

# Solutions to Southwest New Mexico's Long-term Water Needs

## *Meeting Local Water Needs and Protecting the Gila River*

### **Key Points:**

- **Gila River water is not needed.**
- *Recent scientific evidence shows the regional aquifer contains 15 million acre-feet of water with 15,900 acre-feet of recharge annually, enough water to supply the Silver City area for hundreds of years.*
- **Future water needs of southwestern New Mexico can be met cost-effectively with:**
  - *municipal conservation*
  - *agricultural conservation*
  - *sustainable use of groundwater*
- **Gila River water is very expensive.**
- *Exchange costs are \$1.65 million/year in 2010 and rise annually*
- *Estimates of total construction costs for a diversion project range from \$193 M - \$300 M*
- *AWSA subsidy covers only part of the construction costs of a Gila River diversion, leaving the tax payer shouldering the difference*
- *Operation and maintenance costs are estimated at \$6.6 million/year*

Stakeholders in southwestern New Mexico are trying to determine how to use funding from a Congressional water bill to cost effectively balance water supply and demand while protecting the Gila River.

### **\$66 million is available to meet water needs in SWNM**

\$66 million is available to the four counties of southwestern New Mexico for meeting water supply demands in the region. There is no requirement that those funds be used for a Gila River diversion project.

### **No need for Gila River water has been demonstrated.**

The regional aquifer contains enough water to supply Silver City for hundreds of years. Silver City's water supply is more limited by its existing water rights rather than the

availability of water, according to a contractor advising the AWSA planning process. Deming's 2009 water plan demonstrates that it has acquired enough water rights to meet future demand over the 40-year planning period. The Gila-San Francisco Basin is allowed 31,000 acre-feet/year in depletion right. However, it is only using 27,000 afy. 4,000 acre-feet goes unused annually

### **Water needs can be met cost-effectively through conservation and sustainable groundwater use**

Implementation of proven conservation and water efficiency measures can sharply reduce the amount of water needed in the future at a fraction of the cost of a Gila River diversion project. Switching to drip irrigation saves area farmers 30-50% of current water use, and municipal con-

servation measures for Silver City can achieve a 30-45% reduction in demand. Sustainable development of groundwater supplies can satisfy any additional water supply needs as they arise.

These strategies range in cost from \$11- \$360/acre-foot for municipal conservation, \$517/acre-foot for drip irrigation, and \$98-\$274/acre-foot for sustainable groundwater development. These solutions compare to tens of thousands of dollars/acre-foot for construction of a Gila River diversion project.

Conservation and sustainable use of groundwater can secure our water future without building a costly diversion project that will alter the Gila River forever. Common-sense conservation saves the taxpayer money and protects the Gila River for our future.



**GILA  
CONSERVATION  
COALITION**

*Saving New Mexico's  
Last Wild River*

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## Municipal Conservation

### SOLUTION:

Implementation of municipal conservation measures to extend life of groundwater supply

Cost = \$11/acre-foot —  
\$360/acre-foot

Water saved =

4,119 acre-feet/year in  
four county area

Water conservation measures reduce the demand for water and therefore reduce the need to develop new water supplies. Many of these measures also save energy costs, reduce wastewater treatment costs, and reduce the overall environmental impacts associated with water use.

The Gila Conservation Coalition proposes the following conservation measures as cost-effective ways to meet SWNM's long-term water needs:

- Replacing less efficient plumbing fixtures and appliances
- Increasing block water rate structures
- Outdoor watering requirements
- Leak detection and repair programs

Per capita water use in the US has dropped by 30 percent since 1975 largely due to more efficient water use. Municipalities in the four county region have implemented

different water conservation programs. But significant efficiency gains can still be made through cost-effective conservation.



## Agricultural Conservation



Drip irrigation has a water-use efficiency of 80-95 percent, resulting in an estimated water savings of 50 percent.

Great potential exists to reduce agricultural water consumption through the installation of water-efficient technologies. Drip, or "micro," irrigation delivers precise amounts of water directly to plants where water is needed the most. Funding for conversion to drip from flood irrigation is needed to achieve these

significant water efficiency gains.

This project proposes to implement drip irrigation primarily in Luna and Hidalgo counties on farms where appropriate. The water saved would be purchased using AWSA funding and retired or else there is no net water savings.

### SOLUTION:

Conversion to drip irrigation and retirement of water right for net water savings

Cost = \$517/acre-foot

Water saved =

2,031 acre-feet/year (in  
Luna and Hidalgo counties)

## Sustainable Use of Groundwater

### SOLUTION:

Acquire additional water rights, deepen existing wells, develop new wells, develop water distribution networks

Cost = \$98/acre-foot —  
\$274/acre-foot

Water supplied =

9,512 acre-feet/year in four  
county area

Water supply issues in the region may arise due to lack of water rights rather than a lack of "wet water." Municipalities can acquire additional water rights from mining or agriculture to increase water supplies without negatively affecting sustainable water use. In other cases, municipal wells may be arriving at their

sustainable production levels. In order to increase water production, well deepening can result in a higher sustainable yield from a well field and provide a very low cost means to increase water supplies. If well deepening is not an option, then drilling new wells may provide an additional source of water supply

assuming that the new wells can produce a sustainable yield. Since purchased water rights may not be located near demand centers, piping of water to demand centers may be needed. It may also be necessary to develop regional water systems such as proposed by the Town of Silver City for the mining district.