



## SAWRSA Accord Remains Elusive

The Tohono O'odham (formerly Papago) Nation and the U.S. government filed suit in 1975 against groundwater pumpers in Pima County, seeking tribal water rights under the *Winters* doctrine. After extensive negotiations, Congress passed the Southern Arizona Water Resources Settlement Act (SAWRSA) in 1982, which called for the Nation to give up its *Winters* claim in exchange for 66,000 a-f of CAP water, 10,000 a-f of groundwater rights, and financial assistance in putting the water to use. Ten years and millions of dollars later, no water has been delivered, no long-term supply has been identified, no consensus has been reached on how to use the water, the lawsuit has not been dismissed, and Congress is being asked to amend SAWRSA. The most significant change from a decade ago is that today's conflict is not between the Nation and outsiders, but rather is within the Nation.

*continued on page 5*



*June is American River Month. Of the 17,537 miles of Arizona streams, 3,630 miles or approximately 21 percent are perennial; the balance is ephemeral. The above is a scene from the Verde River. (Photo: Arizona State Parks)*

## State Water Agencies Get SLIMmed

After reviewing the operations of state agencies with major water resource responsibilities, SLIM (State Longterm Improvement Management) Project Teams issued recommendations for fiscal savings. Recently released reports focus on Arizona's Departments of Water Resources (DWR), Environmental Quality (DEQ), and State Land Department.

Recommendations include DWR cutting 22 positions, ten percent of the department's total of 235 positions, for estimated savings of about \$1.1 million. These cuts are in line with recommendations to close down the groundwater modelling unit and the Water Management Support Division, which monitors water quality. In addition, positions would be deleted from the Office of Water Management, implementing the recommendation to cease regulation of small water users.

Critics argue that the Project Team does not understand the role of groundwater modeling as support for the administrative, planning, and regulatory goals of DWR. Further, they say the SLIM report demonstrates a lack of awareness of DWR's need for water quality competence to integrate water quality and supply considerations in planning and regulatory decisions. The Project Team noticed only duplication with DEQ functions.

In addition, water rights cases are backlogged demonstrating that the Office of

*continued on page 2*

C O N T E N T S	
Communications . . . . .	3
News Briefs . . . . .	4-5
Special Projects . . . . .	6
Legislation . . . . .	7
Publications . . . . .	8
Transitions . . . . .	8
Calendar . . . . .	9-11
Announcements . . . . .	12

*More SLIM, cont. from page 1*

Water Management is actually understaffed, with regulation of small users delayed. Hugh Holub, a southern Arizona water lawyer and member of the Tucson AMA Groundwater Users Advisory Council, noted in a letter to Governor Symington that "the existing staff is already overwhelmed by the workload, and it is taking longer and longer to process paperwork. This is a function where a staff *increase* is needed."

*Proposed cuts go beyond improving the efficiency of DWR to fundamental changes in policy.*

A highly controversial recommendation is for increased DWR centralization. The Deputy Director positions in the three largest Active Management Areas (AMAs) would be eliminated and some planning functions moved from the Tucson AMA to Phoenix. This would reduce the Tucson AMA staff over 30 percent.

Ron Morris, Chairman of both the Santa Cruz County Board of Supervisors, and the Tucson AMA GUAC, pointed out in a letter to Governor Symington that AMA offices were "part of the deal" that made the 1980 groundwater management act possible, and that "they were designed...to ensure local participation in the dynamic process of formulating the programs that will lead us to safe yield."

The Tucson and Nogales City Councils, the Santa Cruz County Board of Supervisors, the Tucson AMA Water Augmentation Authority, and the Southern Arizona Water Resources Association are among the groups opposing the draft recommendations. The consensus is that the proposed cuts go beyond improving the efficiency of DWR to fundamental changes in policy, thus interfering with the agency's ability to carry out its legislative mandates.

In contrast, SLIM's DEQ recommendations have met relatively little opposition, despite the proposed elimination of more than 25 percent of its

positions, some entirely federally funded. That 123 of the 192 positions to be cut currently are vacant reduces the anxiety level.

There is general agreement within DEQ that structural readjustments are in order and some position cuts are possible. In fact, many SLIM recommendations had already been identified internally. Some concern is being expressed however that the report as a whole focuses on how to save money without looking at the agency's overall mission.

Some recommendations may be impossible to implement; for example, state-funded positions required for federal matching grants can not be cut. (Governor Symington opposes the loss of any federal funds.)

Seventy of the 192 positions to be cut are in the water quality division. Brian Munson, Assistant Director in the Office of Water Quality, stated that SLIM recommendations would be implemented by identifying cuts that won't interfere with division programs. He believes that cuts can be implemented to improve some aspects of the agency's operations. In contrast to its DWR recommendations, SLIM recommends expanding DEQ regional offices.

As reported in the *Arizona Capitol Times*, the major source of controversy in SLIM's DEQ report is the recommendation of legislative elimination of 109 pesticides from DEQ's water quality monitoring list, after DEQ was denied by a Symington veto the authority to delete pesticides from the list.

Another concern is voiced by Sierra Club representative Craig Friesner, who is bothered by the recommended position cuts. He worries that the SLIM recommendations may represent an anti-regulatory bias. This action may mark a trend to shrink government below an effective operating level.

*They are being reduced to paper pushers.*

SLIM recommendations also include a ten percent cut in State Land Department positions. The department's water management functions would be affected

by eliminating the Hydrology and Urban Land sections.

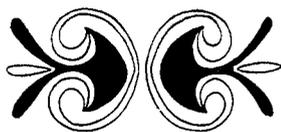
The Urban Lands Act of 1981 gave the Land Department the ability to increase revenue from the sale of state lands by master-planning the development of property near population centers. The Act created a new designation, in addition to grazing and agriculture, for state land, allowing land so designated to be appraised at a higher value. Key parts of the master-planning process include floodplain and drainage studies, assuring the judicious use of water in the development, and obtaining a letter of Assured Water Supply from DWR. These activities currently are performed by hydrologists or water resource specialists.

