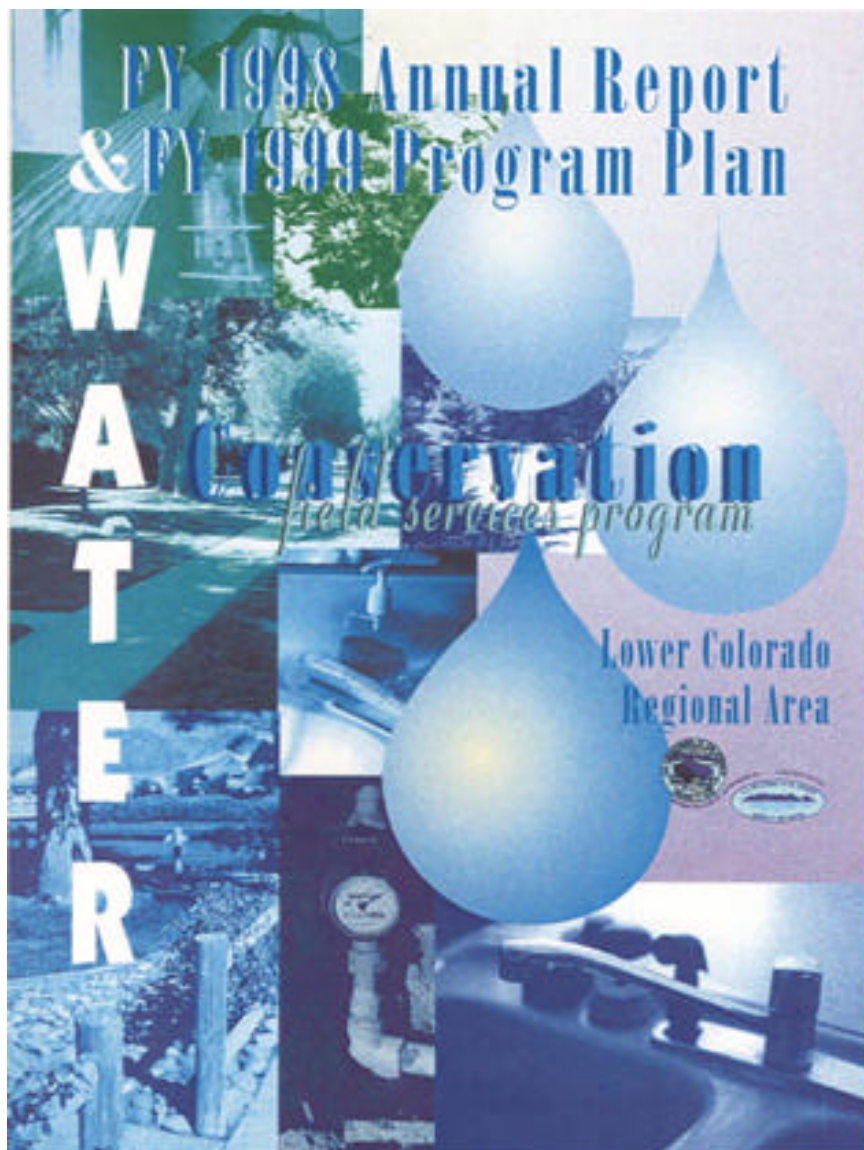


FY 1998 Annual Report
& FY 1999 Program Plan

W
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Conservation
field services program

Lower Colorado
Regional Area



Water Conservation Field Services Program
Bureau of Reclamation - Lower Colorado Region
Annual Report - FY1998

Lower Colorado Region Area

Location and Area of Responsibility

Reclamation's Lower Colorado Region consists of portions of California, Arizona, Nevada, Utah, and New Mexico. The Region contains four Area Offices whose responsibilities include working with the water users within individual Area Office boundaries to administer the WCFSP. The four Area Offices within the Region include the Lower Colorado Regional Area (LCRA), the Phoenix Area Office, the Southern California Area Office, and the Yuma Area Office.

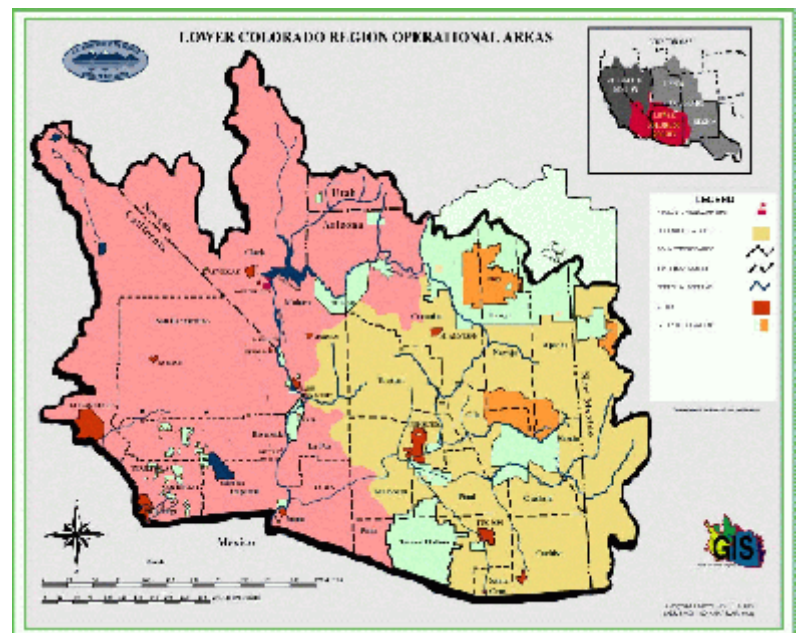
Entitlement to Colorado River Water

The seven Lower Basin States of California, Arizona, Nevada, Utah, New Mexico, Colorado, and Wyoming and the Republic of Mexico rely on the Colorado River to meet their water supply needs. In 1922, the States entered into an interstate compact which included a provision for the equitable division and apportionment of Colorado River water.

