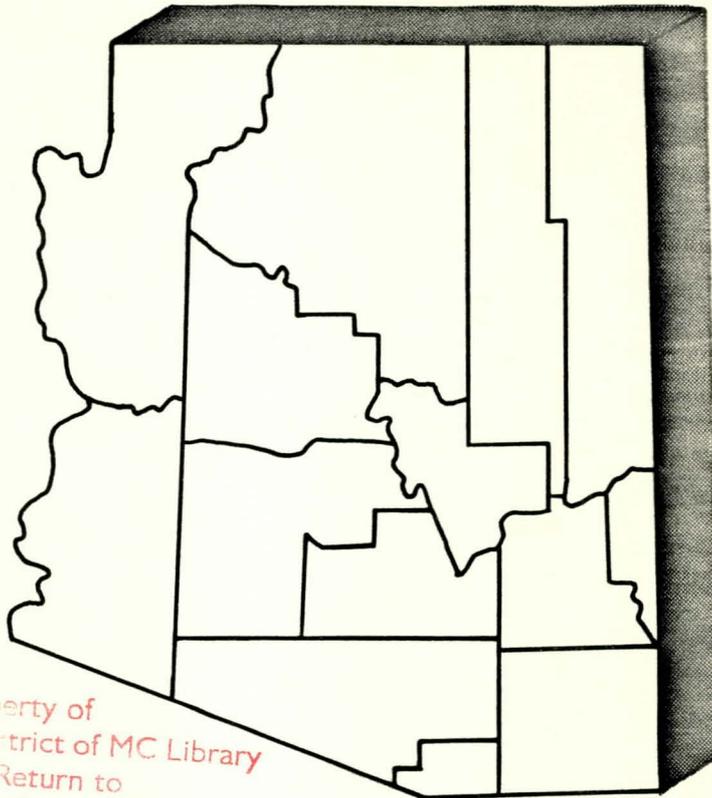


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SOIL CONSERVATION SERVICE



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PROJECTS IN ARIZONA



*Verne M. Bathurst
State Conservationist
Soil Conservation Service
3008 Federal Building
Phoenix, Arizona 85025*

899.113



United States
Department of
Agriculture

Soil
Conservation
Service

Room 3008, Federal Building
230 North First Avenue
Phoenix, Arizona 85025

December 30, 1981 FLOOD CONTROL DISTRICT
RECEIVED

JAN 4 '82

Mr. William Mathews
Chief Engineer and General Manager
Flood Control District of Maricopa County
3335 W. Durango Street
Phoenix, Arizona 85009

5	ASLU	HYDRO	
	ADMIN	LMgt	
4	CSD	SUSP	
1	APPC	FILE	J. King
	FINANCE	DESTROY	
REMARKS		25718	300E

Dear Bill:

Enclosed for your information is a summary of Soil Conservation Service projects in Arizona. This summary includes a description of Soil Conservation Service activities in PL-566 watershed projects, river basin studies, Colorado River salinity control activities, flood insurance studies, resource conservation and development measures, and emergency watershed protection program. We have attempted to capture a description of project status, federal costs and local costs associated with each of these projects.

If you have any questions about our activities outlined in this report, please give me a call at 261-6711.

