50,000	
Total FY13 and FY14 Costs:				\$130,000

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

Contractual services will be for engineering and environmental services.

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The Commission will be provided information to help make an informed decision whether to fund this project using Arizona Water Settlements Act (AWSA) funding.

**3. HIDALGO COUNTY AND GILA BASIN IRRIGATION COMMISSION DIVERSION AND STORAGE PROJECTS
ENGINEERING ASSESSMENTS**

Work Plan Description

These AWSA proposals would divert, store, and put to beneficial use some or all of the annual average of 14,000 acre-feet of the additional water from the Gila Basin allocated to New Mexico in the 2004 Arizona Water Settlements Act. Hidalgo County and the Gila Basin Irrigation Commission desire to combine their projects. This element of the AWSA work plan will assess the combined project’s technical and engineering viability. The proposed work includes meetings with the proposers to help combine the projects into a single project that will more efficiently meet all needs. More detailed task descriptions are contained in the table in the “Work Plan Cost and Budget” section below.

Purpose of Work Plan

The work will provide the Commission with information and recommendations on value and efficacy of the projects and recommendations for best solutions to combine the projects.

Current Status

This work will begin in FY 2013

Work Plan Timeframe

This request is for work and expenditures for FY 2013 and FY 2014. Tasks and costs are estimated.

Work Plan Cost

Gila Diversion and Storage Project(s)

Task	Task Description	FY13 Cost	FY14 Cost	Total Cost
1	Kickoff meeting and progress meetings with ISC and stakeholders	\$20,000	\$45,000	\$65,000
2	Review existing studies and relevant documents associated with project	\$15,000	\$0	\$15,000
3	Evaluate and recommend best structure(s) for diversion of Gila River water for agricultural, municipal, and environmental	\$150,000	\$0	\$150,000

	uses			
4	Evaluate and recommend best solution for storage of peak flows diverted from the Gila River during high flow events for agricultural, municipal, and environmental uses	\$100,000	\$0	\$100,000
5	Evaluate and recommend best location(s) for storage of flows diverted from the Gila River	\$150,000	\$0	\$150,000
6	Perform environmental surveys, identify all relevant permits, and summarize in EID Report + easements and rights-of-way	\$200,000	\$300,000	\$500,000
7	Evaluate and recommend best solution(s) for conveyance of flows diverted from the Gila River during high flow events to designated points of storage	\$50,000	\$0	\$50,000
8	Evaluate and recommend best solution for conveyance of flows from storage location(s) to points of uses	\$50,000	\$0	\$50,000
9	Prepare draft summary report of assessment and recommendations	\$50,000	\$0	\$50,000
10	Present project summary of recommendations to stakeholders and receive comments	\$5,000	\$0	\$5,000
11	Prepare final summary report of assessment and recommendations	\$10,000	\$15,000	\$25,000
	Total:	\$800,000	\$360,000	
Total FY13 + FY14:				\$1,160,000

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

Contractual services will be for engineering and environmental assessments.

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The Commission will be provided information to help make an informed decision whether to fund these projects (or a combined alternative) using Arizona Water Settlements Act (AWSA) funding.

4. AWSA/GILA WEBSITE AND MEETING FACILITATION

Work Plan Description

This element of the AWSA work plan provides funding for maintenance of the Gila/Arizona Water Settlements Act (AWSA) website and for facilitation of public and Input Group meetings.

Purpose of Work Plan

In February 2012, the Commission approved construction of an interactive website for the public. The website contains all information related to ongoing studies and assessments and captures public comments and suggestions related to that work. In addition, professionally-facilitated quarterly public and Input Group meetings will be held. The Commission established the Input Group to ensure that input from a balanced, representative set of stakeholders is received. The quarterly public meetings will allow all input from the general public to be captured. This element of the AWSA work plan provides for both the website and meetings facilitation and ensures full public access to all information related to ISC activities and the AWSA.

Current Status

The website and meetings facilitation funded in this request provides full public disclosure of ISC's work related to assessments of the sixteen proposals the Commission selected in February 2014 for further study and assessment and captures all public input. This work will begin in FY 2013.

Work Plan Timeframe

The duration of this element of the AWSA work plan request is through the appropriation cycle ending on June 30, 2014.

