

# The Arizona Riparian Council Newsletter

A Quarterly Publication of ARC

Volume 5, Number 2

Summer 1992

## HB 2404, Riparian Protection - What went wrong?

*Eva Patten, Arizona Nature Conservancy*

Didn't we hear from everyone that they favored riparian area protection? Didn't we head into the 1992 legislative session with confidence? After all, we had a Governor who had made riparian protection his top environmental priority. We had dedicated agency heads committed to making it happen. We had a bill that had been drafted with ample opportunities for interested parties to comment. What went wrong?

The bill was introduced in the House Environment Committee to a packed house. We might have anticipated our later problems when the first question voiced was, "Which is more important, plants or people?" The Riparian Council participated in the subsequent subcommittee meetings along with other environmental and business interests. Major concessions were made. The definition was narrowed to exclude riparian areas along ephemeral streams. The authority given to DWR to require mitigation when new appropriations, severs and transfers, changes in use of point of diversion were requested, and to consider public values in the case of conflicting pending application all went out.

Although some environmental groups (notably the Sierra Club) bowed out, the Riparian Council, the Nature Conservancy and other environmental groups as well as the cities and some of the regulated

community supported the amended version. It retained provisions to make riparian protection or restoration a beneficial use; to allow a consumptive right to be converted to an instream flow water right; and to allow Arizona Game and Fish to apply for instream flow rights in some instances without owning land. It still provided for Game and Fish to develop a classification system and do inventories; for DWR to study groundwater impacts and suggest regulations; and for DEQ to study land use impacts and recommend land use regulations and incentive programs for riparian area protection.

After the amended version passed in the Environment Commit-

tee, the business interests came back with a new set of amendments that were worse than existing law. The most contentious was an amendment that exempted CAP exchanges and Indian water rights settlements thereby making most "stream resources appropriations" (instream flow rights) junior to future exchanges and settlements ... thus turning prior appropriation doctrine on its head. There has been no progress, as Marty reports, in digging our way out of the muck.

The amended bill was a very small step forward, supported by a business-oriented administration.

What, for heaven's sake, went wrong? - See page 12

### In This Issue

Riparian Protection: What Went Wrong?	1
President's Column	2
Healing the Earth	3
Streambed Ownership	4
Gila River Adjudication Update	5
Grazing on the San Pedro	6
Conferences	7
Theses and Dissertations	7
Annual Meeting	8-9
New Projects	10
Noteworthy Publications	11
Legislative and Regulatory Matters	12-13
Calendar	14

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## President's Column

*Marty Jakle*

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I realize that I have some pretty big shoes to fill as I take on a one-year stint as president of the Arizona Riparian Council. Both Duncan Patten and Andy Laurenzi set high standards for me as past presidents of the organization. So now that the baton has been passed to me, I'll try to maintain the pace they have set, or maybe even pick it up a tad.

Our 6th annual meeting which was held last month in Cottonwood, Arizona, was a success. Many members helped carry the load to make sure that no one person was stuck with the myriad of details necessary to put on such a gathering. Thanks for all your help.

This newsletter contains an article by Eva Patten on the status of the riparian protection bill (instream flow legislation) and I encourage you to read it for more about what happened. However, the bottom line is that the bill was weakened to the point that its passage would have been worse than no bill at all.

I feel as discouraged about this bill not passing into law as I have about any environmental issue I've been involved with. Securing instream flows has been a major priority of the ARC since its formation six years ago. I and other ARC members have put a lot of time and energy into securing instream flow water rights to protect riparian habitats. It was a slow process; sometimes a year would pass with little or no progress. But slowly, the need for instream flow protection gained support and we believed instream flow protection would become a reality—reasonably soon.

I thought that this year was the year it would happen -- that sound instream flow legislation would pass. Last year instream flow protection was introduced into the legislature in the form of SB 1109. We realized that it would probably not make it through the first time - and it did not. But this year was different. Governor Symington came out with strong support for riparian protection which culminated in HB 2404. This legislation had strong backing by the three agencies involved with its implementation: Arizona Department of Water

Resources, Arizona Department of Environmental Quality, and the Arizona Game and Fish Department.

I feel as if we have been trying to push a truck out of the mud. We push and push and make some headway. We get just to the end of the muddy area and there is just one last bad spot left. At this critical place someone says, "OK--on the count of three, everybody push". Everyone pushes extra hard, but the truck just does not budge!

