

Program Summary
Department of Water Resources
Rural Water Studies

Program Overview

The Rural Water Studies (RWS) Special Line Item provides funding to the Department of Water Resources (DWR) Statewide Planning Program for assessing local water use needs and developing plans for sustainable future water supplies in rural areas of Arizona. The monies are specifically used to aid areas outside of the 5 Active Management Areas (AMAs). The AMAs were established in 1982 to provide long-term management and conservation of limited groundwater supplies. These areas combined include approximately 80% of state's population and 75% of the state's water use. The 5 AMAs include Prescott, Phoenix, Pinal County, Tucson, and Santa Cruz County.

The rest of the state, which accounts for about 87% of the land mass, does not have the same restrictions for water use. Many rural parts of the state have rapidly growing populations resulting in an increase in the demand for water. Through the RWS program, DWR provides planning assistance to local rural watershed partnerships including technical information and analysis, administrative support and advice on water issues, and funding for water studies. In FY 2000, the RWS Special Line Item was created to provide funding for this purpose.

Local Rural Watershed Partnerships generally form under direction from DWR. Currently, there are 17 watershed partnerships in Arizona. Partnerships may consist of representatives from DWR, other resource and regulatory agencies (the United States Geological Survey (USGS), Bureau of Reclamation (USBR), the Water Advisory Council, The Nature Conservancy, etc.) and local stakeholders in rural areas (counties, cities, tribes, etc.). To form a partnership, DWR requires that local entities meet the following criteria:

- Be outside an AMA.
- Be locally driven.
- Be able to implement on-the-ground projects.
- Be addressing water resource issues on a watershed basis.
- Submit in writing their goals, objectives, and budget to DWR.

There are 4 main types of studies that are conducted by the partnerships. Conceptual Models and Numeric Models are co-funded by the USGS and the local entities with the majority of the funding coming from DWR. Water Appraisal Studies and Feasibility Studies are co-funded by the USBR with a 1 to 1

match. A brief explanation of each type of study is below.

- **Conceptual Model** – Conceptual models, also referred to as comprehensive groundwater studies, map out the characteristics of the water system in a specific area and give an overview of the water budget (supply and demand of groundwater). These studies generally require 4-5 years to complete.
- **Numeric Model** – Numeric models, also called Predictive Models, are created after conceptual models are completed. Numeric models provide a more detailed inventory of availability and quality of the water and are predictive tools that enable the watershed regions to assess the effect of growth and development on water levels and availability. These studies generally take 2-3 years complete.
- **Water Appraisal Study** – Water appraisal studies compile all available groundwater information of a watershed area, provide a current estimate of supply and demand groundwater, and identify possible solutions to any shortcomings in the area. These studies generally take 2 years to complete.
- **Feasibility Study** – A feasibility study is done after a water appraisal is completed and involves detailed analysis of the costs of mitigating any shortages or other supply shortcomings found during the appraisal studies. This analysis could include an estimate of engineering costs or any environmental and economic impacts as a result of mitigating water supplies. These studies require Congressional authorization for funding through the USBR and generally take 2-4 years to complete.

In USGS co-funded studies, DWR staff typically perform most of the data collection while USGS uses the information gathered by DWR to prepare the actual groundwater models and studies. In USBR co-funded studies, DWR assists watershed partnerships in identifying water resource problems, gathering the required information to develop solutions, and helps find funding sources. The USBR uses that information and applies a more engineering related approach to evaluating the feasibility of various plans.

Program Funding

RWS's source of state funding is the General Fund. In FY 2008, the program was funded at \$2 million, unchanged from FY 2007 except for statewide adjustments. Of that amount, \$1.2 million is for grants and projects, while the remaining \$0.8 million is for staffing. The FY 2008 level of funding represents a 67% increase over the FY 2001 level which was \$1.2 million (see *Table 1* for funding history).

There are 10 current projects that receive funding from the RWS SLI:

- Numeric Model - Verde, Coconino Plateau and Mogollon Highlands (Gila County Area).
- Conceptual Model - Detrital, Hualapai and Sacramento groundwater basins (Mohave County Area).
- Conceptual Model - Middle San Pedro (Benson Area).
- Conceptual Model - Douglas and Wilcox basins.
- Feasibility Study - 3 water augmentation projects for the Coconino Plateau.

Performance Measures

There are 3 performance measures that the department tracks related to the Rural Water Studies SLI (see *Table 2*). These performance measures do not measure the effectiveness of the program but are merely output measures. Technical assistance projects, the first listed measure below, are not limited to Rural Water Studies program.

An additional measure that would be useful in assessing this program is the average time taken to complete a study. This measure would provide insight into the efficiency of DWR's processes for completing studies. Because all studies have different time frames, this measure would provide information regarding the lapsing period of the appropriations and whether it is appropriate.

Rural Water Studies Funding History					
<u>Fund</u>	<u>FY 2001</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>
Staffing ^{1/}	-	-	\$ 711,000	\$ 799,100	\$ 806,600
Grants	-	-	<u>1,200,000</u>	<u>1,200,000</u>	<u>1,200,000</u>
Total General Fund	\$1,200,000^{2/}	\$500,000	\$1,911,000^{3/}	\$1,999,100^{4/}	\$2,006,600^{5/}

^{1/} Before FY 2006, funding amounts were not delineated between staffing and grants.
^{2/} This amount represents the appropriation for FY 2000/2001 biennial budget.
^{3/} Lapses June 30, 2007.
^{4/} Lapses June 30, 2008.
^{5/} Lapses June 30, 2010.

Rural Water Studies Performance Measures			
<u>Performance Measure</u>	<u>FY 2005 Actual</u>	<u>FY 2006 Actual</u>	<u>FY 2008 Estimate</u>
Technical assistance projects provided to areas outside AMAs that request support in quantifying and improving management of the area's water resources.	12	12	12
Number of Rural Water Studies initiated	-	4	4
Number of Rural Water Studies completed in current year	-	-	4