Sincerely,

VERNE M. BATHURST
State Conservationist

Enclosure



The Soil Conservation Service
is an agency of the
Department of Agriculture

PROJECTS IN ARIZONA

SUMMARY

Program - Project	Funding	Remarks
I. <u>PL-566 Watershed Projects</u>		
A. Completed		
1) Florence Area	PL-566 \$1,082,576 Other 644,024 Total \$1,726,600	The funding at the left is contained in a completion report containing Table 1 - Final Project Installation Cost prepared on Nov. 18, 1968. Since that period, structural cracking due to desiccation and/or subsidence has occurred. A cracking investigation will be initiated in FY '82 to determine the extent of the cracking and if repairs are needed. If repairs are required, they will be done in FY '83.
2) Fry Creek-Stockton Wash	PL-566 \$3,047,034 Other 660,033 Total \$3,707,067	The funding at the left is contained in a completion report containing Table 1 - Final Project Installation Cost, prepared on Jan. 22, 1970. Since that period, differential settlement occurred within the Graveyard Floodwater Retarding structure (FRS). Emergency repair was performed in 1979. Following a geological investigation, additional repairs were completed in FY '81 at a construction cost of about \$285,000.
3) Magma	PL-566 \$1,211,802 Other 824,880 Total \$2,036,682	The funding at the left is contained in a completion report containing Table 1 - Final Project Installation Cost, prepared on March 8, 1974. Since that period, structural cracking due to desiccation and/or subsidence has occurred. A cracking investigation is scheduled for completion in FY '81 to determine the extent of the cracking and if repairs are needed. If repairs are required, they will be done in FY '83.
4) Vanar Wash	PL-566 \$ 847,352 Other 47,621 Total \$ 894,973	The funding at the left is contained in a completion report containing Table 1 - Final Project Installation Cost, prepared on March 17, 1975. Since that period, high flood flows and minimum size rock rip-rap have resulted in floodway damage. Repairs are scheduled for FY '84.
5) Virgin Valley (AZ-NV)	PL-566 \$ 146,010 Other 163,600 Total \$ 309,610	The land treatment and structural measures were installed with the Soil Conservation Service leadership being provided from Nevada.
6) White Tanks (Pilot)	PL-566 \$ 199,088 Other 218,287 Total \$ 417,375	The two flood control structures were installed in 1954. Since that period, structural cracking due to desiccation and/or subsidence has occurred. The repairs of these structures will be performed in FY '81 and '82.

Program - Project	Funding	Remarks
I. PL-566 Watershed Projects (Continued)		
B. Approved for Operations		
1. Apache Junction - Gilbert	PL-566 \$ 6,481,220 Other 3,400,590 Total \$ 9,881,810	The funding at the left is contained in the Supplemental Watershed Plan No. 2 of June, 1978. All planned land treatment measures have been applied. The Powerline FRS and Floodway have been constructed. The Powerline Floodway is an outlet to the Roosevelt Water Conservation District (RWCD) Floodway, not only for the Powerline FRS, but the Vineyard Road and Rittenhouse FRS's in the Williams-Chandler Watershed. Since the Powerline Floodway was installed, the concrete has cracked and deteriorated. Repairs are scheduled for FY '84. The RWCD Floodway has not been enlarged at this location, but construction is occurring in the adjacent Williams-Chandler Watershed. The sponsors are actively acquiring land rights and installing bridges relating to the RWCD Floodway.
2. Buckhorn-Mesa	PL-566 \$25,634,400 Other 9,794,460 Total \$35,428,860	The funding at the left is contained in the Supplemental Watershed Plan No. 1 of June, 1976. All planned land treatment measures have been applied. The Spook Hill FRS has been constructed. The Signal Butte Floodway has been designed and land rights obtained, with the construction being planned for FY '83. The Signal Butte and Pass Mountain FRS's and the Pass Mountain Outlet will be designed in FY's '81 and '82, with the construction being planned for FY '84. The Apache Junction and Weekes Wash FRS's, along with the Apache Junction, Bulldog and RWCD Floodways plus the Apache Junction Outlet, remain to be constructed. The sponsors are actively acquiring land rights for the RWCD Floodway (Reach 6).
3. Buckeye	PL-566 \$ 5,489,267 Other 6,402,700 Total \$11,891,967	The funding at the left is contained in the cumulative obligations through FY '80 from SCS-WS-207 Forms. All structures were installed by June of 1975. Since that period, the Buckeye FRS No. 1 developed cracks that affected the safety of the structure. Repairs were completed in FY '81 at a construction cost of about \$672,500.
4. Fredonia	PL-566 \$ 1,262,696 Other 234,700 Total \$ 1,497,396	The funding at the left is contained in the cumulative obligations through FY '80 from SCS-WS-207 Forms. All structures were installed by August, 1976. Since that period, the Fanning FRS has developed cracks. An investigation during FY '81 will determine if repairs are needed. If required, repairs will be done in FY '84.
5. Guadalupe	PL-566 \$ 586,428 Other 489,020 Total \$ 1,075,448	The funding at the left is contained in the cumulative obligations through FY '80 from SCS-WS-207 Forms. All structures were installed by 1975. A completion report is expected in FY '82.
6. Harquahala Valley	PL-566 \$ 8,611,910 Other 3,201,240 Total \$11,813,150	The funding at the left is contained in the Supplemental Watershed Work Plan No. 1 of March, 1977. The Saddleback FRS and Diversion are under construction and will be completed in FY '82. The Harquahala FRS and Floodway should be constructed during FY's '82 and '83. The Centennial Levee is being designed and will be constructed in FY '84.
7. Perilla Mountain	PL-566 \$ 4,004,290 Other 716,120 Total \$ 4,720,410	The funding at the left is contained in the watershed work plan of April, 1970. The sponsors have not obtained required land rights. Therefore, it is estimated the project will be declared inactive during FY '82.