If these functions are eliminated with respect to urban lands, hydrologists and water resource specialists still will be required to perform floodplain and drainage studies for any kind of development on state land (e.g., building roads), file and maintain water rights on behalf of State Trust lands, and provide technical input for consent as to what can be done on state land. One observer commented that all regulatory functions of the agency were to be eliminated and "they are being reduced to paper pushers."

SLIM reports are being reviewed by the SLIM Steering Committee. The Steering Committee already has met with DWR Director Betsy Rieke and DEQ Director Ed Fox and made recommendations to the Project Teams for report revisions. A final SLIM report will be issued in July.

After the Project Teams' report is issued, the Steering Committee will make separate recommendations to the Governor. The Steering Committee may endorse the report, suggest changes, or differ with its recommendations. Judy Gignac, SLIM Steering Committee member, emphasizes that the process is very dynamic, involving varied input before decisions are finalized.

The SLIM Steering Committee meets in open session each Monday in Phoenix. Project Team Draft Reports are available, at varying prices, from Ameriscribe, 505 North 2nd St., Phoenix 602-252-7991.



## Communications

With this issue of *AWR*, we introduce a revised masthead and begin using photos on interior pages. Once again, we ask anyone with interesting water-related black and white photos to contact us.

The next *AWR* will be a combined July-August issue. Please submit calendar items for both months by mid-June. We'll return to the monthly format in September.

We received considerable feedback on the Guest Views section last month, mostly by phone. One reader wrote "to tell you how impressed I am with the quality of the articles and the amount of information imparted by those who did special writings for you." We appreciate their efforts, too. (By the way, Mark, we understand the bounty on you in Pinal County has been dropped.) One lengthier comment on the CAP reallocation pieces follows.

I enjoyed reading *AWR*'s guest viewpoints on solutions to CAP underutilization. The problem is complex, and complex problems rarely have simple solutions. The financial crisis of the farmers must not blind us to the problems of other existing or potential CAP subcontractors. True, only the farming sector can use many hundreds of thousands of acre feet in the short run. Yet many others are facing problems that, in the long run, are quite significant.

Consider the Tucson AMA. Tucson Water, the largest single municipal CAP subcontractor, has pledged to substitute completely CAP water for groundwater over just a few years. Even with its large allocation, however, Tucson Water will need alternative supplies in the future. That is why it is busy negotiating with the Tohono O'odham Nation to lease its CAP water. It has also explored long-term leasing of Cyprus Copper Company's CAP allocation. Green Valley water

companies have signed for CAP allocations but are 10 miles from the southern terminus of the canal. Nogales and Rio Rico, which are located outside the three-county Central Arizona Water Conservation District, face large back tax payments that threaten their ability to sign for their exchange allocations.

The region is unified in this position: all CAP allocations to the basin should remain in the basin. The AMA will not be able to get to safe yield without sufficient surface water. Yet, I am concerned that the needs of the Tucson AMA are being thwarted. We requested that a portion of the AMA's uncontracted-for non-Indian agricultural CAP water be dedicated to meeting the United States' obligations under the Southern Arizona Water Rights Settlement Act. That request was denied. CAWCD, the United States Department of the Interior, and the Arizona Department of Water Resources appear unified in their rejection of Cyprus' proposal to lease its CAP water to Tucson Water on a long-term basis. As a result, Cyprus may decline its allocation. ASARCO, without any ability to enter into long-term leases, may likewise be forced to decline the CAP allocation for its Mission operations. Nogales and Rio Rico are working hard on two fronts to avoid declining their allocations. They, along with other exchange entities, are working with a subcommittee of the CAWCD Board to explore alternatives to the method of recovering back taxes that is included in the offered contracts. Nogales is also requesting federal assis-

tance in recognition of the City's border status. In addition, we in the region are in the midst of an effort to make sure our CAP deliveries are as reliable as those to users in Maricopa County.

Then there is the Tucson AMA Water Augmentation Authority, created to assist the region in coordinating and managing the use of its water resources. We are in the middle of a 30-month planning period. Recent and pending actions may leave our plate of options rather empty. The crisis mind-set and the focus on the big numbers associated with agriculture should not lead policy makers to overlook other CAP users. Yes, we all want to secure water for Arizona's future. But we must not forget that Arizona's future is not just the future of the Pinal County farmers or Maricopa County. It is the future of Tucson, Nogales, Globe, the Indian Nations, etc.

As is usually the case, there are competing interests. That is why discussions of potential ways of securing Arizona's long-term water supplies are as heated as they are. But it is ironic that, at a time when the state is frantically seeking ways to put more CAP water to use, the Tucson AMA cannot hang onto the allocations we had.

Securing our long-term water supplies is critically important. In the process of policy development, let's be careful to consider the needs of all Arizonans.

*Sharon B. Megdal, Executive Director, Tucson AMA Water Authority & Member, Governor's CAP Issues Task Force*



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### *Arizona Water Resource* Staff

Editor: Joe Gelt  
Reporter: Todd Sargent  
Calendar: Jim Suriano  
Publisher: Gary Woodard

WRRR Director: Hanna J. Cortner

### *Arizona Water Resource*

Water Resources Research Center  
College of Agriculture  
The University of Arizona  
350 North Campbell Avenue  
Tucson, Arizona 85719  
602-792-9591; FAX 602-792-8518



## News Briefs

### Symington Named to EPA Environmental Forum

Five Symington is one of nine governors named to the Environmental Protection Agency's Governors Forum on Environmental Management. Serving on the forum will give the governors the opportunity to discuss with EPA head William Riley regulatory programs including the Safe Water Drinking Act, Clean Water Act, Clean Air Act, and Resource Recovery and Conservation act (RCRA).

The forum was formed because of state concerns over increased federal regulation. EPA felt states needed greater representation to Congress. Rather than having all 50 states comment, Riley decided to appoint governors of states with well-respected environmental programs, including Arizona, California, Delaware, Florida, Idaho, Massachusetts, Michigan, North Dakota, and Oregon.

An initial staff meeting has been held. The first meeting of the governors will take place in June, with the Safe Drinking Water Act likely to be the first issue addressed.