The 1964 U.S. Supreme Court Decree in *Arizona v. California* established several additional dimensions to the apportionment of Colorado River water, including apportionments to the States of California, Arizona, and Nevada. It was ruled that of the first 7.5 million AF of mainstem water consumed in the Lower Basin, California was entitled to a consumptive use of 4.4 million AF/year;

Arizona to 2.8 million AF/year; and Nevada to 0.3 million AF/year.

The Colorado River Basin Project Act of 1968 authorized the Central Arizona Project, providing for allocations to the Lower Basin States in years of



insufficient mainstream water to satisfy the specified consumptive use of 7.5 million AF/year.

In 1995, water users utilized the full 7.5 million AF/year allocation, providing all stakeholders with significant incentive for further implementation of prudent water management.

Lower Colorado Regional Area

Location

The LCRA boundaries are comprised of the upper half of the Region, which includes the Colorado River and tributary areas from Lees Ferry to Davis Dam, with the exception of the Little Colorado River drainage. The tributary areas include portions of southern Nevada, southern Utah, and northwestern Arizona.

Elevations range from 600 feet near Davis Dam to the mountain peaks of 12,000 feet above mean sea level near Las Vegas, Nevada. The average annual rainfall is very low for the majority of the LCRA, ranging from 200 millimeters (mm) or less in the lower desert areas to in excess of 800 mm in the mountains.

Vegetation, sparse throughout most of the LCRA due to low precipitation and warmer climactic conditions, consists mostly of typical desert plants. There are some forest areas in the LCRA; however, they are limited in size and are typically surrounded by desert terrain.

Colorado River Water Users

Water users within the LCRA who have water service contracts with the Secretary of the Interior include the following:

Nevada:

- Basic Management/Basic Water Company
- Big Bend Water District
- Boulder Canyon Project
- City of Boulder City
- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Colorado River Commission of Nevada (Robert B. Griffith Water Project)
- Las Vegas Valley Water District
- National Park Service
- Nevada Department of Fish and Game
- Nellis Air Force Base
- Pacific Coast Building Products (PABCO Gypsum)
- Southern California Edison Company
- Southern Nevada Water Authority (SNWA)

In Arizona:

- Boy Scouts of America
- Bureau of Land Management
- City of Bullhead City
- City of Kingman
- City of Lake Havasu City
- City of Parker
- Golden Standard Mines
- Havasu Water Company
- Lake Havasu Irrigation and Drainage District
- Marble Canyon
- McAlister
- Mohave County
- Mohave County Water Authority
- Mohave Water Conservation District
- National Park Service
- Western States Minerals

In California: City of Needles

Water Supply and Use Within the LCRA

The vast majority of water use in the LCRA is municipal and industrial (M&I), with little agricultural use in the tributary areas of the Colorado River. Most of the M&I water use is concentrated in the Las Vegas metropolitan area, the largest urbanized area within LCRA boundaries. Other municipalities within the LCRA include St. George (Utah), Kingman, Lake Havasu, and Bullhead City (Arizona), who rely on groundwater and tributary flows of the Colorado River.

The agricultural farm lands (fewer than 100,000 acres) within the LCRA are irrigated with tributary flows and are not direct diverters of Colorado River water.

Local Problems and Issues

Most of the issues surrounding WCFSP administration in the LCRA pertain to southern Nevada. Nevada is the driest state in the nation as well as one of the fastest-growing states (current figures show that 5,000 people move to southern Nevada each month), with a population of over 1 million people and a limited water supply of 300,000 AF/year to meet the needs of its residents. The majority of Nevada's Colorado River entitlement is diverted to southern Nevada, providing between 80 and 90 percent of its water supply, which is supplemented with local groundwater supplies totaling 45,500 AF/year.

Local problems and issues at the forefront of community awareness include securing a sustainable water supply for southern Nevada as it quickly approaches its Colorado River entitlement. Negotiations are currently taking place among the Lower Basin States of California, Arizona, and Nevada which could enable Nevada to bank water in Arizona for future use.

Another local issue stems around the fact that 80 to 90 percent of Nevada's water supply is utilized in southern Nevada. Northern Nevada is concerned that, as southern Nevada's population continues to grow at such a rapid rate and the maximum entitlement of

300,000 AF/year is approached, southern Nevada will need more water within a few short years and may look to northern Nevada (who receives its water from sources other than the Colorado River) for additional water supplies.

Drainage problems exist in the Las Vegas valley due to the existence of a high groundwater table which threatens urban areas which must be controlled by drainage pumping. The high water table is aggravated by landscape irrigation. One potential solution, currently being discussed, is the prospect of adding new, expensive drainage wells and increasing drainage pumping.