The above analogy more or less sums up where we seem to be with instream flow protection. And, as with the stuck vehicle, we will grumble a little and then figure out our next course of action. The next logical step for getting instream flow protection is probably the same as getting our vehicle out: we need to maintain the support we have and get some more help.

The extra help will need to come in the form of public support. We will need to let the public know why instream flow protection is an important issue and how they can get involved. In short, more hard work.

### Thanks from Ron Smith

"I wish to thank the officers and members of the Arizona Riparian Council for the gift that I recently received as recognition for my two years of service as newsletter editor. The oak plaque is approximately 8" by 8" in the shape of the State of Arizona. A circular metallic representation of the ARC logo appears at the top with a dark green rectangular plate bearing my name and appropriate wording below. It is a truly handsome award, and one that I will display with pride. You can be assured of my continued support for the organization and the goals that it pursues."

*Ron Smith, former ARC newsletter editor.*

## Healing the Earth... Riparian Restoration in Action

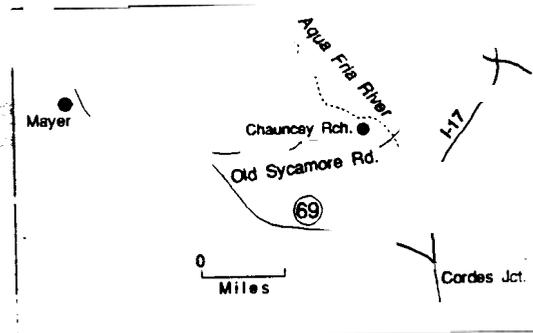
Ron Smith, Prescott

This section of the Agua Fria River, lying at an elevation of 4,000 feet, looked much like many other stretches of mid-elevation streams in Arizona. Even where trees occupy the stream bank, they are generally huge, old, decadent relic stands of Fremont cottonwood and Goodding willow. Now only three willows remain in the one-half mile stretch of this primarily cottonwood tree stand. Beneath the trees there is nothing but scattered clumps of seep willow and desert broom. Stands of mesquite lined the more xeric periphery of the stream channel. Noticeably absent was any sign of tree regeneration, every attempt at natural regeneration having been frustrated by a long history of cattle grazing and the lowered water table resulting from groundwater pumping.

The site is the headquarters of the Chauncey Ranch, one of two YMCA camps in the vicinity of Prescott that serve kids from the Phoenix metro area. The base property of the ranch was donated in 1978 to the Valley of the Sun YMCA by Tom Chauncey, Phoenix businessman and philanthropist. The ranch serves primarily as a horse camp in addition to being a working cattle ranch under BLM lease. The 4,000 acre ranch currently carries about 80 head of cattle.

The occasion for my visit was an invitation from Andrew Sudbrock, a recent graduate of Prescott College. I went with a small group of members of the Prescott Audubon Society to view an ambitious project being conducted by Sudbrock to restore at least a small part of this stream reach to its former diverse gallery forest condition. Sudbrock in explaining the restoration project and touring the area with our group seemed barely able to contain his enthusiasm.

With solid support of the YMCA and crucial funding from the Prescott College Student Union (\$2,000) and the Global Releaf Heritage Forest Fund (\$500), Sudbrock began his ambitious restoration of the riparian vegetation of this site. His first priority was to protect the area from cattle grazing. The YMCA provided the necessary fencing and the area is now protected.



His next priority was to get tree poles started. With many of the horticultural supplies supplied by Waters Garden Center in Prescott, he has planted 75 willow and 75 cottonwood poles along the one-half mile stretch of the river itself. Additional cottonwoods, willows, and sycamores have also been planted to develop a corridor of overstory trees connecting another island of old cottonwoods away from the river, and a small irrigation pond that is also surrounded by old trees. With this complex of tree corridors, irrigated alfalfa, and a tree-lined pond, he hopes to create a continuous, truly diverse multi-layered habitat that will attract both avian and terrestrial wildlife. Even with the limited habitat provided by the decadent cottonwood stand, our group counted over thirty species of song birds during our brief two-hour visit.