### Water Council to Report on Clean Water Act

Several meetings of the Water Quality Advisory Council were held around the state to consider the reauthorization of the federal Clean Water Act and compile the public viewpoint on issues related to it. The Council was seeking an "Arizona perspective" for the Governor's office to convey to Arizona's congressional delegation. The report emphasizes unique Western issues, including treatment of ephemeral streams and effluent-dominated water.

The compiled comments are being submitted to ADEQ, with the report to be written by end of summer.

### Tucson Pollution Prevention Conference Scheduled

Various industries are increasingly concerned about their regulatory responsibilities. As a service to such industries, a pollution prevention and hazardous waste minimization conference will be presented June 30 in Tucson.

Affected industries, both large and small, will have the opportunity to learn about such topics as: new regulations; how some Southern Arizona industries are dealing with hazardous waste; the legal ramifications and economics of waste minimization; and elements of successful risk communication. Break-out sessions will address concerns and interests of specific industries.

The conference is co-sponsored by the University of Arizona's Water Resources Research Center, Arizona Department of Environmental Quality, Pima County Department of Environmental Quality, and the Southern Arizona Environmental Management Society.

Cost of the conference is \$75 and includes proceedings, continental breakfast, and lunch. Commercial exhibit space is available. For program and registration information, contact Lawrence Sullivan, UA Water Resources Research Center 602-792-9591.

### DWR Issues Two Instream Flow Permits

The Arizona Department of Water Resources recently issued two surface water permits for instream uses. Both permits are for stream stretches in the San Pedro basin.

A permit was issued to the Bureau of Land Management, Safford Division, for a stretch of the San Pedro River that extends from Hereford, Arizona to approximately six miles south of Benson, and includes the San Pedro Riparian National Conservation Area. The Arizona Chapter of the Nature Conservancy received the other permit for a section of Aravaipa Creek, a tributary of the San Pedro River.

An instream flow water right differs from other water rights in that the water granted by the permit or certificate is

left in the channel and not diverted for consumption by domestic or irrigation uses. Instream water rights are for maintaining sufficient stream flow to support fish and wildlife habitat, or to maintain recreational activities that depend on the presence of water. These recreational activities include fishing, swimming, hiking and wildlife observation. Arizona has now issued seven instream flow permits.

### Arizona Rivers Considered for Special Status

Several Arizona rivers including the Paria, Virgin and the San Pedro have been nominated by the Arizona River Coalition for special protected status as part of the National Wild and Scenic River System.

Federal and state agencies including the Arizona Bureau of Land Management, U.S. Forest Service, National Park Service, the Arizona Congressional delegation and the Governor's office met in response to the nomination. Inventories and studies must be conducted to determine if the rivers meet criteria established by the Wild and Scenic River Act. This can be a lengthy process, with special status not likely to be granted to any of the nominated rivers until 1993 or 1994. Congressional action is necessary to finalize the designation.

If the rivers are granted Wild and Scenic status, federal protections could apply to such matters as assurance of flow levels, maintenance of scenic characteristics, biological diversity, and preservation of various natural features.

### Prescott AMA Seeking Long-term Water Supply

Water officials in the Prescott Active Management Area are seeking ways to guarantee the area's long-term water supply, including hydrologic studies, an option to buy a water farm, and a feasibility study of establishing a regional water authority.

The hydrology of the AMA is being investigated by DWR as part of its safe yield study. At the same time, the

Bureau of Reclamation is examining the hydrogeology of the Big Chino basin, located just northwest of the AMA. The Big Chino basin contains the Big Chino Ranch, a water-rich property on which the City of Prescott holds an option to buy. The goal of the study is to determine whether flows in the Verde River would be impacted by Upper Big Chino pumping. Initial funding for the \$800,000 study was provided by Prescott, to be refunded by the Bureau of Reclamation.

The study, originally due out in November and then February, now is

slated for completion in mid-July. The delays are attributed to a late start, holdups in drilling, and the complexity of the hydrogeology encountered, which required more field work. Three test wells were drilled to depths of 700 to 2,300 feet to see if groundwater can flow through a clay layer in the Big Chino Valley fill area, or if the clay is an aquitard that would prevent impacts of groundwater pumping in the Big Chino basin from influencing flows in the Verde. Analysis to date suggests the basin and river are hydrologically unconnected.

Local water interests also are considering formation of a regional water authority, whose boundaries would extend beyond the AMA to include the Big Chino basin as a supply source. The Prescott AMA Regional Water Steering Committee has been meeting monthly to discuss whether such a move may be necessary to deal with DWR's proposed Assured Water Supply rules. The group, which represents all water users, decided at its May 21 meeting to pursue data gathering. Its next meeting will be 16 July at the Prescott Chamber of Commerce, 602-445-2000.

### *Accord Remains Elusive, cont. from page 1*

The current situation is the result of events unfolding over 120 years (see sidebar). Unlike other O'odham, 85 percent of those in San Xavier are allottees who own parcels of land comprising 59 percent of the District. The allottees argue that since they were harmed by loss of water, 60 percent of SAWRSA benefits should go directly to them. They point to the San Lucy Settlement which paid \$30 million for land taken for Painted Rock Dam directly to the indians who were harmed.

But the O'odham Constitution declares all water within the Nation to be a public resource owned by the Nation. This language is reflected in SAWRSA, although the settlement recognizes allottee beneficial use rights of up to 8,000 a-f for the San Xavier communal farm. No one knows what rights an allottee has. The parties to the original SAWRSA negotiations hoped that would be decided by the O'odham themselves.

Nation and District also disagree over the best uses for the water. The Nation planned a 10,000+ acre farm on undeveloped District land which would put the Nation \$17 million in debt while creating 40 low-wage jobs. The District, concerned over environmental and cultural impacts, wanted alternative uses investigated (see sidebar). The allottees in 1990 formally opposed dismissal of the original lawsuit by filing motions for summary judgment and certification as a class of plaintiffs.

The impending October 1992 deadline to deliver SAWRSA water brought the Nation, allottees, City of Tucson, DWR, and Department of Interior together last October to negotiate amendments, while the Nation and allottees held separate meetings. The Nation offered a 55/45 split of water lease revenues, with 45 percent divided among the 11 districts according to population. Under the formula, 16 percent would go to the San Xavier District, but none directly to allottees. The allottees rejected the offer, and the Nation was unwilling to agree to a SAWRSA amendment allowing the U.S. to resolve the dispute between Nation and allottees. The allottees withdrew from the negotiations in April; the other parties agreed on proposed amendments in May.