Program - Project	Funding	Remarks
I. PL-566 Watershed Projects (Con.)		
B. Approved for Operations (Con.)		
8. Wickenburg	PL-566 \$1,261,690 Other 252,800 Total \$1,514,490	The funding at the left is contained in the cumulative obligations through FY '80 from SCS-WS-207 Forms. All structures were installed by September, 1976. Critical Area Treatment PL-566 cost-sharing funds of about \$18,100 have been used during FY's '80 and '81 to install brush management, critical area seeding, fences and level terraces.
9. Williams-Chandler	PL-566 \$18,272,010 Other 5,478,660 Total \$23,750,670	The funding at the left is contained in the Supplemental Watershed Plan No. 2 of June, 1978. The Rittenhouse and Vineyard Road FRS's and floodways were constructed prior to January of 1969. Since that period, the Rittenhouse and Vineyard Road FRS's developed extensive cracking. The Rittenhouse FRS was repaired in FY '79. A cracking geological investigation was performed on the Vineyard Road FRS in FY '79 and repairs are scheduled for FY '83. The RWCD Floodway (Reach 1) design was completed and a construction contract of about \$3.9 million has been let. In the RWCD Floodway (Reach 2), the Southern Pacific Railroad Bridge was designed and is being constructed in FY '81 with about \$400,000 being provided from PL-566 funds. The RWCD Floodway (Reach 2) design will be completed in FY '82. The floodway portion of Reach 2 is expected to be constructed in FY '82. Reach 3 is projected to be under contract in FY '83. Reach 4 contract will be let in FY '85.
C. Authorized for Planning Assistance		
1. Cottonwood Wash	N/A	The project is curtailed, due to a lack of planning funds and personnel.
2. Eagle Tail Mountain	N/A	The project is curtailed, due to a lack of planning funds and personnel.
3. Gila Floodway-Lower Queen Creek	N/A	The Bureau of Reclamation will plan, design, and construct a structure on Queen Creek adjacent to the Central Arizona Project Salt-Gila Aqueduct. Other problem areas are awaiting project planning.
4. St. David	N/A	Planning is progressing.
D. Applications Withdrawn		
1. Airport Wash	N/A	The project was not feasible, and the application was withdrawn in 1979.
2. Dos Cabezas Peak	N/A	The application was withdrawn at the request of the sponsors, in 1980.
3. Dry Beaver Creek	N/A	The application was withdrawn, due to the lack of sponsor interest.
4. Harshaw Creek	N/A	The project was not feasible, and the application was withdrawn in 1979.
5. Pinal Creek	N/A	The application was withdrawn, due to the lack of sponsor interest.
6. White Tail & Woods Canyon	N/A	The application was withdrawn, due to the lack of sponsor interest.