The next phase of the project will be to reestablish additional native trees such as the Arizona walnut, shrubs (e.g. four-wing saltbush), native grasses, and annual and perennial wildflowers. Sudbrock estimates that it will require about \$5,000 to complete the plantings and

the irrigation system needed to maintain them. The technique used to accomplish the plantings is a story in itself. Lacking any hydrologic data, he relied on a great deal of intuition in deciding just where and how deep to place each tree pole. There were two major problems that the new planting could encounter: if placed too close to the river channel, they could be damaged by high flows; if too far from the channel, the meager root systems of these new trees might never reach the water table. Intuition, so far, has proven accurate. After recent high flows, the tree poles were in perfect position to receive adequate water without being damaged by it. Many are already developing tiny green leaves. During their first dry season each pole will be watered by a 2-gallon bucket fitted with emitters. The main problem will be to find the assistance needed to keep the buckets full during this first critical spring and summer.

This project, begun only late this winter, has benefited from wide-ranging support. Prescott College graduates, students from the Phoenix area, and YMCA campers have been the main source of physical help. An environmental group, Earth Core, from Scottsdale has pledged one weekend per month to help.

The future success of this project will depend largely on funding and people power. Sudbrock still needs supplies of grass and wildflower seeds, native trees (Arizona walnut in particular), and shrubs. If you are willing to donate to this project or would like to put in some time, write to Andrew Sudbrock, The Agua Fria Restoration Project, P.O. Box 12702, Prescott, AZ 86304-2702

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## Streambed Ownership - Action by the Arizona Supreme Court and the Legislature

*Doug Blaze, ASU College of Law*

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The Arizona Supreme Court is considering whether or not to review a recent Court of Appeals decision striking down a statute enacted by the legislature that abandoned all state claims to ownership of riverbeds and lakebeds. Simultaneously, the legislature is considering new legislation, HB 2594, purportedly to address the riverbed ownership issue in a way that meets the mandates of the Court of Appeals decision. The judicial and legislative resolution of the issue will have enormous impact on protection and enhancement of riparian areas throughout the state.

### Background

When Arizona was admitted to the Union in 1912, the Equal Footing doctrine dictated that Arizona become owner of the beds of all watercourses within the borders that were then navigable. The state owns these riverbeds not as ordinary property, but as public trust lands for use and enjoyment of all the people for such purposes as boating, recreation, fishing, and wildlife habitat.

#### Errata

Readers pointed out three errors in the Winter 1992 issue. Jeff Burgess is not affiliated with ASU. Dr. Fleischman should have been addressed as Professor Fleischman and the National Forest responsible for the fish habitat study was Apache-Sitgreaves.

Subsequent to 1912, the state was not very aggressive in asserting its ownership rights in rivers other than the Colorado. Finally, in the mid-1980's the state began to assert its ownership interest, particularly in the Verde River. In response, some sand and gravel and title insurance companies sought legislative action to legitimize private claims to riverbeds.

### Prior Legislation

In 1987, the legislature responded by enacted HB 2017, which mandated abandonment of state ownership claims to riverbeds and lakebeds. With respect to the beds of all rivers other than the Salt, Gila, Verde, and Colorado, the statute gave up all state claims without any compensation to the state. As to the Salt, Gila and Verde riverbed land, the statute required the land commissioner to issue quitclaim deeds for \$25 per acre -- for land worth as much as \$60,000 per acre.

### Arizona Center for Law v. Hassell

In response, the Center for Law in the Public Interest, assisted by the ASU Law School Clinic, filed a lawsuit challenging the legislation. In September, 1991, the Arizona Court of Appeals struck down the legislation. The court found that the state had substantial, valuable interests in riverbed lands based on evidence that a number of the rivers were navigable at statehood. ("Navigability" as defined by the court means a genuine history of navigation and is not to be confused with "navigability" as defined in the Clean Water Act.)

As a result, the court held that the legislative giveaway violated the gift clause of the Arizona Constitution and the public trust doctrine. The court further held that the state could not relinquish its in-

terests without conducting a case-by-case inquiry into the value of the state's claims to specific riverbed parcels. The value of the state's claim must be determined based on such factors as the strength of evidence of navigability, the market value of the land, and the value of the parcel for public trust purposes. Under the gift clause, the state cannot convey public assets to private parties unless the state receives adequate compensation in return. The court also stated that because the beds of navigable rivers are held as part of the public trust, the state cannot relinquish any riverbed parcels except where specific parcels have totally lost their value for public trust purposes or the transfer would further trust purposes.

In February, 1992, one of the parties, Calmat, asked for review of the Court of Appeals decision by the Supreme Court. A decision by the Supreme Court whether to even review the decision is still pending.