Proposed amendments include: development of a tribal water management plan; clarification of the Nation's right to lease water off-reservation, with right of first refusal to users in the Tucson AMA; option for Tucson Water to lease CAP water for less than the CAWCD M&I rate; more time for the Nation and Interior to plan to use the water; and an annual income of about \$3 million for the Nation in the interim.

The amendments offer something for everyone. But time is running out to pass the amendments this session, and time alone likely will not break the stalemate between Nation and District. The Administration and Congress may choose to ignore the concerns of allottees, or the impasse may continue.

### SAWRSA Chronology

- 1874 Congress creates 71,000-acre San Xavier Reservation.
- 1890 Many reservations, including San Xavier, are parcelled up to encourage assimilation; allottees get 59 percent of land.
- 1916 Main Papago Reservation created, then pared to 2.85 million acres.
- 1936 Central Papago governance created under Indian Reorganization Act; San Xavier becomes one of 11 districts.
- 1945-75 Increased pumping impacts groundwater levels, Santa Cruz River.
- 1975 Federal government files suit on behalf of Nation and allottees against Tucson, farms and mines seeking declaration of tribe's *Winters* rights. Nation sues claiming water and alleging damages. Two suits merged.
- Aug. 1980 Amended complaint names additional defendants.
- Oct. 1982 After vetoing earlier version as too costly for the federal government, Reagan signs SAWRSA. Nation relinquishes *Winters* rights in exchange for 66,000 a-f CAP water to be delivered within 10 years and 10,000 a-f of groundwater, plus a \$15 million trust fund and financial assistance to complete agricultural projects. Settlement recognizes allottees right to use water on their land, but water belongs to the Nation.
- 1986 New constitution changing tribal name from Papago to Tohono O'odham and declaring that all waters belong to the Nation is approved.
- 1986 San Xavier Co-op shuts down because of well failures; CAP water expected to be available to re-open and expand it in two years.
- 1986 District and Tribal Councils endorse plan to use 13,000 acres of undeveloped District land and much of their water for irrigated agriculture. Total cost of \$50 million to be split between Nation and federal government.
- 1987 Newly elected District officials withdraw support for new farm due to environmental and cultural concerns and the level of debt to be incurred, and call for a study of alternatives. Tribal Council reduces proposed farm to 10,871 acres, tribal cost share to \$17 million.
- Dec 1988 Motions to dismiss the suit are filed by Nation, City of Tucson.
- Jan 1989 Farm plan severely criticized at public hearings. Option of farming Avra Valley land is promoted despite numerous legal obstacles.
- Feb. 1989 Court dismisses Nation as party to the lawsuit.
- Nov 1989 Tohono O'odham officials consider asking for extension of 1992 delivery deadline to develop alternatives.
- Dec 1989 U.S. files motion to dismiss lawsuit.
- Mar 1990 Allottees oppose lawsuit dismissal, seek recognition as a class.
- June 1991 Allottees move for Partial Summary Judgement.
- Oct 1991 Four-way negotiations on SAWRSA amendments begin between Nation, allottees, Tucson and Dept. of Interior.
- Nov 1991 Allottees file a separate amended complaint. Negotiations begin between Nation and allottees.
- Apr 1992 San Xavier District chairman charges that \$8 million spent planning farms has been wasted. Allottees pull out of four-way negotiations. Nation approves proposed amendments despite San Xavier opposition.
- May 1992 Tucson City Council resolution supporting amendments, concept of lease. The Nation conditionally approves amendments.
- Oct 1992 Original deadline for water delivery to Nation.



## Special Projects

Current water-related studies, pilot projects and applied research are summarized below.

### Four Water Research Projects Funded

The University of Arizona's Water Resources Research Center announces recipients of grants supporting water-related research projects during FY 1992-93. WRRRC receives approximately \$100,000 annually under the Water Resources Research Act, Section 104, a program administered nationally by the U.S. Geological Survey. Following are abstracts of funded projects:

*Development of computerized irrigation scheduling for vegetable crops in Arizona* will develop a conservation technology for high-value vegetable crops that has been successful in reducing the water use of field crops such as cotton. The irrigation scheduling program AZSCHEd uses near-real-time weather data and weather data-based crop phenological development to schedule and manage irrigations. The research will provide vegetable growers with a tested, easy-to-use method of planning, monitoring, and managing irrigation to reduce water consumption without reducing the quality and value of the product. Principal Investigators: Donald Slack, Fred Harper, and Lee Clark, the University of Arizona

*Case Studies of Arizona River Corridor Projects: Assessment and Proposal* will address the issue of community planning for multiple-use and conservation of river corridor resources. Two river corridors will be studied. A completed river corridor planning project will be evaluated and recommendations will be made to improve and adapt the process to another river corridor. Competing community values, legal and institutional constraints, as well as physical-biological factors must be accommodated in river corridor plan-

ning. The Verde River Corridor Project may be a model for others; this project will evaluate its success and assess the generalizability of its process.

Principal Investigators: Frederick Steiner, Elaine Averitt, and Jana Fry, Arizona State University.

*Measuring Water Requirements of Desert-Adapted Plants Using Line-Source Gradient Irrigation* addresses important problems associated with revegetation of abandoned farmland and other disturbed desert land. Pressure on irrigated agriculture has mounted over the last decade, and many thousands of acres have been permanently retired. Without management, these lands create serious problems such as extensive wind erosion and associated dust hazards, accelerated surface runoff, accumulation of noxious plants, and reduced potential for wildlife habitat or recreational uses. Revegetation with appropriate plants can solve these problems, but attempts to accelerate revegetation of disturbed desert soils have been largely unsuccessful. The proposed research addresses the major obstacles to revegetation success. Principal Investigators: S.E. Smith and K.K. Dobrenz, the University of Arizona.