Work Plan Cost

The estimated total cost for this element of the AWSA work plan is \$69,000: \$9,000 to train, operate, and maintain the interactive website and \$60,000 for public meetings and professional facilitation.

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

Website maintenance and training will be through Ferguson Lynch IT Consultancy and Web Architecture. Facilitation will be by Reese Fullerton and Keystone Enterprises (Ed Moreno).

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The Commission will have gathered all public input in a broad-based and balanced process. The public will have access to all ISC AWSA work, planning, information and data, and any other activities.

5. HIGH VALUE - LOW WATER USE CROP ASSESSMENTS, PHASE II

Work Plan Description

This element of the AWSA work plan will investigate start-up costs, infrastructure, and time lags to profitability of conversion to higher value - lower water-use crops and provide a comprehensive report to stakeholders and the Commission.

Purpose of Work Plan

At its September 2011 meeting, the Commission directed investigations of means to reduce agricultural depletions in Grant, Hidalgo, Luna, and Catron counties. This element of the AWSA work plan, investigating the necessary start-up costs, infrastructure, and time lags to profitability of conversion to lower water-use crops is the second phase in an investigation of high value – low water use crops. The first phase, investigation of the economic value that could be realized from a transition to higher value crops, is already complete and posted with comments on the ISC's AWSA website at <http://nmawsa.org/ongoing-work/examples-of-high-value-low-water-use-crops/view>.

Current Status

This work will begin in FY 2013.

Work Plan Timeframe

This second phase will begin in summer of 2012 and be completed prior to July 2013.

Work Plan Cost & Budget

The project will total \$23,000: \$14,000 for investigations and data collection, \$6,000 for draft and final report preparation, and \$2,000 for travel, presentations and incidental expenses.

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

The contractor will be Competitive Advantage Consulting, Ltd.

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The element of the AWSA work plan will provide stakeholders and the Commission a comprehensive report containing the information required to decide if transition from current cropping patterns to crops with a higher value but lower water use can be done in an economical, effective manner and if such transition(s) should be supported with AWSA funding.

6. MUNICIPAL CONSERVATION TRIAL IMPLEMENTATION

Work Plan Description

This element of the AWSA work plan will provide funding to contract with municipalities for municipal conservation trial project(s).

Purpose of Work Plan

The Commission in February 2012 approved initial funding of \$100,000 to implement a trial of the municipal conservation proposal submitted by the Gila Conservation Coalition. The trial municipal conservation project will provide the Commission with critical information and data related to willingness of participants and amount of water conserved. Without the data and information gathered during this trial implementation, in 2014 the Commission will not have the data and information needed to decide whether or not to fund municipal conservation projects under the AWSA.

Current Status

As recommended by the OSE Water Use and Conservation Bureau, the City of Deming and the Town of Silver City have indicated they will perform an audit of their municipal water supply system, using tools developed by the American Water Works Association. When the audit is completed, ISC can enter into a contract with Deming and Silver City for a trial municipal conservation plan focused on those areas identified in the water audit as most beneficial.

Work Plan Timeframe

The trial municipal conservation project(s) will begin after the water audit and contract process, and may continue through the summer of 2014.

Work Plan Cost

The Commission allocated \$100,000 that may be expended before the summer of 2014.

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

Contracts for municipal conservation projects will be executed with the City of Deming and the Town of Silver City.

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The data gathered will provide the Commission with information regarding the level of participation that can be expected and data on the water savings that might result from a fully financed municipal water conservation program.

7. WETLANDS STUDY

Work Plan Description

This element of the AWSA work plan will begin with an inventory of existing wetlands in the Gila Basin, investigate water budgets for wetlands in the Basin, compile other ecologic parameters of existing wetlands, and predict ecologic and hydrologic impacts and benefits of creating wetlands. Further task details are presented in the table in the Work Plan Cost section below.

Purpose of Work Plan

In February 2013, the Commission directed study of wetlands in the Gila Basin. This element of the AWSA work plan will fulfill that direction and provide the Commission with data and information to decide whether or not to use AWSA funding to create new or to improve existing wetlands.

Current Status

This work will begin in FY 2013.

Work Plan Timeframe

This work will continue through the summer of 2013.