### 1992 Legislative Action

The 1992 state legislature considered new legislation, HB 2594, to address the issue. Unfortunately, the legislation had significant defects and violated a number of the principles set forth by the Arizona Court of Appeals. For example, the bill would have allowed the state to give up riverbed trust lands even when those lands are still valuable for fishing, boating, recreation, and wildlife. The bill would also have effectively given away land by requiring that any sale price be reduced by the present occupants "interest or equity." As of this writing, an amended version has passed out of the Senate Natural Resources and Appropriations Committees and is headed for a floor vote.

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## Gila River Adjudication Update

Andy Laurenzi, Chairman  
ARC Water Resources Committee

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On January 14, 1992, the Arizona Supreme Court held a presubmittal conference on Issue No. 2 of the interlocutory appeal in the General Adjudication of the Gila River. In brief, the State Supreme Court has agreed to hear argument (i.e. interlocutory appeal) on whether the trial court erred in adopting the 50%-90 day test for determining what is "appropriable subflow" in the Gila adjudication (i.e., Issue No. 2). At the presubmittal conference various parties presented a Notice of Appearance and requested the Court to grant them the right to appear and participate in the appeal on Issue No 2.

The Council has long recognized the need to recognize in a legal sense, the hydraulic connection between groundwater and surface water when such a connection exists in the physical environment. In arid environments, most stream systems are derived in whole or in part from groundwater inflow into the floodplain aquifer which maintains stream flows. Protection of in-stream flows necessitates that groundwater use be recognized and

regulated within the same legal system within which instream flow water rights are established. (For background on the interlocutory appeal and Issue No. 2 see the ARC Newsletter Spring 1991 - President's Column).

Following the conference, the Court aligned the various parties who filed a Notice of Appearance into three groups and designated lead counsel. These are:

1. Salt River Project as lead counsel for those parties who will argue that the trial court erred in adopting the 50%-90 day test because it defines appropriable water too narrowly. These parties will generally argue that we need an integrated legal framework for management of surface and groundwater that represents the physical inter-relationship of groundwater and surface water.

2. San Carlos Apache Tribe et al. as lead counsel for those parties who feel that the trial court did not err. These parties wish to see some pumpers of groundwater integrated into the surface water system based upon whether they meet the 50% - 90 day test, but would continue to allow most groundwater pumping

to occur outside the surface water rights system.

3. Arizona Public Service Company as lead counsel for those parties who will argue that the trial court erred in adopting the 50%-90 day test because it defines appropriable water too broadly. These parties advocate that groundwater and surface water be treated as distinct legal entities regardless of their physical relationship. Many of the larger mining interests in the state such as ASARCO, Phelps Dodge, Cyprus and Magma Copper Company, several central Arizona irrigation districts and the City of Tucson fall into this group with APS.

In addition, other parties were granted leave to file separate briefs. These were: United States of America (test too narrow), the cities of Chandler, Glendale, Mesa, Scottsdale and Tempe (test too broad), the landowners in the Verde Valley (test too broad) and The Nature Conservancy (test too narrow). Briefs and reply briefs are due by August 21, 1992 and the Court will hear oral argument sometime in the fall in Tucson. Possibly sometime in early 1993, the Court may decide this critical issue facing water management in Arizona and protection of in-stream flows.

### Verde Riparian Project

Riparian trees are available at bargain rates from the Verde Natural Conservation District. Three willows (*Salix bonplandiana*, *Salix exigua*, and *Salix gooddingii*) and five cottonwoods (*Populus fremontii*, *Populus angustifolia*, *Populus caudina*, *Populus incassata*, and *Populus wislizenii*) are available as cuttings (@ \$3) or poles (@ \$6) during the dormant period from December through March.

All proceeds will be used for conservation projects and public environmental education. The nursery can be viewed at Dead Horse State Park in Cottonwood. For information, contact

Richard Thompson, Natural Resource Conservation District  
P O Box 2152  
Cottonwood AZ 86326  
(602) 634-7913

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## BLM Plans To Graze San Pedro Riparian National Conservation Area

*Jeff Burgess, Tempe*

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The Bureau of Land Management is claiming they must allow grazing on a portion of the San Pedro Riparian National Conservation Area because of a promise they were forced to make to Arizona's ranchers.

Local environmentalists say the BLM's decision to allow grazing along the San Pedro may be illegal and shows the agency's "new" image is a sham.