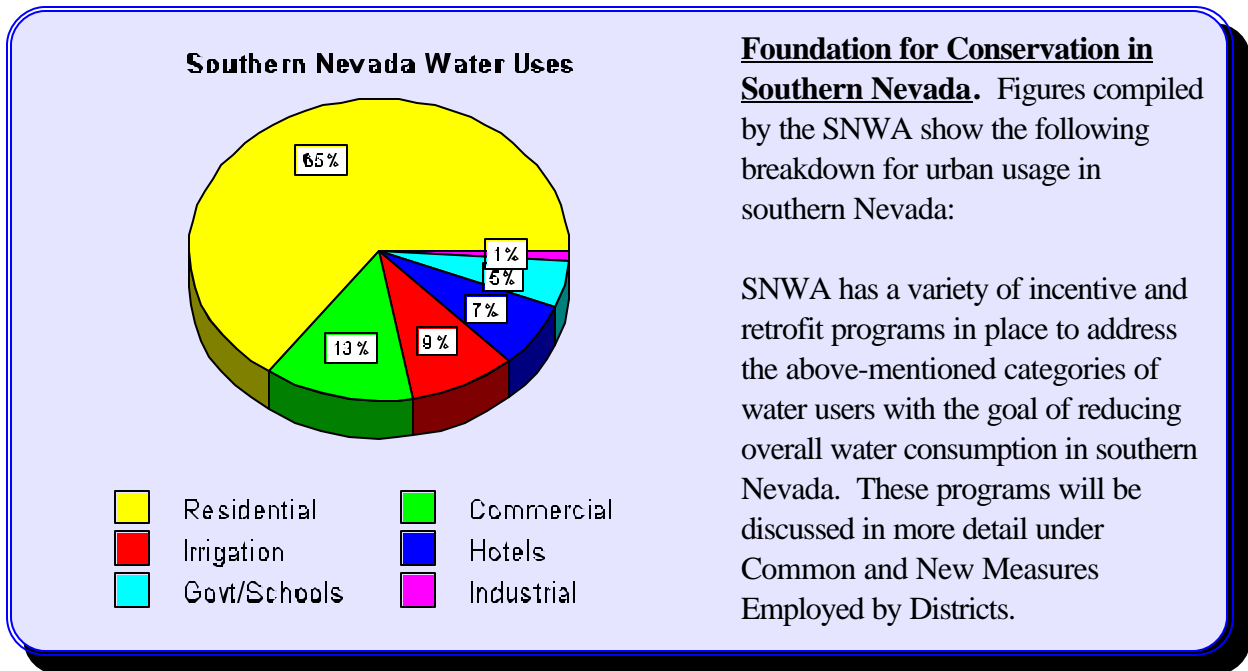
Local Priorities, Goals, and Objectives

Nevada's water supply issues provide the framework for LCRA priorities, goals, and objectives. As Nevada continues to approach its annual Colorado River entitlement (in 1997, Nevada utilized 242,810 AF of water in consumptive use), many opportunities for conservation exist and continue to emerge. The priority for the LCRA is to first serve the needs of southern Nevada municipalities as they grapple with water management problems and opportunities. By working closely with the seven members of the Southern Nevada Water Authority (Las Vegas Valley Water District, the Cities of Las Vegas, North Las Vegas, Henderson, Boulder City, Big Bend Water District in Laughlin, and the Clark County Sanitation District) to put a comprehensive water conservation plan in place, we can concentrate on the areas of southern Nevada water use identified as needing the most attention with regard to conservation.

Secondary Priorities, Goals, and Objectives

While southern Nevada poses the most pressing conservation needs of the LCRA, secondary

address the conservation needs of the Park, with visible results to thousands of visitors each year. In FY 1999, the LCRA will continue to contact the water users of northwestern Arizona and southern Utah in an effort to provide additional conservation planning assistance, further develop the information and education programs in place, and search for new projects and activities which demonstrate



priorities, goals, and objectives of the LCRA program include the needs of users in northwestern Arizona and southern Utah. Reclamation has tried to make itself more visible to the Arizona and Utah users in FY 1998 to plant the seed for future conservation partnering opportunities.

As a result, the LCRA was able to sponsor a landscape guide published exclusively for Mohave County residents and University of Arizona workshops. This guide is the first publication of its type in Mohave County, which contains watering guidelines and planting specifications for vegetation exclusive to that community.

Our discussions with southern Utah led to discovery of a conservation need/opportunity in Zion National Park. Plans are underway to implement a demonstration project in FY 1999 which will

innovative technology and effective efficiency measures.

Emphasized Activities

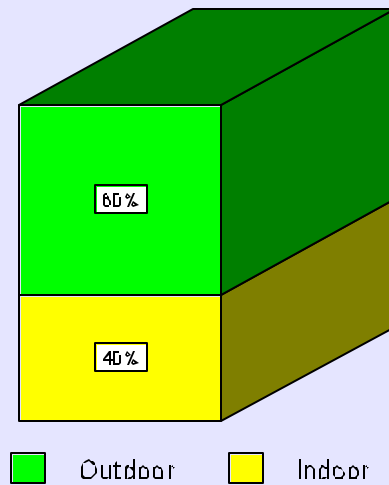
The most immediate conservation needs of the LCRA lie within southern Nevada. Activities to be emphasized to address the needs of southern Nevada will revolve around urban uses (that is, incentive and retrofit programs; information and education activities; and commercial, industrial, and institutional audits). We will continue to work with the SNWA to minimize water consumption through adoption of its comprehensive conservation plan (a collective effort among the seven member agencies) and providing technical and/or financial assistance, as needed, to implement the SNWA's conservation plan measures (BMP's). SNWA's BMP's are

discussed in more detail under Common and New Measures Employed by Districts.