Program - Project	Funding	Remarks
I. PL-566 Watershed Projects (Con.)		
E. Applications Accepted		
1. Black Diamond	N/A	Structural locations across numerous land ownerships could cause land rights problems, although future planning may be possible.
2. Granite Creek	N/A	Future planning could be considered.
3. Picacho No. 1	N/A	A structure upslope of I-10 would require an outlet through the Freeway. This would be an expensive land-rights cost.
4. San Jose Canal	N/A	Future planning could be considered.
5. Tonopah	N/A	The structural alternatives considered in the preliminary investigation were not feasible.
6. Virden-Duncan Valley	N/A	The structural alternatives considered in the preliminary investigation were not feasible.
7. Wendon-Salome	N/A	Future planning could be considered.
8. West Branch-Santa Cruz	N/A	Future planning could be considered.
II. <u>River Basin Studies</u>		
A. Completed		
1. Lower Colorado Region Comprehensive Framework Study (Type I)	N/A	The main report and 16 appendixes have been completed.
2. San Juan River Basin (Type IV)	N/A	The study has been completed.
3. Santa Cruz-San Pedro River Basin	N/A	The study has been completed and requests for the Resource Inventory and the Main Report are being received.
4. Upper Colorado Region Comprehensive Framework Study (Type I)	N/A	The main report has been completed.
B. Authorized for Planning Assistance		
1. Colorado River Indian Reservation River Basin	N/A	<p>Basic resource data continues to be collected for this cooperative study. About 85% of the present irrigated lands have been soil surveyed. Documenting case histories, showing physical impact of applied conservation, has been initiated as part of the evaluation process. Twenty on-farm and thirty off-farm weirs have been installed to determine the amount of irrigation water used. The soil moisture is being monitored to assist in determining irrigation water use by plants.</p> <p>A recreation study for the Colorado River Indian Reservation was prepared. It includes the historical outdoor recreational use and participation patterns which were used in projections of possible recreational site development for the Colorado River Indian Tribes. Another prepared report is titled "Survey of the Plant Communities and Vertebrates of the Colorado Indian Reservation." This report describes each of the most important tracts of vegetation within the Indian Reservation boundaries and illustrates their value to the native wildlife. The working paper, "Description of the Basin", has been drafted. Planning is continuing to progress even with a reduced staff and other planning assignments. This may delay the completion date.</p>

Program - Project	Funding	Remarks
II. River Basin Studies (Con.)		
B. Authorized for Planning Assistance (Con.)		
2. Little Colorado River Basin	N/A	Twelve working papers have been prepared and a limited distribution was possible. These are presently being combined into a summary report with four appendixes. It is scheduled for distribution in September, 1981.
3. Virgin River Unit	N/A	A land and water bibliography was prepared.
III. <u>Colorado River Basin Salinity Control Study</u>		
A. Authorized for Planning Assistance		
1. San Juan River Salinity Control	N/A	Future planning could be considered.
2. Virgin River Unit	N/A	A draft salinity report for the Virgin Valley subevaluation unit has been prepared.
3. Welton-Mohawk Onfarm Irrigation Improvement Program	N/A	This is under Title I of PL 93-320, which authorizes the construction, operation and maintenance of certain works to control the salinity of water delivered to users in the United States and Mexico. Memoranda of Agreement between the Bureau of Reclamation and the Soil Conservation Service resulted in SCS being responsible for the installation of improved irrigation systems on 65,000 acres by Sept. 30, 1986. The SCS enters into contracts with eligible landowners and operators (cooperators) to install conservation practices that will directly contribute to the objectives of the program, such as the reduction of irrigation return flows. Practices installed by the end of 1980 were through 168 contracts covering 24,779 acres. A cost-share rate of 75 percent Federal and 25 percent cooperator is available. A total of \$6,866,000 of Federal funds, and approximately \$2,286,000 of cooperator funds, have been committed for cost sharing under the program since 1975. Deep percolation of irrigation water was reduced by an estimated 15,000 acre feet in 1980.
IV. <u>Flood Insurance Studies</u>		
A. Completed		
1. City of Douglas, Cochise County AZ	N/A	Accepted by HUD.
2. City of Nogales, Santa Cruz County AZ	N/A	Accepted by HUD.
3. Town of Patagonia, Santa Cruz County AZ	N/A	Accepted by HUD.
4. Unincorporated Areas of Santa Cruz County AZ	N/A	Accepted by HUD.