Congress established the San Pedro Riparian National Conservation Area in 1988 in order to protect the Southwest's best remaining desert riparian ecosystem. The federal legislation didn't specifically prohibit domestic livestock grazing along the river but the BLM made a decision in its 1989 San Pedro management plan to remove livestock from the area for at least 15 years.

Local environmentalists were pleased because livestock grazing has been widely documented as a main cause of degraded riparian habitat in the West. But the BLM's San Pedro plan did not prescribe management for 6,521 acres, or about 12%, of the Conservation Area which was acquired through exchanges with the state. The BLM decided to address the management of this area in a recently issued district plan.

Environmentalists are now criticizing the BLM because the agency is proposing to allow grazing to continue on the former state lands. "The BLM's been touting the San Pedro as an example of their newfound concern for protecting natural resources," environmental consultant Steve Johnson said. "It's disappointing to see them backtracking."

BLM officials claim they must allow the lands to be grazed because they promised the state's ranchers (in a 1985 memo they signed with the Arizona State Land Department) that ongoing ranching operations would not be disturbed by land exchanges. They say they had to agree to the terms of the memo because state regulations give affected ranchers veto power over any proposed land exchanges.

In the case of the San Pedro exchange, the Arizona Cattle Growers' Association claims the ranchers in the San Pedro area did not oppose the land exchange because they were assured by the BLM grazing would "continue as normal" after the exchange.

The cattlegrowers have protested the district plan and are asking for BLM Director Cy Jamison to rewrite it so that it's crystal clear that grazing will continue permanently on the San Pedro's former state lands, even after the inherited state grazing leases expire. One of the objectives of the land exchange program was to place state-owned unique natural resources under federal control where they could be better protected under the multiple use doctrine.

The state's environmentalists don't think the BLM is protecting land acquired in exchanges when state grazing practices are perpetuated. "The BLM's grazing management must be conducted in accordance with the applicable federal laws whose requirements may not be waived or superseded by an interagency memorandum," ASU Law Professor Joe Feller said.

Feller pointed out that Congress directed the BLM to allow only those uses in the San Pedro RNCA that, "will further the primary purposes for which the conservation area is established." He explained these were defined as the protection of, "the riparian area and the aquatic, wildlife,

archeological, paleontological, scientific, cultural, educational and recreational resources of the public lands surrounding" the river.

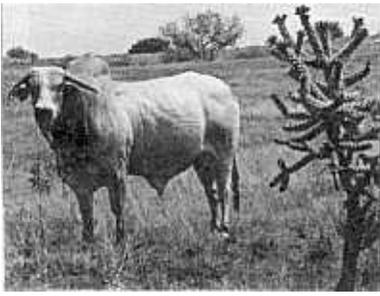
The BLM's San Pedro project manager, Greg Yuncevich, says the law, in fact, does allow grazing along the San Pedro. "It allows for scientific research on the area's environmental resources," Yuncevich said. "We'll have the opportunity to study grazing's compatibility with riparian areas."

Environmentalists think that's a ridiculous excuse. "There's no need to conduct an experiment of this type," Johnson said. "That should be obvious from the EPA's 1990 report on grazing which said the West's riparian areas are in the worst condition in history."

BLM officials say they are committed to being better stewards for the 6,521 acres than the state was. "We are going to protect the area's riparian resources by intensively managing grazing on these lands," Yuncevich said. He explained that he's hoping to implement a management system within the next year for the most sensitive portion of the area.

Yuncevich said the rancher involved, Mike Hayhurst of Huachuca City, is concerned about protecting the area's riparian resources and has volunteered to participate in better grazing management.

A recent public opinion poll showed a majority of Arizona's citizens support stronger riparian habitat protection, even if it would hurt the ranching industry. But Arizona's Congressmen opposed recent attempts to raise public lands grazing fees and have not criticized the BLM's proposal to continue grazing along the San Pedro.



## MASTER'S THESES AND DOCTORAL DISSERTATIONS

This section features brief descriptions of completed theses and dissertations on riparian topics. Please submit abstracts to the editor.

**An Evaluation of Riparian Efforts in Arizona**  
A Master's thesis in the School of Renewable Natural Resources at the U of A  
*Mark Briggs*

Briggs looked at twenty-five riparian revegetation projects and two alternative mitigations in Arizona to determine methodologies used in each and how well they achieved their objectives. Nineteen projects were deemed to have met their objectives. Four experienced natural regeneration that was so prolific that the results of the revegetation work were obscured.