Secondary emphasis will be placed on developing partnerships with the users of Arizona and Utah in order to provide technical and/or financial assistance to meet the respective needs of their areas. Since most of the water use in northwestern Arizona and southern Utah consists of tributary flows of the Colorado River and not direct diversion, it is anticipated that

their conservation needs and opportunities are much different than southern Nevada's needs and opportunities. In other words, the populations of the Arizona and Utah communities are much smaller, placing fewer demands on their water supplies; therefore, the existing opportunities and efforts made for conservation in northwestern Arizona and southern Utah will probably be on a smaller scale than the efforts made for conservation issues in southern Nevada.

Figure 2. Residential Water Uses



Southern Nevada's residential water use is broken down as follows:

Outdoor water use consists of mostly irrigation of landscapes. Indoor water use consists of the following:

Toilets	15 percent
Showers	13 percent
Laundry	5 percent
Faucets	5 percent

PROGRAM ACCOMPLISHMENTS

In FY 1998, the LCRA achieved nearly all of its goals with respect to conservation planning assistance, demonstration of innovative technologies, implementation of effective efficiency measures, and information and education activities. Specific measures were identified and implemented to support achievement of FY 1998 LCRA goals in the following areas:

Conservation Planning Assistance

Goal 1: Ensure all users within LCRA submit sound conservation plans in a timely manner.

Measure: Workshops, monthly meetings with SNWA and its member agencies, one-on-one meetings, frequent telephone inquiries, LCRA newsletter, and correspondence with users. Have met with all 32 LCRA users via workshops and provided WCFSP program requirements, M&I plan guidelines, and computer models for submission of plans. In addition, the LCRA Water Conservation Coordinator participated in monthly work group meetings with SNWA and representatives of its member agencies. The LCRA provided technical assistance on an as-needed basis with other users in the process of developing and implementing plans. We offered financial assistance to two industrial users to conduct a commercial, industrial, and institutional audit.

LCRA users met with in FY 1998 to provide technical assistance included SNWA member agencies, the City of Boulder City, Pacific Coast Building Products, Basic Management/Basic Water Company, the National Park Service, the City of Lake Havasu, and the City of Needles. Discussions with these users have included evaluation of existing water conservation plans and measures, evaluation of ways to improve the information in the plans to help manage and budget for water conservation efforts, identification of opportunities for conservation improvements, and facilitation of partnership efforts. These discussions have also stressed the importance of plans' content and how the content of plans translates into success stories for the districts—namely, plans need to include

goals, measures for implementation, and a time schedule for completion in order to enable plans to work for the districts.

All LCRA conservation plans are current or are being developed as scheduled, with the exception of Basic Management/Basic Water Company (one of two industrial users within the LCRA), who has submitted a draft plan but needs to submit supplemental information before a final plan can be adopted.

Results of Goal 1: Overall goal achieved, with exception of one district who is running behind schedule with adoption of a final plan.

Other Technical Assistance

Reclamation has been providing technical assistance to the SNWA with data collection efforts for the SNWA-USBR Xeriscape Conversion Study via site reviews and consultations with a statistician from the Denver Technical Service Center and LCRA staff.

Reclamation has also provided technical assistance for planning and phasing of the NPS-USBR Landscape Conversion Study to convert irrigation systems and replace vegetation at two campground sites located within the Lake Mead National Recreation Area.

Demonstration of Innovative Technology/Implementation of Effective Efficiency Measures

Goal 2: Save 1 percent, or 3,000 AF annually, of Nevada's Colorado River

allocation being used in southern Nevada by residents and commercial properties.

Measure: SNWA-USBR Xeriscape Conversion Study. The SNWA is the primary entity responsible for maintenance of conveyance facilities and administration and distribution of Colorado River water to users throughout southern Nevada. Southern Nevada has a scarce water supply, when compared to the other Lower Basin States, and has limited options for development of additional, sustainable supplies which will carry its residents well into the next century. With Nevada's hot, dry climate, about 60 percent of the water supply used by residents and commercial properties is applied outdoors for landscaping and recreational purposes. Up to 50 percent of the water applied to outdoor landscaping may be used inefficiently due to poor sprinkler system design, improper watering methods, and poorly designed landscapes.

Thus, Cooperative Agreement No. 5-FC-30-00440 was executed on August 29, 1995, to fund the SNWA-USBR Xeriscape Conversion Study. This cost-shared partnership has made a \$1.18 million investment for purposes of studying water savings by converting 550 turf landscapes to xeriscape landscaping (residential and commercial sites), with rebates offered to converted landscape participants. An additional 550 turf landscapes (residential and commercial sites) are participating in the Study through water metering evaluation. Currently in its fourth year of execution, the Study has now entered the data collection phase to evaluate the overall water savings achieved by the xeriscape group as compared to the turf group with the use of a sophisticated datalogger data collection and interpretation system. Preliminary data gathered indicates a consumptive use rate savings of between 30 and 80 percent for converted xeriscape sites.

This Study is just one of the incentive programs and BMP's (plan measures) currently in place at SNWA which promoted the achievement of its conservation goal for summer 1998. SNWA set a conservation goal of 14.8 percent and achieved 15.0 percent

conservation, or 10.5 billion gallons of water, throughout the Las Vegas valley this summer!

Results of Goal 2: Goal achieved for FY 1998; overall Study goals on track.

Goal 3: Save 164 AF/year at two National Park Service (NPS) campground sites located within the Lake Mead National Recreation Area (LMNRA).

Measure: NPS-USBR Landscape Conversion Study. The LMNRA receives more than 900,000 visitors annually. The campgrounds are flood-irrigated, and the primary vegetation in the campgrounds is mainly non-native vegetation which consumes large quantities of water.