V. Resource Conservation and Development (RC&D) Measure Plans.

A. Coronado RC&D Area

1. Foote Wash Flood Prevention	RC&D \$1,300,680
	Other <u>200,810</u>
	Total \$1,501,490

The funding at the left is estimated by using the construction contract costs of \$1,029,231.61 and the measure plan as a base. The measure was built by March 1977. Foote Wash and Noname FRS's will be inspected for compliance with the dam safety provision outlined in Administrative General Memorandum 16, in FY '82.

2. Patagonia Critical Area Treatment	RC&D \$ 342,100
	Other <u>129,600</u>
	Total \$ 471,700

The funding at the left is contained in the Draft Measure Plan of May, 1981. Local funds are being requested from the State of Arizona.

B. Hohokam RC&D Area

1. Beardsley Farm Irrigation	RC&D \$ 637,700
	Other <u>774,800</u>
	Total \$1,412,500

The funding at the left is contained in the Measure Plan of June, 1977. The measure is under construction.

2. Kiwanis Park	RC&D \$ 392,405
	Other <u>701,705</u>
	Total \$1,094,110

The funding at the left is contained in the Measure Plan of October, 1976. The measure has been constructed.

C. Little Colorado River Plateau Area

1. Springerville Farm Irrigation Pipeline	RC&D \$ 61,700
	Other <u>54,570</u>
	Total \$ 116,270

The funding at the left is estimated by using a low bid construction cost of about \$98,400 and the measure plan as a base. As of June, 1981, the measure was not into construction.

2. St. Johns Farm Irrigation Pipeline	RC&D \$ 125,500
	Other <u>235,680</u>
	Total \$ 361,180

The funding at the left is estimated by using construction costs at \$223,000 and the measure plan as a base. The measure has been constructed.

3. West Taylor Farm Irrigation Pipeline	RC&D \$ 112,950
	Other <u>120,420</u>
	Total \$ 233,370

The funding at the left is established by using construction costs at \$176,000 and the measure plan as a base. The measure is under construction.

4. Winslow Airport Critical Area Treatment	RC&D \$ 52,900
	Other <u>17,000</u>
	Total \$ 69,900

The funding at the left is estimated by using construction costs at \$67,170 and the measure plan as a base. The construction was completed in March, 1977.

D. Lower Colorado River Area

1. Cibola Farm Irrigation Canal Lining	RC&D \$ 89,700
	Other <u>57,200</u>
	Total \$ 146,900

The funding at the left is contained in the April, 1981, measure plan. The measure has not been constructed.

VI. Emergency Watershed Protection Program

Section 216 of the Watershed Protection and Flood Prevention Act, and Section 403 of the Agricultural Credit Act provided assistance to protect life and property.

A. Exigency Projects (Required Immediate Action)

1. Brown	N/A
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The Verde River bank protection construction cost of \$12,498 was provided by SCS.

2. Houch	N/A
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The Wet Beaver Creek bank protection construction cost of \$4,920 was provided by SCS.

3. Jensen	N/A
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The Oak Creek bank protection construction cost of \$8,800 was provided by SCS.

4. Paquette	N/A
-------------	-----

The Big Bug Creek bank protection construction cost of \$5,135 was provided by SCS.

5. Tibbits	N/A
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The Jack Canyon bank protection construction cost of \$1,800 was provided by SCS.