Addressing the causes of site degradation was the most important element for successful projects. Low water availability was deemed responsible for causing failure in 67% of the projects that were unsuccessful in fulfilling objectives and the most difficult to overcome. Only one of five projects using irrigation was successful.

Briggs developed check lists to be used on a site by site basis to determine appropriateness of riparian vegetation.

## CONFERENCES ATTENDED

This section features brief descriptions of major national or regional meetings on riparian issues. If you have attended a such a conference, please tell us about it.

### Endangered Species Conference in Santa Fe

*Julia Fonseca, Pima County  
Flood Control District*

The Southwestern Rare and Endangered Plant Conference held March 31-April 2 in Santa Fe NM, brought together over one hundred scientists and land managers. One of the prominent themes of the conference was the need to protect the Endangered Species Act from being weakened by Congress. Keynote speaker, Faith Campbell of the Natural Resources Defense Council stressed the importance of public support for the Act and the need for scientists and land managers to provide information and support for reauthorization and strengthening the Act in the face of strong opposition. If strong support is not forthcoming, it is probable that the Act will be badly gutted or even eliminated entirely.

Of the many papers presented, the one of most interest to Arizona riparian enthusiasts was presented by Peter Warren of the Arizona Nature

Conservancy (co-authored by David Gori and Jim Malusa) concerning three riparian plants from southeastern Arizona.

*Lilium parryi* (lemon lily) needs moist microsites adjacent to shaded streams. Six of the seven Arizona populations are stable, but the lilies in Ramsey Canyon have declined due to streambed erosion and subsequent dessication of habitat.

*Lilaeopsis schaffneriana* sub. *recurva* (Cienega False-rush) prefers perennial streams. Despite flooding and deposition of sediment, these grass-like plants can quickly recolonize, probably through vegetative growth. Successful transplants at the San Bernardino National Wildlife Refuge occurred where there was little competition from cattails or bulrush. The species seldom flowers, except when its habitat dries out.

*Spiranthes delitescens* (Canelo lady's tresses) is a seep-dwelling species which occurs at the Nature Conservancy's Canelo Hills Preserve. Only four populations are known. Where livestock have been excluded, plant numbers have declined precipitously. It persists outside the Preserve under light grazing. Removal of the vegetative mat of the cienega by either grazing or fire may be beneficial to the species.

### AWRA Call for Papers

The American Water Resources Association will hold its 29th Annual Conference and Symposium in Tucson Aug 29 - Sept 2 1993. Conference topic is "Innovations in Ground Water Management" and the Symposium topic is "Effluent Use Management." Subject matter includes many topics such as conjunctive management of ground and surface water and stream channel discharge of effluent.

Abstracts are due Oct. 23, 1992. For information, contact the Water Resources Research Center at the U of A at 602 792-9591.

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# COTTONWOOD HOSTS ANNUAL MEETING

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The Riparian Council's Sixth Annual Meeting in Cottonwood was a rousing success from the opening talks on "Protecting Riparian Systems: Meeting the Challenges of Urban Needs" to the trips to the Verde River and Oak Creek.

**Judy Gignac**, of the Bella Vista Water Company in Sierra Vista, discussed problems surrounding competition for water supplies in the Upper San Pedro River Basin. She stressed the belief that economic viability of the town depends on growth, yet that growth may impact the riparian ecosystem so important to the town's viability. She listed numerous possible actions such as importing water from Tombstone, establishing an Irrigation Non-expansion Area, using effluent to augment flows and recharge, new well spacing criteria, amended planning and zoning regulations to take water impacts into account, and conservation pricing.

**Brian Michelson**, a Cottonwood planner, described river corridor planning - the Verde Valley experience. After an interesting history of Verde River water issues, he described the Corridor Study and the Greenway Management Plan, with emphasis on the importance of coordinating efforts among Verde River communities, management of the entire watershed as an entity, and integration of people and their needs and values.

**Dave Sabo**, of the Western Area Power Authority, talked about municipal power needs and Grand Canyon River flows. He stressed the fact that the river system through the Grand Canyon is now a naturalized system strongly impacted by human activity and that no management tools can reproduce the historic flow regime, although changes can improve the present situation.