Intra-Agency Agreement Number 8-AA-30-00034 was executed on September 25, 1998, for purposes of converting the ditch irrigation systems to drip irrigation and replacing the non-native vegetation with native, drought-tolerant vegetation at Echo Bay and Cottonwood Cove campground sites. Completion of this cost-shared Study will result in the conservation of more than 160 AF/year, or 70 percent of the current rate in consumptive use, and demonstration of efficient conservation methods to thousands of campground visitors each year.

Results of Goal 3: Goal achieved for FY 1998; overall Study goals on track.

Goal 4: Install waterless urinals at Lake Mead National Recreation Area.

Measure: Reclamation provided approximately \$5,000 to the NPS in FY 1997 to purchase 10 waterless urinals for use at the LMNRA. The urinals were installed at local campground areas in FY 1998, demonstrating this innovative and efficient technology to thousands of LMNRA visitors. Decorative plaques were installed inside the waterless urinals, indicating that the NPS and Reclamation had partnered in this effort to conserve

water and save taxpayers' dollars while providing a valuable service to the public.

Results of Goal 4: Goal achieved.

Goal 5::Conduct a market survey of the Las Vegas valley in order to kick-off a Horizontal Washing Machine Study with the SNWA.

Measure: Assessment of SNWA's many current incentive and retrofit programs has resulted in the postponement of this goal due to funding and resource constraints. LCRA staff have held discussions with a consultant who conducts local energy market surveys for horizontal washing machine utilization. We will table this goal until FY 1999, when the possibility of implementing this incentive program in the Las Vegas valley, or with a municipal user in the northwestern Arizona area, is more viable.

Results of Goal 5: Goal postponed to FY 1999.

Information and Education Activities

Goal 6: Public awareness of water conservation in southern Nevada.

Measure: Originally, the measure to implement this goal was identified as having Reclamation become an active sponsor/participant of the Coalition 2000 group in the Las Vegas valley. This group of private industry businesses promotes grass-roots campaigns to inform the general public about water conservation methods that everyone can incorporate into their everyday lives. In FY 1998, the LCRA approached the Coalition 2000 group about becoming an active member and contributing \$5,000 towards its summer campaign. Reclamation's offer was declined; the group wants to stick with its original intent of members being comprised of private industry businesses.

In order to meet LCRA's goal of public awareness of conservation, we looked for other local opportunities. As a result, the LCRA was able to sponsor four Project WET workshops to train Las Vegas valley teachers to teach Project WET curriculum in their own classrooms, much of which is directly related to water conservation issues. Reclamation provided \$20,000 to the State of Nevada to sponsor these workshops in the Southern Nevada Region. Southern Nevada's Project WET Coordinator retired this summer, and there is no available funding to replace the position. Sponsoring these workshops will assist the Southern Nevada Region with ensuring that the Project WET program continues to thrive in local schools.

Results of Goal 6: Goal achieved through substituted measure.

Goal 7: Public awareness of water conservation in northwestern Arizona.

Measure: Mohave County Landscape Guide. The LCRA provided \$2,500 to the University of Arizona to cover publishing costs of a landscape guide for Mohave County residents and University of Arizona workshop participants. This guide, the first of its kind to specifically address Mohave County native vegetation, contains a listing of native, drought-tolerant plant families with descriptions, planting specifications, and watering guidelines. Five thousand copies of the guide have been distributed to Mohave County residents, and the guide will be used at future University of Arizona workshops.

Results of Goal 7: Goal achieved.

Goal 8: Sponsor distribution of conservation education materials to fourth and fifth grade students in LCRA.

Measure: Water Conservation issue of Wild Outdoor World magazine. The LCRA provided \$10,000 to the Watercourse Program/Project WET to publish this November/December 1998 issue of Wild Outdoor World magazine and activity booklet, devoted entirely to the subject of water conservation. Ten thousand copies of the publication will be distributed to Project WET-participating schools in southern Nevada, southern Utah, and northwestern Arizona.

Results of Goal 8: Goal achieved.

Goal 9: Assist with development of advanced educational module for community college students.

Measure: Provide technical and financial assistance to Project WET for development of national water conservation module. Progress with the module fell behind schedule in FY 1998, so the LCRA redirected its efforts into supporting the Project WET program at a local level. The LCRA provided funding to the Southern Nevada Region to sponsor four workshops, with plans in the works to sponsor similar workshops in northwestern Arizona and southern Utah in FY 1999.

Results of Goal 9: Original module goal not met; substituted goal achieved.

Goal 10: Train local teachers in utilization of water conservation software for classroom settings.

Measure: The LCRA purchased and distributed 100 copies of the Hydroexplorer water conservation software program and instructions for use to local teachers for utilization in their

classrooms. This conservation game on software is applicable for students in grades 2 through 5.

Results of Goal 10: Goal achieved.

Goal 11: Establish LCRA website.

Measure: Consultant hired to develop and establish website. The Regional Water Conservation Manager provided funding to a consultant, who established websites for each of the Area Offices located within the Region. The LCRA website address is as follows:

<http://www.lc.usbr.gov/~wtrconsv>. In addition, the LCRA website has been linked to the LC-2000 Resource Management home page and will be updated on a regular basis in the future.

Results of Goal 11: Goal achieved.

Goal 12: Participate in water fair in southern Utah.

Measure: Provide presentation to 400 students at annual Washington County Water Fair. This year, the UC Region participated in the annual water fair instead of the LC Region. The LCRA hopes to be invited to this event next year. The original water fair goal was substituted with LCRA's participation in the Lower Colorado Regional Kids' Day annual event by providing a presentation and exhibits on water conservation. We provided a presentation, educational hand-outs, set up computers to access our website, and provided conservation software games for approximately 75 children.