*Nitrate Leaching, Plant Uptake, and Soil Transformation of <sup>15</sup>N Applied to Drip-Irrigated Lettuce* will examine the processes associated with the agricultural use of nitrogen fertilizers. The research objectives are to assess the effects of application time and irrigation rate on leaching losses, measure soil- and fertilizer-derived N transported below the root zone, and measure forms and concentrations of soil- and fertilizer-derived N in plants and soils at the end of the growing season. The results of this research will support development of Best Management Practices that maximize the efficiency of N fertilizer use and minimize losses of N below the crop rooting zone, and thus minimize impacts on groundwater quality. Principal Investigators: Thomas L. Thompson and Thomas A. Doerge, the University of Arizona.



### Upper Santa Cruz River Atlas in Preparation

Often lamented as a river no more, the Santa Cruz River is the subject of an in-progress publication describing its historical, cultural, and natural importance, both in the past and present. The booklet, developed as an outgrowth of Earth Day 1990, is co-sponsored by the University of Arizona's Cooperative Extension, Water Resources Research Center, Arizona State Parks, and Friends of the Santa Cruz River.

Focusing on the Upper Santa Cruz River (to the Santa Cruz County line), the publication will feature chapters on the archaeology and history of the river, past and present wildlife and vegetation, water quality and quantity, floods, recreation and options for the future. Diverse subjects include Hohokam agriculture, grizzly bears, rare plants, the Good Ship Nogales, the International Boundary and Water Commission, and toxic chemicals in Nogales Wash.

The booklet, which is aimed at the general reader, is intended as a guide for visitors and others to acquaint them with the rich heritage of the Santa Cruz River and to attract further support for its preservation and use. The publication will be widely distributed in Santa Cruz County as part of the Upper Santa Cruz River Corridor Study of Arizona State Parks and is expected to be available by late summer 1992. A Spanish version may be available.

For additional information contact George Ruyle at the UA School of Renewable Natural Resources (621-1384) or Barbara Tellman at the Water Resources Research Center (792-9591).

#### The More Things Change...

A tag from a 1948-vintage canvas water bag reads:

#### EAGLE BRAND GUARANTEE

THIS BAG IS GUARANTEED TO  
BE MADE OF AMERICAN CANVAS  
BY AMERICAN WORKMEN IN U.S.A.  
IF YOU WANT TO BUY AMERICAN  
DO NOT ACCEPT DARK COLORED  
FLAX BAGS WHICH ARE MADE  
OF JAPANESE OR EURO-  
PEAN CANVAS

**BUY AMERICAN**



## Legislation

### Statute of Limitations Change Aids CAP Lawsuit

The Arizona legislature overwhelmingly passed and on May 14 the governor signed SB 1478 amending ARS 12-552, Arizona's statute of limitations. The statute, originally passed in 1989, was threatening the Central Arizona Water Conservation District's lawsuit against the builders of six deteriorating siphons that carry Colorado River water underneath normally dry riverbeds. The siphons, pre-stressed concrete and steel pipelines 21 feet in diameter and with a total length is 6.5 miles, were designed to last 50 years.

The last of the six siphons was completed in June 1980, but they were not used until the first CAP deliveries were made in 1986. Corrosion was discovered in the Agua Fria siphon during a routine inspection in January 1990, four months after ARS 12-552 became law. The other five siphons subsequently were tested and found to be corroding. The CAWCD decided in August 1991 that all needed repair or replacement.

The CAWCD filed lawsuits on January 24, 1992 against the U.S. government and three non-federal defendants: Ameron Pipe of California; Peter Kiewit & Sons of Nebraska; and Colorado Fuel & Iron, later dismissed from the suit due to bankruptcy. The CAWCD is seeking \$146.7 million, the estimated cost of replacing the siphons; an attorney for one defendant claims they could be repaired for \$30 million.

A lawsuit against the U.S. claiming breach of contract was filed in Claims Court in Washington, D.C., and an administrative tort claim of negligence in supervising the construction of the siphons was filed with the U.S. Bureau of Reclamation. There has been no action in these cases to date.

The lawsuit against the non-federal defendants was filed in U.S. District

Court in Phoenix. A motion was made to dismiss the lawsuit due to the eight-year statute of limitations having run, causing the CAWCD to turn to the legislature for help.

The original version of the bill amended the statute of limitations by providing that water projects are not considered "substantially complete" until used to deliver water. When it appeared that the bill would be challenged as an unconstitutional piece of special legislation, it was rewritten in more general language. As amended, ARS 12-552 is now non-retroactive, meaning that for projects built before 1989, the clock didn't start until the original statute of limitations was passed: "With respect to an improvement to real property that was substantially complete on or before September 15, 1989, the 8 and 9-year periods ... shall begin to run on September 15, 1989..."

According to the lawsuit, the siphons may suffer "catastrophic rupture endangering life" and leading to a prolonged shutdown of the aqueduct system. Redundancy was built into all other key components of the CAP aqueduct system from the Colorado River through Maricopa County so that even in the event of a major system failure, some water still could be delivered. Why weren't the critical siphon sections designed with multiple smaller pipes? One persistent rumor is that the parties involved wanted to see how large a pipe could be built, and maybe even get into the Guinness Book of World Records.

### Instream Recharge Bill (SB 1285) Passes

The city of Nogales, faced last year with the loss of an important riparian area, has taken one step toward being able to keep the stream wet. Located within the Tucson Active Management Area, Nogales was told by the Arizona Department of Water Resources that in order to receive credit for recharging its effluent, it must be recharged out of the river in an artificial recharge project. This would have meant loss of perennial stream flow in the Santa Cruz River.

Senate Bill 1285 allows communi-

ties to obtain an underground storage and recovery permit to use the natural channel of the stream for recharge of effluent or CAP water under certain conditions, including the potential for adding to the value of a national park, national monument, or state park whose area includes any portion of the natural channel of the stream or adjacent floodplain. The water must meet state and federal water quality standards and must benefit the groundwater basin as a whole. The applicant must agree to maintain a quantified minimum base flow, sufficient to maintain or restore the riparian area.

SB 1285, if implemented, will clearly benefit the Upper Santa Cruz River. Its applicability elsewhere in the state is in question because of the "parks and monuments clause."