Program - Project	Funding	Remarks
VI. <u>Emergency Watershed Protection Program (Con.)</u>		
B. <u>Non-Exigency Projects</u>		
1. Black Canyon City	N/A	Agua Fria River gravel bar removal was completed. This reduced the potential for bank erosion which was a threat to several homes within Black Canyon City. The construction cost was estimated to be \$189,982, with \$150,207 being from Federal Funds and \$39,775 coming from other funds.
2. Duncan - Safford	N/A	Gila River restoration of dikes was completed between the New Mexico state line and Geronimo. The construction cost was estimated to be \$1,485,000, and was borne by the Federal government.
3. Littlefield	N/A	Virgin River bank revetment was installed at Littlefield. The construction cost was estimated to be \$55,000, with \$44,000 being from Federal funds and \$11,000 coming from other funds.
4. New River School	N/A	New River bank revetment was placed to protect several school buildings. The construction cost was estimated to be \$43,900, with \$35,120 being from Federal funds and \$8,780 coming from other funds.
5. Sycamore Canyon Road	N/A	Verde River bank revetment was installed about four miles north of Clarkdale. The construction cost was estimated to be \$23,863, with \$19,086 being from Federal funds and \$4,777 coming from other funds.
6. Tonto	N/A	Tonto Creek, about five miles south of Punkin Center, could flow and endanger the Roosevelt Garden subdivision. The construction cost to install rock-wire baskets is estimated to be \$40,000.
7. U.S. Forest Service	N/A	Tangle Creek repairs made possible by a transfer of funds from the Soil Conservation Service to the Forest Service. The construction costs were estimated to be \$11,000, and were borne by the Federal Government.



RIVER BASIN AND WATERSHED PROGRESS

CONSTRUCTION COMPLETED

- 1 Magma
- 3 Frye Creek-Stacton Wash
- 4 Florence Area
- 13 Vanar Wash
- 17 Buckeye
- 23 Fredonia
- 24 Guadalupe
- 27 Wickenburg
- A Virgin Valley (Az.,-Nev.)
- F White Tanks (Pilot Project)

AUTHORIZED FOR CONSTRUCTION

- 10 Perilla Mountain
- 14 Buckhorn-Mesa (RWCD) 1/
- 15 Apache Junction-Gilbert (RWCD) 1/
- 16 Williams-Chandler (RWCD) 1/
- 18 Harquahala Valley

AUTHORIZED: PLAN BEING SUPPLEMENTED OR ENVIRONMENTAL IMPACT STATEMENT WRITTEN

AUTHORIZED FOR PLANNING

- 12 St. David
- 19 Eagle Tail
- 25 Cottonwood Wash
- 30 Gila Floodway-Lower Queen Creek