Results of Goal 12: Original goal not achieved as UC Region invited to participate instead of LC Region. Substituted goal achieved.

Goal 13: Sponsor broad educational project for southern Nevada.

Measure: Nevada Water Education Calendar. The LCRA provided \$2,000 to sponsor one month of this calendar, published annually by the State of Nevada. The calendar is aimed at educating elementary and junior high school students on water resource management issues. Each year, the State sponsors an art contest for students with a water resource management theme. Each month of the calendar contains a photograph of a student artist with that month's sponsor, winning students' artwork, and many quizzes and facts related to water resource management issues. The LCRA distributed 500 copies of the calendar to local schools.

Results of Goal 13: Goal achieved.

Goal 14: Develop and distribute LCRA newsletter.

Measure: A newsletter was developed and distributed to all LCRA water users and other interested parties. Feedback from the newsletter has been positive; the newsletter seems to be a positive way to reinforce Reclamation's efforts and willingness to partner with local water users. At this time, the newsletter is being distributed semi-annually. As the LCRA program continues to grow and prosper in FY 1999, we will probably start distributing the newsletter quarterly.

Results of Goal 14: Goal achieved.

Efforts to Implement Effective Measures

Results of LCRA efforts to implement districts' plan measures which support plan goals have been encouraging. The LCRA has several demonstration and effective efficiency measure projects completed or underway, with more projects scheduled for implementation or continuation in FY 1999 (see FY 1998 Goals 2, 3, and 4).

Correlation Between District Plans and LCRA Goals

The goals and measures contained in conservation plans submitted to the LCRA have been directly related to the success of the LCRA program accomplishment (see Program Accomplishments). For the past 2 years, LCRA goals have been framed around development of sound plans (conservation planning assistance); implementation of plans' goals and measures (demonstration and effective efficiency measure projects); and development of a strong education program (information and education).

Progress with Districts in Adopting Fundamental Measures

The four fundamental measures, identified and recommended by Reclamation for inclusion in conservation plans, are (1) water measurement and accounting; (2) incentive pricing structure; (3) information and education programs; and (4) designation of water conservation contact persons. To date, all plans submitted to the LCRA for review and comment have addressed these four fundamental measures. There have been no major problems in working with districts in the LCRA to adopt the fundamental measures.

Common and New Measures Employed by Districts

The vast majority of LCRA water users are urban. Most of the users of northwestern Arizona and southern Utah either receive tributary flows of the Colorado River or are not utilizing their Colorado River allocations. Therefore, in order to address measures utilized by districts, focus will be placed on the southern Nevada water users. Measures, or BMP's, employed by the SNWA and its member agencies in FY 1998 included the following:

- Water measurement and accounting system
- Incentive pricing and billing
- Water conservation/efficiency coordinator
- Information and education program
- Distribution system audit program
- Customer audit/incentive program
- Commercial and industrial audit/incentive program
- Landscape programs
- Wastewater management/recycling program
- Fixture replacement programs
- Plumbing regulations
- Water shortage contingency plan.

Specific programs and activities are in place to support each of the BMP's. For instance, the SNWA-USBR Xeriscape Conversion Study is an activity under SNWA's landscape programs BMP.

SNWA is implementing the following new activities to support its measures in FY 1999:

- Multifamily Plexes Retrofit Program
- Multifamily "Managing Your Green" Program
- Residential Turf Removal Program
- Commercial/Multifamily Turf Removal Program
- Commercial Ultra Low-Flow Toilet Rebate Program
- Residential Early-Closure Flapper Program
- Landscape Awards Program

Common and New Measures Employed by Districts

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Water measurement and accounting system	Commercial and industrial audit/incentive program
Incentive pricing and billing	Landscape programs
Water conservation/efficiency coordinator	Wastewater management/recycling program
Information and education program	Fixture replacement programs
Distribution system audit program	Plumbing regulations
Customer audit/incentive program	Water shortage contingency plan.

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New Activities SNWA is implement to support its measures in FY 1999:

Multifamily Plexes Retrofit Program	Commercial/Multifamily Turf Removal Program
Multifamily "Managing Your Green" Program	Commercial Ultra Low-Flow Toilet Rebate Program
Residential Turf Removal Program	Residential Early-Closure Flapper Program
Landscape Awards Program	Expanded Conservation Hotline and CAP Program

PROGRAM EVALUATION

The WCFSP in the LCRA has been in existence since October 1, 1996. The program got off to a fairly slow start in the LCRA in FY 1997. Funding for the LCRA program was initiated at \$145,000, and the dedication of 1 full FTE was devoted to LCRA program accomplishment in May 1997. The LCRA held workshops with all 32 water users in our area and started building up the program with demonstration, efficiency

measure, and information and education activities to complement development and implementation of conservation plans in the area.

In FY 1998, combined WMC and EIP monies for LCRA administration totaled \$170,400.

The LCRA continued to meet regularly with water users in the area to assist with development and adoption of strong conservation plans. As the fiscal year came to a close, we were on track with development of all required conservation plans, with the exception of one district. The LCRA has commitments from several water users in the area to submit and implement conservation plans even though they are not required by law to do so. We were able to continue progress or implement three demonstration and effective efficiency measure projects and sponsored nine information and education activities.

On reflection, the goals that the LCRA has set to meet the needs of local water users have been appropriate and in alignment with program resources. Plans developed and implemented, to date, have been instrumental in saving considerable quantities of water in the LCRA; results are quantifiable and measurable, as reflected in this year's and previous years' accomplishment reports and mid-year assessments.