### Congress Passes Grand Canyon Protection Bill

The U.S. Senate and House have approved legislation sponsored by Arizona Senators McCain and DeConcini to protect the Grand Canyon. The legislation mandates: timely completion of an Environmental Impact Statement on dam operations; implementation of interim power operating criteria; dam operation in a manner that will protect the natural resources; and establishment of an ongoing monitoring program. Final passage awaits agreement by a House-Senate conference committee.

Power operations at Glen Canyon Dam have eroded beaches, harmed endangered fish and impacted recreation downstream because of the enormous daily fluctuations in flows, in many cases amounting to what would be considered major flood levels elsewhere.

Amendments added by the Senate are intended to assure that costs are borne by the beneficiaries, not the federal government. Work by ASU's Duncan Patten (see May AWR, p. 4) is an outgrowth of this legislation and activities which led up to it. Interim flow measures are in place and the effects of changes in flow regimes are being monitored.



## Publications

### *Water Transfers in the West: Efficiency, Equity, and the Environment*

This National Academy of Science Report emphasizes that interests of rural communities, American Indians, diverse groups of water users, and other third parties deserve a "legally recognized voice" when western water is transferred. It also makes suggestions to help increase the usefulness of water transfers in solving water supply problems while ensuring that third party impacts are considered and mitigated. Seven case studies highlight the variations and commonalities in water transfer activities around the West.

The report is available from the National Academy Press, 2101 Constitution Avenue NW, Washington, D.C. 20418; 1-800-624-6242. (\$34.95 plus \$3 shipping)

### *Summary of Ground-water Conditions in Arizona, 1985-86*

Richard P. Wilson. Published as USGS Water Resources Investigations Report 90-4179, this report contains information on total groundwater withdrawal and use in 1985, citations of groundwater resource studies, and the change in water levels in groundwater areas between 1981 and 1986. The principal maps show potential well production; depth to water in 1986 and change in water level from 1981 to 1986 in selected wells; total groundwater use and estimated groundwater pumpage in 1985; and groundwater pumpage, water levels decline, and land subsidence as of 1986.

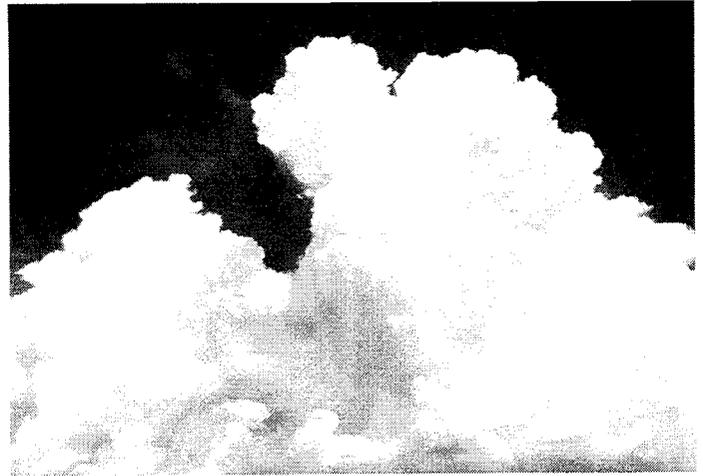
Available through USGS, Books and Open File Reports, Federal Center, Box 25425, Denver CO, 80225. (\$3 microfiche, \$14 paper copy)



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Their contributions help make continued publication of this newsletter possible.



*Cloud seeding is a topic of a recent Arroyo publication on weather modification. (Photo: UA Graphic Services)*

### *Weather Modification, a Water Resource Strategy to be Researched, Tested Before Tried*

Joe Gelt. The above is Volume 6, Number 1 of *Arroyo*, a quarterly publication of the Water Resources Research Center. Past and present Arizona weather modification strategies are discussed, and current cloud seeding research described.

Individual copies — also subscriptions — of *Arroyo* are available without charge from the Water Resources Research Center, University of Arizona, 350 North Campbell Avenue, Tucson, AZ 85721; 602-792-9591.

### *Results of Ground-Water, Surface-Water, and Water-Quality Monitoring, Black Mesa Area, Northeastern Arizona 1989-90*

J.P. Sottolare. Between 1965 and 1989, measured water levels in the confined area of the N aquifer in the Black Mesa area in the Navajo and Hopi Indian Reservations declined as much as 113.8 feet.

Published as USGS Water-Resources Investigation Report 92-4008, it is available from the USGS, Books and Open-File Reports Section, Western Branch of Distribution, P.O. Box 25425, Federal Center, Denver, CO 80225. (Paper copy, \$6.50; microfiche, \$4)



## Transitions

Mark Frank has been appointed Director, Phoenix Active Management Area, Department of Water Resources. He joined DWR in 1981 and served for several years as Area Deputy Director.

Frank had been Acting Director for the last two months. The position of Deputy Director will remain unfilled for now. It is one of the positions targeted for elimination by Project SLIM (see *AWR*, this issue, p. 1).

## June 1992 Water-Related Events in Arizona

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	<b>1</b> Yav. Flood Control	<b>2</b> Conservation Lecture Tucson CWAC	<b>3</b>	<b>4</b> Pinal AMA, GUAC CAWCD AZ Rainforest	<b>5</b> Gila Box, Safford	<b>6</b>
<b>7</b> Casa del Agua	<b>8</b>	<b>9</b> Conservation Lecture	<b>10</b>	<b>11</b>	<b>12</b> Tucson AMA Water Authority	<b>13</b>
<b>14</b> Casa del Agua	<b>15</b> Yav. Flood Control  Uncovering the Hid-	<b>16</b> Conservation Lecture  den Resource: Law	<b>17</b>	<b>18</b> PAG Water Quality AZ Rainforest ADEQ Hearing  <-----	<b>19</b>  -- American Water	<b>20</b>  Works Association
<b>21</b> Casa del Agua  Annual Conference	<b>22</b> Yav. Flood Control  (runs through June	<b>23</b> Conservation Lecture Gila Box, Safford  30th) ----->	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>
<b>28</b> Casa del Agua  <----- AWRA	<b>29</b> National Forum on	<b>30</b> Conservation Lecture S AZ Pollution Pre- vention Conference  Water Management	<b>July 1</b>  Policy ----->	<b>July 2</b>	<b>July 3</b>	<b>July 4</b>



## Calendar of Events

### RECURRING

**Arizona Hydrological Society.** No meeting this month. Water Resources Research Center, 350 N. Campbell, Tucson.

**Arizona Rainforest Alliance.** 1st & 3rd Thursdays of the month. UA Student Union Rm. 280, Tucson. Contact: Jeff/Julia 602-621-6401; 738 N. 5th Ave., Tucson 85705.

