

# WATER *Field Services Program* CONSERVATION

*Fy 00 Annual Report and Fy 01 Program Plan*



*Planning Education*



*Implementation*



*Demonstration*

*U. S. Bureau of Reclamation  
Lower Colorado Regional Area*

**WATER CONSERVATION  
FIELD SERVICES PROGRAM**

**DRAFT  
FY 2000 ANNUAL REPORT**

**Lower Colorado Regional Area  
Lower Colorado Region  
Bureau of Reclamation**

**October 2000**

**FY 2000 ANNUAL REPORT  
LOWER COLORADO REGIONAL AREA  
WATER CONSERVATION FIELD SERVICES PROGRAM**

**LOCAL PROGRAM DESCRIPTION**

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:

In Nevada:

- Basic Management/Basic Water Company (BWC)
- 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

## **PROGRAM ACCOMPLISHMENTS**

In FY 2000, the LCRA achieved nearly all of its goals with respect to conservation planning assistance, information and education activities, demonstration of innovative technologies, and implementation of effective efficiency measures. Specific measures were identified and implemented to support achievement of FY 2000 LCRA goals in the following areas:

### **Conservation Planning Assistance**

Consulted with LCRA water users regarding annual Colorado River diversions and status of water conservation efforts.

Provided technical reviews of Lake Havasu City's water conservation plan in three phases.

Provided grant in amount of \$4,827 to the City to assist with efforts to develop a final 5-year water conservation plan. Plan finalized and adopted by the City's Board of Directors by resolution in July 2000.

Provided technical review of Basic Water Company's second draft water conservation plan.

Plan scheduled for finalization in FY 2001.

Participated in monthly SNWA conservation workgroup meetings.

Participated in monthly Las Vegas Urban Resources Partnership meetings.

On March 16, 2000, the SNWA, an organization of seven urban water users located within the LCRA, received the 1999 Commissioner's Award for Water Conservation Planning in recognition of development and implementation of its 1999 water conservation plan and water conservation goals set and achieved.

### **Information and Education**

Sponsored four Project WET workshops to train teachers in the program's curriculum for use



**Photo 3. Pat Mulroy, SNWA General Manager; Bob Johnson, USBR Regional Director; and Mary Kincaid, SNWA Board of Directors**

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in southern Nevada classrooms.

Sponsored publication of Sunset magazine's Xeriscape and irrigation guide for the desert southwest.

Sponsored development and installation of a water conservation software game tailored to southern Nevada's water resource management needs. Five kiosk stations installed at the Hoover Dam Visitors Center for use by the visiting public in the summer of 2000.

Sponsored 1 month of Nevada's annual Water Education Calendar. Distributed 300 copies to local schools in exchange for \$2,000 in grant monies.

Sponsored May 2000 issue of *Wild Outdoor World* magazine and activity booklet on "Big Rivers" for fourth and fifth grade students. Publication distributed to students in northern Arizona and southern Nevada.

Sponsored development with the Watercourse and International Project WET of student activity booklet for fourth and fifth grade students on the Colorado River watershed.

Sponsored conservation education initiatives with SNWA to provide for development of a video on Xeriscape landscaping for southern Nevada and an educational publication on water conservation for local students.

Sponsored development of groundwater models and training sessions for 85 fourth grade classrooms in northern Arizona. Model development completed in FY 2000. Training sessions scheduled for completion by University of Arizona's Cooperative Extension in FY 2001.

### **Implementation of Innovative Technologies/Effective Efficiency Measures**

SNWA-USBR Xeriscape Conversion Study. Continued data collection and analysis efforts during FY 2000. Phase II data logger analysis completed, showing a 39 percent water savings



Photo 4. Educational conservation materials

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among the Study participants who have converted their landscapes from turf to Xeriscape.

**Insert photos here...**

NPS-USBR Landscape Conversion Study. Efforts continued in FY 2000 to remove vegetation from Echo Bay and Cottonwood Cove campgrounds. In FY 2001, activities will include installation of new drip irrigation systems and planting of drought-tolerant vegetation in an effort to save approximately 70 percent of the water currently being utilized at the two campgrounds.

SNWA-USBR Horizontal Axis Washing Machine Study. Completed Sensible Suds, a 1-year indoor retrofit program in southern Nevada. Study met with positive response by local community.