As we move forward into our third year of program implementation in FY 1999, the LCRA will continue to focus on the four priority areas of the WCFSP: (1) conservation planning assistance; (2) demonstration of innovative technologies; (3) implementation of effective efficiency measures; and (4) information and education. The LCRA will continue meeting regularly with water users in the area to develop stronger partnerships, and we will continue to provide technical and financial assistance to water users as they develop and implement their conservation plans. We intend to continue progress on two demonstration projects (SNWA-USBR Xeriscape Conversion Study and NPS-USBR Landscape Conversion Study), with plans to implement three new demonstration and effective efficiency measure projects in FY 1999. We have two new information and educational projects scheduled for completion in FY 1999 in addition to our ongoing educational program efforts.

Progress in the LCRA, since the WCFSP was implemented in FY 1997, has been steady. The dedication of 1 full FTE to the LCRA program has been adequate to date. Funding resources for the LCRA program have been growing in small increments since the WCFSP was implemented; total funding available for the LCRA program in FY 1999 is \$279,000. However, in order to continue to meet the needs of *all* of the water users in the LCRA in future years, funding needs will become more paramount.

Local issues in the southern Nevada will most likely continue to be the pressing needs of the LCRA for the next several years. Where we want to go from here is to "round out" the LCRA program by working more with the water users in northwestern Arizona and southern Utah to assist in meeting the needs of all of the water users located in the LCRA.

PROGRAM OUTLOOK

The outlook for the LCRA is contained in the following FY 1999 Program Plan. The Plan contains the LCRA's goals and priorities, scheduled activities, anticipated results, and program resources available to meet the needs of the area in FY 1999.

**TABLE 6. FY 1999 PROGRAM PLAN
LOWER COLORADO REGIONAL AREA
WATER CONSERVATION FIELD SERVICES PROGRAM**

(1) PRIO/ CAT	(2) GOALS	(3) MEASURES	(4) TARGET DATES	(5) PARTNER	(6) COST	(7) FT E	(8) RESULTS
1.H- TA/FA	All required districts have timely, completed water plans in place Goals of water plans in place are implemented	Meet with/follow-up with all users required to submit plans to ensure timely submission of plans. Review all plans for recommended content. Offer financial/technical assistance to users to implement goals of plans.	1/99 1/99	USBR 1999 All users USBR 1999 All users	\$40,000 \$40,000 Varies See above	.35	Plans contain goals, measures, and schedule for implementation. Plans implemented over 5-year period.
2.H- TA/FA	Save 1 percent of Colorado River water used by SNWA residents/businesses	Turf conversion to xeriscape; entering data collection phase in FY99 to measure water saved by converted sites against turf sites.	9/99	USBR 1999 SNWA	\$30,000 \$30,000 \$30,000	.15	3,000 AF/year saved @ \$17/AF
3.M- TA/FA	Save 70% of water being used at two LMNRA campground sites	Provide assistance to NPS with design and installation of efficient landscape irrigation system at two campground sites. Replace non-native vegetation at campgrounds with drought-tolerant vegetation.	9/99 9/00	USBR 1999 NPS USBR NPS	\$18,000 \$18,000 \$25,000 \$50,000 \$80,000	.10	164 AF/year saved at two campground sites
4.M-TA	Educate public in water-wise gardening methods	Install demonstration garden at Dixie Convention Center in Washington County, UT (funded by UC in FY98/ LCRA providing technical assistance in FY99)	9/99	USBR-UC 1998 Wash Co. Wtr Conserv. Dist./ St. George	\$25,000 \$25,000 \$87,500 \$87,500	.05	Educate 100,000 people per year in effective conservation landscape methods

(1) PRIO/ CAT	(2) GOALS	(3) MEASURES	(4) TARGET DATES	(5) PARTNER	(6) COST	(7) FT E	(8) RESULTS
5.M- TA/FA	Save 1200 AF of water/year at Zion National Park	Provide assistance to NPS with design and installation of efficient landscape irrigation system.	9/99	USBR 1999 NPS	\$20,000 \$20,000 \$25,000	.10	Save 50 percent of water currently being used for irrigation at Park. Demonstrate effective efficiency measures to Park visitors.
6.M- TA/FA	Educate public in water-wise gardening methods	Identify and research new drought-tolerant vegetation for urban landscapes in the Las Vegas valley; will be publicized on local TV show; articles to appear in <i>Sunset Magazine</i> , <i>Silver and Blue Magazine</i> , <i>Southwest Trees and Turf Magazine</i> .	9/99	USBR 1999 UNR Cooperative Extension	\$20,000 \$20,000 \$20,000	.10	Add 10 trees, 10 shrubs, and 10 ground covers to southwest vegetation available for efficient landscaping; help homeowners cut water usage by 50 percent
7.M- TA/FA	Reduce indoor water consumption by southern Nevada residents	Conduct market survey of Las Vegas valley SNWA customer base; offer rebate program to customers using horizontal washing machines; measure water savings	9/99	USBR 1999 SNWA	\$10,000 \$10,000 \$10,000	.10	Assist in achieving conservation goal of 15+ percent in 1999
8.M-IE	Develop conservation software pertinent to southern Nevada's needs	Work with Denver TSC to develop and install 5 hands-on computer stations for use by Hoover Dam visitors	5/99	USBR 1999	\$32,000 \$32,000	.10	Software available for educating thousands of Hoover Dam visitors on southern Nevada conservation