**Arizona Water Commission.** No meeting scheduled for June. Meetings held at ADWR, 15 South 15th Ave, Phoenix.

**Casa Del Agua** water conservation tours hourly Sundays noon to 4 p.m., 4366 N. Stanley, Tucson. Contact: 602-881-3939.

**Central Arizona Water Conservation District.** First Thursday of the month, 12:30 p.m.. Central Arizona Project board room, 23636 N. 7th Street. Contact: 602-870-2333.

**City of Tucson Citizens Water Advisory Committee.** 1st Tuesday of the month, 7:00 a.m. 310 W. Alameda, Tucson. Contact: Trish Williamson 602-791-4331.

**EPA. Fundamentals of Environmental Sampling and Field Sample Screening for Entry-Level Technicians, Scientists and Engineers.** Various times and locations, contact your local EPA office.

**Gila Box Advisory Committee.** 5 June & 23 June, 10:00 a.m. - 4:00 p.m., BLM Safford District Office. Contact: Diane Drobka 602-428-4040.

**Phoenix AMA, GUAC.** Meeting date has not been set. Phoenix AMA Offices, 15 South 15th Ave. Phoenix. Contact: Mark Frank 602-542-1512.

**Pima Association Of Governments / Water Quality Subcommittee.** 3rd Thursday of the month, 9:30 a.m. 177 N Church Ave., Tucson. Contact: Gail Cushner 602-792-1093.

**Pinal AMA, GUAC.** June 4, 7:00 p.m., Pinal AMA Office, 901 E. Cottonwood Lane, Suite B, Casa Grande. Contact: Tom Carr 602-836-4857.

**Prescott AMA, GUAC.** No meeting scheduled for June. Prescott AMA offices, 1316 Iron Springs Road, Prescott.

**Tucson AMA, GUAC.** Meeting date has not been set. Tucson AMA offices, 400 West Congress, Suite 518, Tucson. Contact: Linda Stitzer, 602-628-6758.

**Tucson AMA Water Authority.** 2nd Friday of the month, 7:30 a.m. Water Resources Research Center, 350 N. Campbell, Tucson. Contact: Shelley Stefanski 602-326-8999.

**Yavapai County Flood Control District.** 1st Monday of the month in Prescott; 4th Monday of month in Camp Verde. Contact: YCFCD, 255 E. Gurley, Prescott 86301.

### JUNE

2 (Tue) **Xeriscape Is Not Rocks And Cactus.** Karen Novak, Senior Landscape Architect, Pima Cty. Dept. of Transportation and Flood Control District. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

9 (Tue) **Planting A Monsoon Garden using Traditional Seeds.** Martha Burgess, Education Director, Native Seeds/Search. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

15-17 (Mon-Wed) **Uncovering the Hidden Resource: Groundwater Law, Hydrology and Policy for the 1990s.** Boulder, CO. Fee. Contact: Natural Resources Law Center, University of Colorado School of Law, Campus Box 401, Boulder, CO 80309-0401.

16 (Tue) **New and Unusual Flowering Plants For Desert Landscapes.** Greg Starr, Owner, Starr Nursery. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

18 (Thu) **Public Hearing: Draft FY 1993 State Revolving Fund Priority List.** 2:00 p.m., 1st Floor. Public Hearing Rm., ADEQ, 3033 N. Central Ave., Phoenix, AZ. Contact: ADEQ 602-207-4401.

18-30 (Thu-Tue) **American Water Works Association Annual Conference.** Vancouver, British Columbia. Contact: Universities Forum, AWWA, 666 W. Quincy Avenue, Denver, CO 80235.

23 (Tue) **Watering Wisely.** George Brookbank, Extension Agent, Urban Horticulture Extension Garden Ctr. 7:00 p.m. Du Val Auditorium, UMC, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

28 June-1 July (Sun-Wed) **National Forum on Water Management Policy.** Washington, D.C.. Contact: American Water Resources Association, 5410 Grosvenor Lane, Suite 220, Bethesda, MD 20814-2192, 301-493-8600.

30 (Tue) **CAP Water And Your Landscape.** Terry Mikel, Extension Agent, Agriculture, UA/Maricopa County, Cooperative Extension. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

30 (Tue) **Southern Arizona Pollution Prevention Conference.** Pollution prevention/minimization in both the large and small generator industries, new regulations, legal ramifications, and elements of successful risk communication. \$75 fee, Embassy Suites Airport, Tucson, AZ. Contact: UA WRRC, Lawrence Sullivan, 602-792-9591.

## UPCOMING

**7 July (Tue) Drip Irrigation - Getting Started.** Carl Kominsky, Landscape Architect and Irrigation Consultant. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

**13-24 July (Mon-Fri) New Techniques in Water Sciences Workshop.** Denver, Colorado. Contact: John Hubbard, Director, NSF-USGS Faculty Enhancement Workshop, Earth Sciences, SUNY-Brockport, Brockport, NY 14420, 716-395-2636.

**14 July (Tue) Designing Xeriscapes.** Paul Serra, Environmental Designer. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

**21 July (Tue) Be Water Smart.** Linda Smith, Interior Conservation Specialist, Tucson Water Conservation Office. 7:00 p.m. College of Nursing, Room 117, enter UMC Main Library and follow the signs. Contact: Tucson Water Conservation Office 602-791-4331.

**28 July (Tue) CAP Water And Your Landscape.** Terry Mikel, Extension Agent, Agriculture, University of Arizona/Maricopa County Cooperative Extension. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

**3-5 August (Mon-Wed) 1992 National Conference on Irrigation and Drainage Engineering: A Component of Water Forum '92.** Hyatt Regency Baltimore, Baltimore, Maryland. Contact: Edwin T. Engman, Code 974, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771, 301-286-5480.