UNR-USBR Water-Efficient Plant Research Demonstration Project. Efforts continued in FY 2000 to identify and research the viability of adding 10 new trees, 10 new shrubs, and 10 new groundcovers to the listing of sustainable, drought-tolerant vegetation available to southern Nevada residents for landscapes and conservation planning.

CDSN-USBR Backyard Conservation Demonstration Garden Project. Implemented grant to provide for development and maintenance of a Backyard Conservation Demonstration Garden on a 2-acre parcel of land in Henderson, Nevada. The garden will demonstrate viable ways of reducing outdoor urban landscape water consumption by educating homeowners on how to plan and design efficient irrigation systems and outdoor urban landscapes.

SNWA-USBR Residential Irrigation Retrofit Study. Implemented project with SNWA to analyze water usage of Study participants prior and subsequent to educational outreach and retrofit to assess water savings impact upgrading automatic sprinkler systems to greater efficiencies. The Study will also provide for the evaluation of participants' behavioral characteristics with respect to outdoor water usage.

Table 1 provides a summary of goals contained in the LCRA FY 2000 Program Plan.

<b>TABLE 1. SUMMARY OF LCRA FY 2000 GOALS</b>		
<b>Goal</b>	<b>Measure</b>	<b>Status</b>

**TABLE 1. SUMMARY OF LCRA FY 2000 GOALS**

Goal 1	All required districts have timely, completed conservation plans in place	Meet with/follow-up with LCRA users to ensure timely submission of plans. Review all plans for recommended content. Provide technical/financial assistance to users to implement goals of plans	All LCRA plans on schedule, with exception of 2 districts (BWC, Needles)
Goal 2	Save 1 percent of Colorado River water used by SNWA and member agencies' customers	Continuation of Xeriscape Conversion Study. Gather and interpret data to measure water savings of converted sites against turf sites.	3,000 AF/year saved, or 39 percent of prior consumptive use
Goal 3	Save 70 percent of water being used at two LMNRA campground sites	Continuation of NPS-USBR Landscape Conversion Study at Echo Bay and Cottonwood Cove campgrounds	164 AF/year saved at two campground sites upon project completion
Goal 4	Educate public in waterwise gardening methods	Install demonstration garden at Mead Complex in Boulder City, Nevada	Project abandoned due to planned relocation of Mead Complex employees. Goal substituted with implementation of Backyard Conservation Demo Garden with CDSN
Goal 5	Save 1,200 AF/year at Zion National Park	Provide assistance to NPS with design and installation of efficient landscape irrigation system.	Postponed to FY01 due to lack of available resources to complete project
Goal 6	Educate public in waterwise gardening methods	Continuation of UNR-USBR Water-Efficient Plant Research Demonstration Project to identify and research new drought-tolerant vegetation for urban landscape in the Las Vegas valley	Project on track to provide for additional 10 trees, 10 shrubs, and 10 groundcovers to southwest vegetation available for water-efficient landscaping
Goal 7	Reduce indoor water consumption by southern Nevada residents	Implement "Sensible Suds" horizontal-axis washing machine retrofit program with SNWA and member agencies	Program completed in FY00 with great response from Las Vegas valley
Goal 8	Develop conservation software pertinent to southern Nevada's water resource management needs	Work with Denver TSC staff to develop and install 5 hands-on computer stations for use by Hoover Dam visitors	Project completed and installed at Hoover Dam Visitors Center in FY00



**TABLE 1. SUMMARY OF LCRA FY 2000 GOALS**

Goal 9	Sponsor publication addressing conservation issues	Provide financial assistance to sponsor <i>Discover the Colorado River Watershed</i> , an activity booklet for 4th/5th grade students in Arizona and Nevada	Grant executed in FY00. Project in progress; scheduled for completion in FY01.
Goal 10	Sponsor educational workshops	Provide financial assistance and input to sponsor four Project WET workshops in southern Nevada to train facilitators in Project WET curriculum for presentation in local classrooms	Four "train-the-trainer" workshops held during FY00
Goal 11	Sponsor conservation publication	Provide financial assistance to sponsor production and distribution of Sunset Magazine's landscape and irrigation guide for the desert southwest	Publication completed and distributed to interested parties in FY00
Goal 12	Sponsor water resources map for Nevada	Provide financial assistance to State to sponsor production of map for students	Project abandoned due to lack of resources within the State to complete the project
Goal 13	Train 85 fourth grade classrooms in utilization of groundwater model	Provide financial/technical assistance to University of Arizona to implement development of models and provide training	Grant executed in FY00; models developed; training scheduled for completion in FY01.
Goal 14	Sponsor retrofit program	Provide assistance to Clark County School District with landscape retrofit program	Project abandoned due to lack of resources available to complete project. Goal substituted with initiation of residential retrofit program with SNWA
Goal 15	Sponsor calendar	Serve as sponsor of annual Nevada Water Education Calendar	Project completed in FY00 and distributed to local schools
Goal 16	Publish newsletter/develop technical conservation display	Keep water users and other interested parties informed of WCFSP activities and opportunities. Provide program information to technical audiences	Website development and enhancement substituted for newsletter distribution. Presentation developed for technical audiences.