(1) PRIO/ CAT	(2) GOALS	(3) MEASURES	(4) TARGET DATES	(5) PARTNER	(6) COST	(7) FT E	(8) RESULTS
9.M-IE	Sponsor magazine addressing conservation	Provide financial assistance to sponsor water conservation issue of <i>Wild Outdoor World</i> in Nov/Dec 1998; distribute to 4th/5th grade students in northwestern Arizona, southern Nevada, and southern Utah	12/98	USBR 1998 Watercourse Program	\$10,000 \$10,000 \$20,000	.025	Distribute conservation magazine to 10,000 students
10.M-IE	Sponsor workshops	Provide financial assistance and input to sponsor four Project WET workshops in southern Nevada	9/99	USBR 1998	\$20,000 \$20,000	.05	Train teachers to teach students on conservation issues; assist with maintaining southern Nevada Project WET program
11.M-IE	Sponsor conservation newspaper	Provide financial assistance to sponsor production and distribution of <i>Bare Essentials for Kids</i> newspaper, aimed at educating students in grades 2 through 8.	5/99	USBR 1999	\$10,000 \$10,000	.10	Distribute conservation education to 80,000 students per month
12.L-IE	Sponsor water resources map for Nevada	Provide financial assistance to sponsor production of a Nevada Water Resources Map for distribution to all students in Nevada	3/99	USBR 1999 State of Nevada	\$5,000 \$5,000 \$10,000	.025	Distribute conservation education to Nevadan students
13.L-IE	Train 2 percent of local teachers	Distribute Hydroexplorer software program to local elementary schools to educate students on Colorado River conservation issues	5/99	USBR 1999	\$2,000 \$2,000	.025	Distribute conservation education to 100 local schools
14.L-IE	Update website	Update information contained in LCRA website to inform public of current program activities and conservation issues	5/99	USBR 1999	\$1,000 \$1,000	.025	Educate LCRA water users and other interested parties via internet

(1) PRIO/ CAT	(2) GOALS	(3) MEASURES	(4) TARGET DATES	(5) PARTNER	(6) COST	(7) FTE	(8) RESULTS
15.L-IE	Sponsor calendar	Serve as sponsor of annual Nevada Water Education Calendar	5/99	USBR 1999	\$2,000 \$2,000	.025	Distribute calendar to 500 classrooms
16.L-IE	Publish newsletter	Distribute LCRA newsletter to keep water users and other interested parties informed of WCFSP activities and opportunities	9/99	USBR 1999	\$1,000 \$1,000	.05	Keep LCRA water users and interested parties informed of WCFSP activities and opportunities
LCRA Program Administration					\$88,000	.10	
FY 1999 PROGRAM ACTIVITIES					\$279,000	1.58	

Legend for Program Plan

- (1) Priority of activity as H-High, M-Medium, or L-Low; Category of work as TA-Technical Assistance, FA-Financial Assistance, or IE-Information and Education.
- (2) Goals for water conservation local program.
- (3) Measures to be used to achieve goals of program.
- (4) Specific target dates by which to achieve measures.
- (5) Parties who will be providing assistance to achieve goal.
- (6) Projected costs to implement measures.
- (7) Reclamation's FTE allocation dedicated to the work.
- (8) Results, quantified or estimated, of the effort.

Strategic Plan and Annual Performance Goals

FY 1999 Annual Performance Goals fulfilled by activities scheduled to be implemented in the LCRA include the following:

- **Strategic Plan Strategy 5: Increase Water Availability**

Strategic Plan Goal: By 2002, review 100 percent of water conservation plans developed by Reclamation water users, ensure implementation of all those required by law or contract, and, using incentive-based strategies, encourage implementation of all plans not required under law or contract.

Annual Performance Goal 01.05.21.99: In FY 1999, Reclamation will provide technical assistance to water districts through implementation of a WCFSP, emphasizing four categories of activities at the Area Office level: conservation planning assistance, conservation education, demonstration of conservation technologies, and implementation of conservation measures. Specifically, Reclamation will contact at least 50 percent of water districts to offer assistance, and will provide assistance to at least 25 percent of interested water districts.

Annual Performance Goal 01.05.22.99: In FY 1999, Reclamation will review and comment on 100 percent of all plans submitted.

Annual Performance Goal 01.05.23.99: In FY 1999, Reclamation will work with partners to implement the four “fundamental” water conservation measures (water measurement; incentive pricing; education programming; and designation of conservation coordinator) through incentives.

Long-Term Outlook

One of Reclamation’s long-term goals for the WCFSP is to have all required conservation plans in place and under active implementation by 2002. The LCRA is working to meet this goal with the local water users by continuing its outreach efforts through workshops, one-on-one meetings, newsletters, by providing technical and/or financial assistance with plan preparation, and by providing assistance for implementation of plan measures (information and education activities and demonstration/effective efficiency measure projects).

The LCRA is working towards continuing its partnership with the southern Nevada municipalities who are being challenged with management of scarce water supply issues. Over the next few years, Reclamation will encourage the southern Nevada users to explore more advanced conservation concepts for incorporation into its local conservation efforts, such as reuse and recycling, supply and demand technologies, and integrated resource management.

While many of the priorities and needs of the LCRA lie in southern Nevada, we will work to encompass the smaller water users in northwestern Arizona and southern Utah in order to fully develop the LCRA area. The LCRA will work with the smaller municipalities of northwestern Arizona and southern Utah to develop and

implement plans for water users who are required to submit plans and to encourage the excepted water users to develop and implement conservation plans in order to take advantage of optimum conservation opportunities throughout the entire LCRA area.