**3-5 August (Mon-Wed) 1992 National Conference on Resources Planning and Management: A Component of Water Forum '92.** Hyatt Regency Baltimore, Baltimore, Maryland. Contact: Mohammed Karamouz, Civil Engineering, Pratt Institute, 200 Willoughby Avenue, Brooklyn, NY 11205, 718-636-3436.

**4 August (Tue) Greywater: An Untapped Resource.** Martin Karpisak, PhD., Office of Arid Land Studies, UA College of Agriculture. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

**11 August (Tue) Maintaining And Managing Irrigation Systems.** Carl Kominsky, Landscape Architect and Irrigation Consultant. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.



**18 August (Tue) Planting, Staking, And Maintenance.** Jack Kelly, Urban Forester, Trees For Tucson, J.D. DiMeglio, Owner, Horizon's West Landscape Company. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

**25 August (Tue) CAP Water and Your Landscape.** Terry Mikel, Extension Agent, Agriculture, University of Arizona/Maricopa County Cooperative Extension. 7:00 p.m. Du Val Auditorium, University Medical Center, 1501 N. Campbell Ave. Contact: Tucson Water Conservation Office 602-791-4331.

**1-3 September (Tue-Thu) 2nd Symposium on the Settlement of Indian Reserved Water Rights Claims.** Albuquerque, NM. Sponsored by the Western States Water Council and the Native American Rights Fund. Contact: Norm Johnson, Western States Water Council, Creekview Plaza Ste A-201, 942 E. 7145 South, Midvale, Utah 84047, 801-561-5300.

**10-11 September (Thu-Fri) Arizona Water 2000.** Conference / Workshop sponsored by The Commission on the Arizona Environment. Phoenix, AZ. Contact: The Commission on the Arizona Environment 602-542-2102.

**10-11 September (Thu-Fri) 1992 Arizona Hydrological Society Symposium.** Current Water Quality and Quantity Issues and Players. Sedona, AZ. Contact: Bruce Mack 602-236-2579.

**13-17 September (Sun-Thu) INTECOL International Wetlands Conference.** Columbus, OH. Contact: William Mitsch, School of Natural Resources, 2021 Coffey Road, Ohio State University, Columbus, OH 43210.

**30 September - 2 October (Wed-Fri) National Water Works Association Annual Meeting/Exposition.** Las Vegas, NV. Contact: National Ground Water Association, 6375 Riverside Dr., Dublin, OH 43017, 614-761-1711.

**2-3 October (Fri-Sat) Western Regional Instream Flow Conference II.** Jackson Hole, WY. Contact: Suzanne Van Gytenbeek, Trout Unlimited 307-733-0484.

**23-25 October (Fri-Sun) Keep on Keeping On.** Arizona Association for Learning in and about the Environment Annual Conference. Prescott, AZ. Contact: Debra Howell, Grand Canyon University, College of Education, 3300 W. Camelback Rd., Phoenix, AZ 85017.

**1-5 November (Sun-Tue) Managing Water Resources During Global Change.** Conference & Symposium sponsored by the American Water Resources Association. Reno, Nevada. Contact: Michael C. Fink, Director of Meetings, AWRA, 5410 Grosvenor Lane, Suite 220, Bethesda, MD 20814-2192, 301-493-8600.



## Announcements

### 1992 AWRA Award Nominations Sought

The American Water Resources Association recognizes outstanding individuals in the water resources profession by presenting a number of annual awards. Currently, nominations are being sought for AWRA Honorary Members and Fellow Members. In addition, nominations for individual named awards are being solicited.

The Icko Iben Award was established in 1971 to recognize persons who have made outstanding contributions in promoting communication among the various disciplines concerned with water resources issues. The William R. Boggess Award is given to the author or authors of the paper, published in the *Water Resources Bulletin* during the preceding year, that best describes, delineates or analyzes a major problem or aspect of water resources. The William C. Ackermann Medal for Excellence in Water Management is awarded to an individual who has achieved a status of eminence in the design and/or implementation of exemplary water management practices. Finally, the Henry P. Caulfield, Jr., Medal for Exemplary Contributions to National Water Policy is awarded to an individual who has achieved a status of eminence in shaping national water policy.

In addition to individual awards, awards for Outstanding State Section and Outstanding Student Chapter will be made.

For a 1992 nomination form, contact: AWRA, 5410 Grosvenor Lane, Suite 220, Bethesda, MD 20814-2192, 301-493-8600, FAX 301-493-5844. The deadline for applications is June 17, 1992.



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### Call for Papers

Papers are requested for the July 21-23, 1993 American Society of Civil Engineers National Conference on Irrigation and Drainage Engineering in Park City, Utah. The conference will focus on "Management of Irrigation and Drainage Systems: Integrated perspectives." Technical papers on various topics are invited. Abstracts should be no longer than two pages (standard ASCE conference format) including tables and figures. Indicate whether a poster session is preferred or may be acceptable as an alternative to an oral presentation. Abstracts must be received by July 30, 1992. For more information contact: Richard G. Allen, Dept. Biological and Irrigation Engineering, Utah State University, Logan, UT 84322-4105, 801-750-2798, FAX 801-750-1248.

### Position Available, UC-Berkeley

Head Librarian, Water Resources Center Archives, University of California, Berkeley. Responsibilities include overall management and direction of the Water Resources Center Archives. Applicants should have an MLS from an ALA-accredited school, a minimum of four years of related experience demonstrating progressively responsible librarian duties, previous managerial and supervisory experience in an academic library, ability to communicate effectively, both orally and in writing, and an understanding of organization of local, state and federal government agencies and private sector organizations. Salary ranges (Associate Librarian) from \$25,052 to \$41,160 depending on experience and specific qualifications. Application deadline is July 1, 1992. Please refer to position number APG92-01 in any correspondence. Direct nominations and resume to: Margaret I. Leong, Division of Agriculture 7, Natural Resources Personnel, University of California, 300 Lakeside Drive, 6th Floor, Oakland, CA 94612-3560, 510-987-0087.

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