APPLICATION ACCEPTED

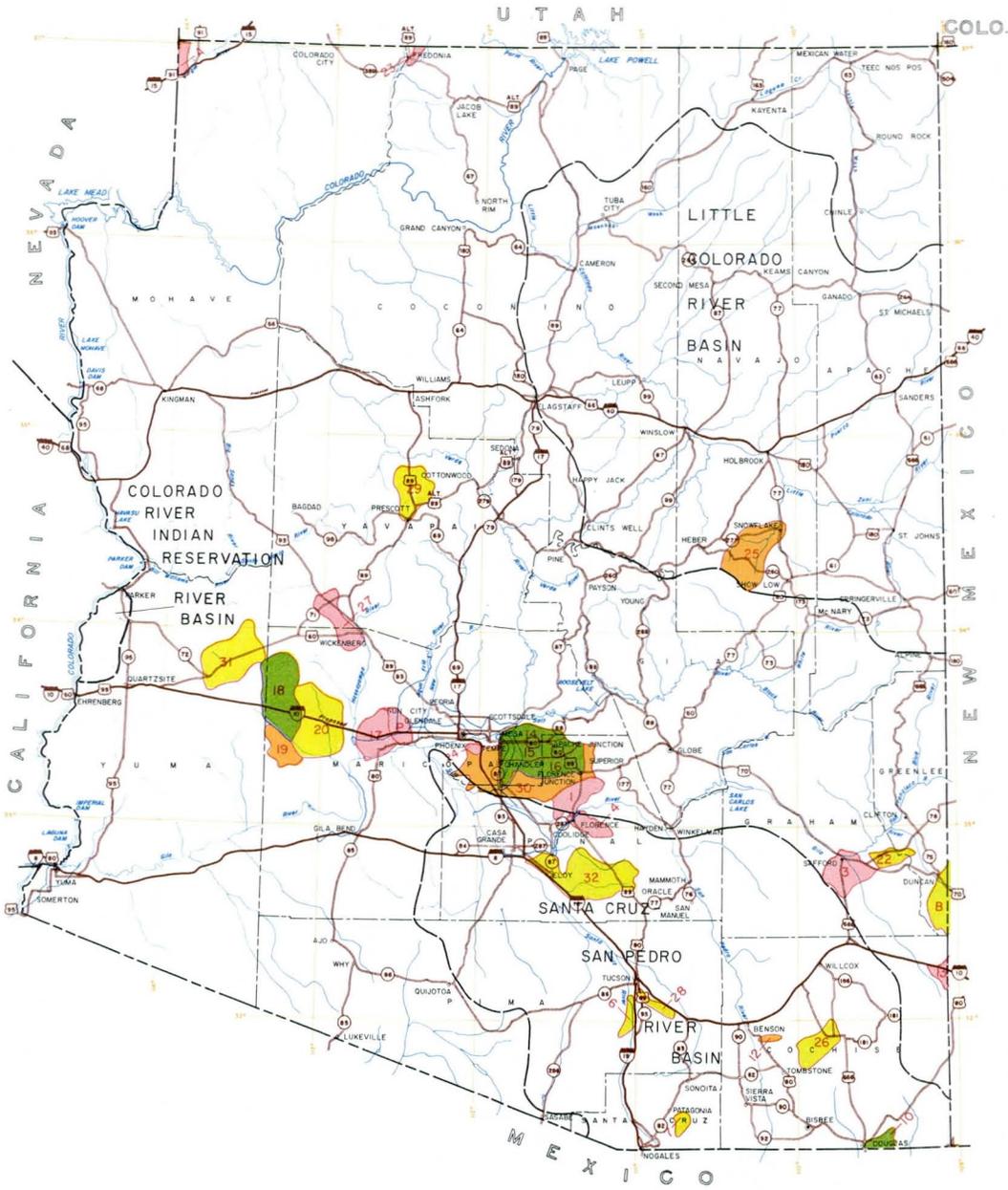
- 6 West Branch-Santa Cruz
- 7 Harshaw Creek
- 20 Tonopah
- 22 San Jose Canal
- 26 Black Diamond
- 28 Airport Wash
- 29 Granite Creek
- 31 Wenden-Salome
- 32 Picocha No. 1
- 8 Virden-Duncan Valley (Az.,-N.M.)

— RIVER BASIN BOUNDARY

1/ Includes portion of Roosevelt Water Conservation District Floodway (RWCD)

STATUS OF RIVER BASIN SURVEYS

- Little Colorado River Basin - Cooperative River Basin Study (In progress)
- Colorado River Indian Reservation Cooperative River Basin Study (In progress)
- Santa Cruz-San Pedro River Basin - Cooperative River Basin Study (Completed)