Work Plan Cost

Wetlands Assessment Project

TASK	Description	FY13	FY14	Total Cost
1	Inventory current wetlands in the Upper Gila River.	\$12,000	\$0	\$12,000
2	Conduct a process based study to research the hydrologic budget for an existing/ historical wetland; study wetland plant cover and richness, algal species richness, water-column productivity, water chemistry changes through the wetlands, nutrient up-take; and document benthic community diversity and taxon richness, and bird use.	\$37,000	\$27,000	\$64,000

3	Conduct a process base study to research the ecologic impacts of wetlands restoration/creation on Gila River stream flow.	\$0	\$48,500	\$48,500
4	Instrumentation	\$155,000	\$30,000	\$185,000
5	Reports	\$3,200	\$3,200	\$6,400
	Total:	\$207,200	\$108,700	
Total FY13 and FY14 Cost:				\$315,900

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

Contractual service are anticipated with Sol Engineering, LLC.

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The Commission will have data and information necessary to decide whether or not to use AWSA funding to fund wetlands creation or improvements.

8. WATERSHED GIS MODELING

Work Plan Description

This element of the AWSA work plan will provide a GIS based model and baseline information that must be considered in the assessment of any potential watershed projects in the Gila basin. Further task details are presented in the table in the Work Plan Cost section below.

Purpose of Work Plan

In February 2012, the Commission directed further assessment of five watershed proposals in the Gila Basin. This element of the AWSA work plan is the first step in fulfilling that direction and will provide a model, data and information to use in consideration of all watershed improvement projects.

Current Status

This work will begin in FY 2013.

Work Plan Timeframe

This work will continue to the summer of 2013.

Work Plan Cost

Watershed GIS Modeling Project

TASK	Description	FY13	FY14	Total Cost
1	Data and literature research	\$5,000	\$0	\$5,000
2	Existing Conditions – vegetation cover, land use, land ownership, NHD, etc.	\$24,500	\$0	\$24,500
3	Retrospective change analysis – vegetation, land use, wildfire, broad scale geomorphology, etc.	\$38,500	\$0	\$38,500
4	Future projections	\$22,500	\$0	\$22,500
5	Define reference flow hydrology and conditions.	\$5,000	\$0	\$5,000
6	Create a conceptual Upper Gila basin water budget	\$20,500	\$0	\$20,500
7	Hydraulic Analysis – Indicator sites	\$20,000	\$0	\$20,000

8	Hydroclassification of basin watersheds to group similar watersheds and eliminate as much variability as possible; group similar watersheds for any future paired watershed assessments	\$26,500	\$0	\$26,500
9	Reports	\$4,000	\$0	\$4,000
	Total:	\$166,500	\$0	
Total FY13 and FY14 Cost:				\$166,500

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

Contractual service are anticipated with Tetra Tech, Inc.

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The Commission will have the requisite baseline models, data and information to decide whether or not to use AWSA funding for watershed improvements.

9. MACROINVERTEBRATE SURVEY AND RISK ASSESSMENT PROJECT

Work Plan Description

This element of the AWSA work plan will provide a survey of indicator macroinvertebrates and begin a risk assessment framework that can be used to assess ecologic risks of AWSA water development in the Gila basin. Further task details are presented in the table in the Work Plan Cost section below.

Purpose of Work Plan

In February 2012, the Commission directed further assessment of three diversion and storage projects in the Gila Basin. This element of the AWSA work plan is the first step in assessing the potential ecologic impacts of those projects.

Current Status

This work will begin in FY 2013.

Work Plan Timeframe

This work will continue through the summer of 2014.

Work Plan Cost

Macroinvertebrate and Risk Assessment Project

TASK	Description	FY13	FY14	Total Cost
1	Develop a watershed ecological risk problem formulation to establish and refine assessment objectives, identify relevant information, and the valued ecological resources at risk.	\$16,700	\$0	\$16,700
2	Documentation and synthesis of life history/habitat preferences of known algal, macroinvertebrate, and other indicator biota with respect to hydrology and other abiotic characteristics.	\$30,000	\$20,000	\$50,000
3	Documentation and synthesis of the physical, chemical and other abiotic	\$45,000	\$0	\$45,000

	components of the system and how these change in time and space.			
4	Report describing how water management alternatives for the Gila/Cliff valley can affect and mitigate low-flows impact, enhance sustainable farming and ecological resources	\$0	\$33,000	\$33,000
5	Report describing the risks, potential effects, and the uncertainty involved with the various management alternatives	\$0	\$33,000	\$33,000
	Total:	\$91,700	\$86,000	
Total FY13 and FY14 Cost:				\$177,700

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

Contractual service are anticipated with Tetra Tech, Inc.