**Summarized LCRA Performance Indicators for FY 2000**

Table 2 represents a compilation of the WCFSP planning indicators.

<b>Table 2. Conservation Planning Indicators</b>			
	<b>FY 2000</b>	<b>Parties</b>	<b>Cumulative FY 1997-2000</b>
Number of districts required to prepare/submit plans	14 (5 users not drawing Colorado River allocation)	BWC, Big Bend, Boulder City, Henderson, North Las Vegas, LVVWD, SNWA, Bullhead City, Kingman, Lake Havasu, Mohave County, MCWA, MWCD, Needles	14 (5 users not drawing Colorado River allocation)
Number of acres represented by districts required to submit plans; population served by M&I districts required to submit plans	<100,000 ac 14 users >1 million population		
Number of districts with current plans (already submitted)	2 draft 8 final	Draft: BWC, PABCO Final: Big Bend, Boulder City, Bullhead City, Henderson, North Las Vegas, LVVWD, SNWA, Lake Havasu	10 plans
Number of districts overdue for plan development or update	2	BWC (revised draft complete) City of Needles	2
Number of districts submitting plans	2	BWC (revised draft) Lake Havasu City (draft/final)	10 plans
Number of acres served/population served by M&I districts submitting plans	<100,000 ac >1 million population		
Number of conservation plans reviewed by Reclamation	2	BWC (revised draft) Lake Havasu City (draft/final)	10 plans
Number of districts committed to developing/updating plans	12	BWC, Big Bend, Boulder City, Henderson, North Las Vegas, LVVWD, NPS, PABCO, SNWA, Bullhead City, Lake Havasu City, Nellis AFB	12

Table 3 represents a compilation of WCFSP program assistance indicators.

<b>Table 3. Program Assistance Indicators</b>			
	<b>FY 2000</b>	<b>Parties</b>	<b>Cumulative FY 1997-2000</b>
Number of water districts/entities assisted with conservation planning	11	BWC, Big Bend, Boulder City, Henderson, North Las Vegas, LVVWD, NPS, PABCO, SNWA, Lake Havasu, State of Nevada	12
Number of water districts/entities assisted with conservation education	19	BWC, Big Bend, Boulder City, Henderson, North Las Vegas, LVVWD, NPS, PABCO, SNWA, Lake Havasu, State of Nevada, U of A Cooperative Extension, UNR Cooperative Extension, Conservation District of Southern Nevada, Watercourse and International Project WET, Hoover Dam Visitors' Center, School Districts of Clark, Mohave, and La Paz Counties	20
Number of water districts/entities assisted with conservation demonstrations	6 projects	SNWA and member agencies (three projects), NPS, UNR Cooperative Extension, Conservation District of Southern Nevada	4 entities
Number of water districts/entities assisted with conservation implementation	7 projects	SNWA (and member agencies) (four projects), NPS, UNR Cooperative Extension, Conservation District of Southern Nevada	11 entities
Number of districts assisted in developing and implementing WC measures	11	BWC, Big Bend, Boulder City, Henderson, North Las Vegas, LVVWD, NPS, PABCO, SNWA, Lake Havasu, Nellis AFB	32
Number of districts with one-on-one meetings to review plans/explain WCFSP	15	BWC, Big Bend, Boulder City, Henderson, Las Vegas, North Las Vegas, CRC, LVVWD, NPS, PABCO, SNWA, Lake Havasu, Bullhead City, Washington County Water Conservancy District, Nellis AFB	32
Number of conservation measures/programs implemented by water districts/entities	Average 12*	* SNWA and member agencies implement 14 BMP's	Average 12
Number of water districts/entities assisted with "fundamental measures"	13	BWC, Big Bend, Boulder City, Henderson, Las Vegas, North Las Vegas, CRC, LVVWD, NPS, PABCO, SNWA, Lake Havasu, Nellis AFB	14
Number of water districts/entities implementing "fundamental measures"	14	BWC, Big Bend, Boulder City, Henderson, Las Vegas, North Las Vegas, CRC, LVVWD, NPS, Nellis AFB, PABCO, SNWA, Lake Havasu, Bullhead City	15