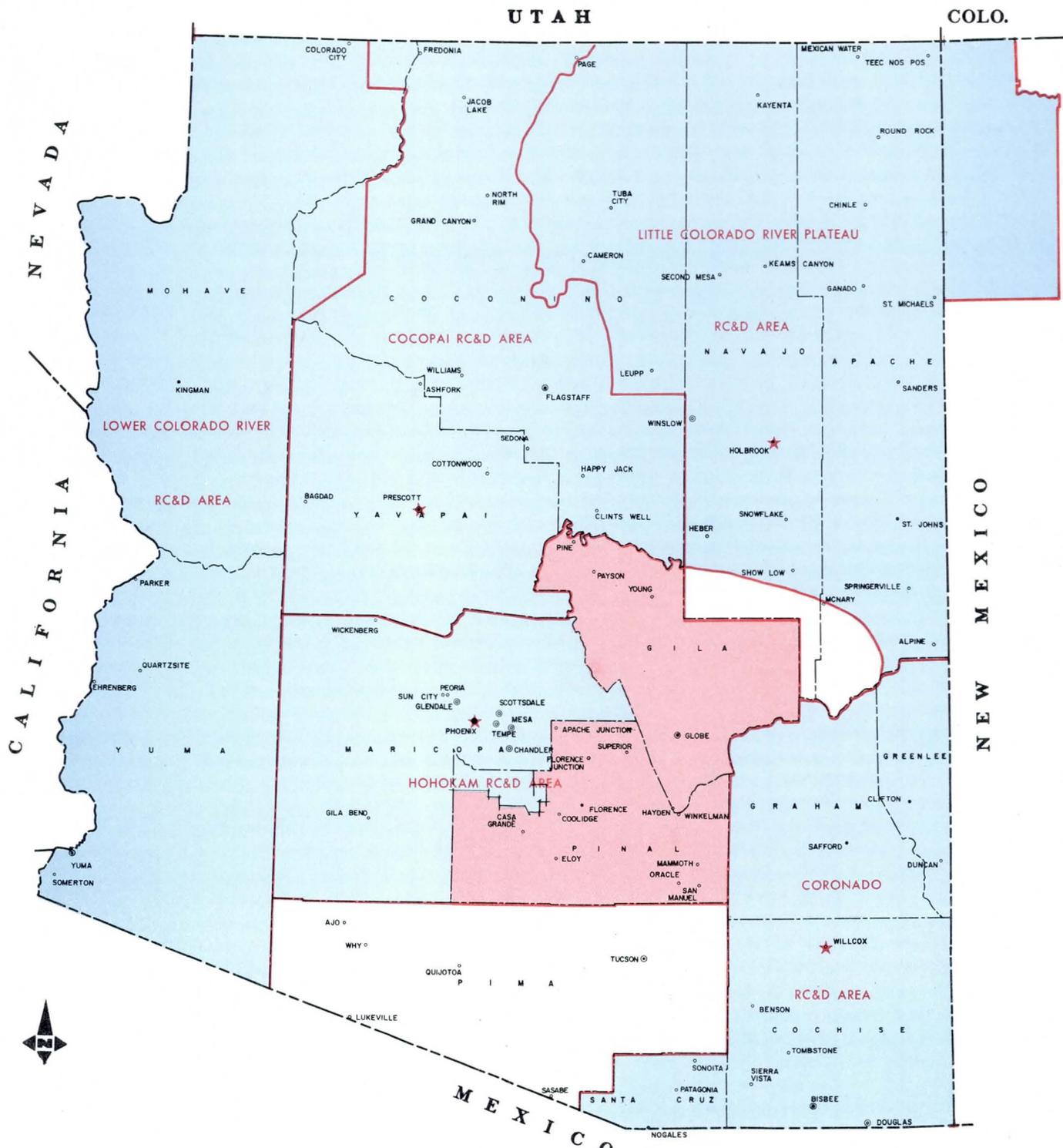


**RIVER BASIN AND WATERSHED PROGRESS
ARIZONA**

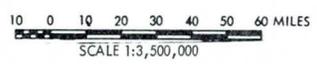
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RESOURCE CONSERVATION
AND DEVELOPMENT AREAS
ARIZONA



- STATUS OF RC&D AREAS
- RC & D Authorized
 - Application Developed
 - Not Organized
 - RC & D Area Boundary
 - ★ RC & D Office

Source:
Base map prepared by SCS, WTSC Carto Unit from USGS 1:1,000,000 Nat. Atlas.
Thematic detail compiled by state staff.
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