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The Commission will have requisite baseline models, data and decide whether or not to use AWSA funding to fund watershed improvements.

10. Remote Sensing Estimation of Agricultural Evapotranspiration

Work Plan Description

This element of the AWSA work plan will provide for instrumentation and remote (satellite) sensing estimation of agricultural evapotranspiration in the Deming area. The City of Deming receives its water supply solely from the underlying aquifer. The deficit in the regional water budget is approximately 30,000 acre-feet, most of that due to pumping for agricultural needs in the Deming area. This element of the AWSA work plan will provide data on agricultural depletions attendant to various crops and irrigation systems. Further task details are presented in the table in the Work Plan Cost section below.

Purpose of Work Plan

In February 2012, the Commission directed further study of means to reduce agricultural depletions. This element of the AWSA work plan is an important step in determining what agricultural depletions occur, where they occur, and how they might be reduced.

Current Status

This work will begin in FY 2013.

Work Plan Timeframe

This work will continue through the summer of 2014.

Work Plan Cost

Remote Sensing Estimation of Agricultural Evapotranspiration

TASK	Description	FY13	FY14	Total Cost
1	Use historical satellite sensing data to estimate historical agricultural evapotranspiration (ET) in the Deming area.	\$25,000	\$0	\$15,000
2	Install and instrument ET towers to use for calibration of ongoing remote sensing estimates of ET in the Deming area.	\$75,000	\$0	\$75,000
3	Maintain instrumentation, download data, and reduce and analyze data from	\$75,000	\$75,000	\$150,000

	satellite imagery and the ET tower.			
4	Report summarizing the historical and current agricultural depletions in the Deming area by crop and irrigation method.	\$0	\$15,000	\$15,000
	Total:	\$175,000	\$90,000	
Total FY13 and FY14 Cost:				\$255,000

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

Contractual services are anticipated with New Mexico State University. The OSE Water Use and Conservation Bureau is supporting the project with baseline data collection.

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The Commission will have data and information to inform a decision whether or not to use AWSA funding to fund mechanisms to reduce agricultural depletions and what measures would prove beneficial.

11. CONTRACTUAL ENGINEERING ASSISTANCE

Work Plan Description

This element of the AWSA work plan will fund contractual engineering services needed to fully scope the assessment of projects selected by the Commission. These contractual services may also include reviews of engineering assessments of projects. Those services will be provided by a professional engineer with experience and expertise in the engineering requirements for larger diversion, storage, effluent reuse, and municipal water supply infrastructure.

Purpose of Work Plan

In February 2012, the Commission directed further assessment of four municipal effluent reuse projects and three diversion and storage projects. The ISC has unsuccessfully advertised for in-house engineering staff and will re-advertise in FY13. This element of the AWSA work plan funds those additional contractual engineering support services staff will need to craft comprehensive scopes of work for assessments of larger diversion, storage, effluent reuse, and municipal water supply projects.

Current Status

This work will begin in FY 2013.

Work Plan Timeframe

This workplan will continue through the summer of 2013.

Work Plan Cost & Budget

The principal professional engineer anticipated to perform the work funded under this work plan can commit twenty hours per week for forty-eight weeks. At \$171/hour, the cost for that engineer is \$168,000 in FY 2013. Because additional, specialized assistance may be required, the budget request is for \$200,000 in FY 2013. If additional engineering staff can be hired in-house, the requested budget may not be fully expended.

Funding Source(s)

The funding source is from the AWSA revenue deposited into the New Mexico Unit Fund.

Contractual Services Needed

Contractual services are anticipated with Bohannon Huston, Inc.

Work Plan Risks

None known.

Impacts of Work Plan after Completion

The staff will have crafted craft comprehensive scopes of work necessary to assess the diversion/storage and municipal effluent reuse projects.