## PROGRAM RESOURCES

### Assessment of Staffing and Budget

In FY 2000, the LCRA administered its WCFSP by dedicating one full-time Water Conservation Coordinator to establish goals for FY 2000, implement conservation activities to meet the annual program goals, work directly with LCRA water users to develop and implement plans, and manage day-to-day activities of the program. Support staff were utilized, as needed, to accomplish the overall goals and needs of the LCRA program.

### Planned and Actual Resources

Table 4 presents an accounting of program resources utilized in FY 2000. Table 5 shows the budget resources for the LCRA in FY 2000.

<b>Table 4. Staff Resources</b>		
Total number of Reclamation staff days planned for FY 2000		290
WCFSP Coordinator staff days used		240
Support Staff staff days used	Area Office	30
	Regional Office	10
	Denver Office	15
Total number of Reclamation staff days used in FY 2000		295
Estimated number of staff days used by entities through formal agreements		1420
-Lake Havasu City Conservation Planning	20	
-SNWA Xeriscape Conversion Study	1170	
-NPS Landscape Conversion Study	20	
-UNR Water-Efficient Plant Research	20	
-CDSN Backyard Conservation Demo Garden	20	
-U of A Groundwater Models & Training	20	
-Watercourse WOW on "Big Rivers"	10	
-Watercourse WOW on "Colorado River"	10	
-Project WET Southern Nevada Workshops	20	
-SNWA "Sensible Suds" Washing Machine Retrofit	90	
-SNWA Residential Irrigation Retrofit	10	
-SNWA Conservation Education Initiatives	10	
Total number of staff days utilized in FY 2000		1715

**Table 5. Funding Resources for FY 2000**

		WMC	EIP	Totals	% of Total Available
<b>Resources Available</b>					
Annual Appropriation		\$210,000	\$205,000	\$415,000	117.71%
Carryover from prior years		-0-	-0-	-0-	-0-
Transfers in or out					17.71%
–Denver Science/Technology		<38,500>		<38,500>	
–BCOO		<10,000>	<25,000>	<35,000>	
Total funds available FY00		\$161,500	\$180,000	\$341,500	100%
<b>Program Administration and Technical Assistance</b>					
Staff salaries and overhead	Expended	\$104,571.97	\$3,796.68	\$108,368.65	31.73%
Travel	Expended	2,966.46	-0-	2,966.46	0.87%
Materials, supplies, equipment	Expended	13,849.84	2,000.00	15,849.84	4.64%
Total expended on PA/TA		\$121,388.27	\$5,796.68	\$127,184.95	37.24%
<b>Financial Assistance Agreements</b>					
Planning	Obligated	\$4,827.00	-0-	\$ 4,827.00	1.41%
Demonstration	Obligated	-0-	\$ 17,500.00	\$ 17,500.00	5.12%
Implementation	Obligated	30,000.00	75,000.00	105,000.00	30.75%
Education/Training	Obligated	-0-	78,475.67	78,475.67	22.98%
Total Financial Assistance	Obligated	\$34,827.00	\$170,975.67	\$205,802.67	60.26%
<b>Summary</b>					
Total WCFSP Program	Obligated/ Expended	\$156,215.27	\$176,772.35	\$332,987.62	97.50%
End-of-year surplus		\$ 5,284.73	\$ 3,227.65	\$ 8,512.38	2.50%
Total unliquidated obligations at beginning of FY00		\$ 18,000.00	\$ 71,650.00	\$ 89,650.00	26.25%
Total unliquidated obligations at end of FY00		\$ 30,000.00	\$149,794.16	\$179,794.16	52.65%
<b>FY00 Accomplishment</b>		<b>96.73%</b>	<b>98.21%</b>	-	<b>97.50%</b>