**Paul LeBrun**, Project Manager for the Army Corps of Engineers, described investigations for the Tres Rios effluent project in Phoenix. The purpose of this project was to deal with flood control issues, narrowed down to a seven mile stretch from 91st Ave to Goodyear. Side benefits of the project would include improved habitat for species such as the Yuma Clapper Rail as well as park facilities for the area. A joint project with Phoenix would remove effluent from the Salt River, placing some of it in constructed wetlands along the banks. This project is a long way from implementation and still in the concept stage.

**Don Schroyer**, our luncheon speaker, discussed Arizona DEQ projects and priorities, substituting for DEQ Director Ed Fox on short notice.

**Betsy Rieke**, Director of Arizona DWR spoke about the three agency riparian bill, stressing the commitment that both she and the Governor have to riparian protection.

## Technical sessions

The technical sessions were consistently interesting. What follows is a very brief listing of what was presented in a half day of technical papers. For more information, meeting abstracts are available from the Council or contact the speakers involved.

**Marie Sullivan**, U.S. Fish and Wildlife Service, described the Verde River Advanced Identification Project.

**Eric Hiser**, of Fennemore Craig law firm in Phoenix, talked about implications of the new NPDES stormwater permit regulations.

**Julie Stromberg**, ASU Center for Environmental Studies, reported on her study of recruitment dynamics of cottonwood-willow riparian forests.

**Robert Ohmart**, also of the Center for Environmental Studies, discussed studies in connection with the Verde River Greenway.



Lew Myers of the Tonto National Forest, gave a status report on their riparian program.

Mark Fredlake, Bureau of Land Management, talked about habitat management in the San Pedro Riparian National Conservation Area.

David Mouat of the Desert Research Institute in Reno described a remote sensing project along the San Pedro River.

Duncan Patten of the Center for Environmental Studies, discussed his project involving studying Glen Canyon Dam releases and their impacts on the Grand Canyon, including recommendations for change.

Laurie Wirt described her USGS study using stable isotopes and water chemistry to determine movement of water in the Upper Verde River Basin.

Anthony Nelson, of the U. of A's Cooperative Fish and Wildlife Research Unit, discussed the success and failure of revegetation projects along the Colorado River, in terms of value to wildlife.

Gwendolyn Waring, Museum of Northern Arizona, talked about the impact of exotic plants on faunal diversity on the San Juan River in Utah.

Michael Tremble of the Navajo Natural Heritage Program, gave a status report on the Little Colorado River endangered species database project

Many thanks to Julie Stromberg, Cindy Zisner, Andy Laurenzi, Marty Jakle, Marie Sullivan, Kris Randall, Russ Haughey, and Diane Laush for their efforts in making the Annual Meeting such a success.

## Field Trips

Field trips to Dead Horse State Park, Tavasci Marsh and Red Rock State Park, with talks by Kris Randall (ADEQ), Marie Sullivan (USFWS), Dick Thompson (manager of the Verde Riparian Project), Steve Andrews (AZ G&F), Brad Vandemark (ADEQ) and John Schrieber of Arizona State Parks completed the two-day event.

## Business Meeting

*Cindy D. Zisner, Secretary*

This year's annual Council meeting in Cottonwood was a success. The meeting was attended by 103 participants, 82 of whom were pre-registered. At the Business Meeting we passed a proposed change to the Constitution and Bylaws naming our Western States Riparian council member to the ARC Board. Ron Smith, our past newsletter editor, was honored with a plaque for his contributions to the Council. We also voted to increase our annual dues from \$5 to \$10.

Marty Jakle was elected President to succeed Andy Laurenzi who was thanked for his work on behalf of the Council. Julie Stromberg was elected vice-president; Cindy Zisner, secretary; and Diane Laush, treasurer. Russ Haughey, Duncan Patten and Marie Sullivan were elected at-large board members.

Thanks to all for the beautiful bouquet presented to me at the Business Meeting. As many of you have realized by now, I have not moved to Atlanta, Georgia. Unfortunately, things just didn't work out and we're still here in Arizona. I apologize for not letting you all know sooner, but by now it should be obvious that I haven't left and I'm here to stay a while longer.



ARC visitors to Tavasci Marsh

## Treasurer's Report

*Diane Laush, Treasurer*

The following treasurer's report was given at the Annual Meeting.

<b>Balance, March 1991</b>	<b>4393.95</b>
<b>Expenses</b>	
Newsletter	2053.83
Fall Gathering	300.52
Officer Reimbursement	113.08
Hydrological Report	19.40
1992 Meeting	2837.00
<b>Total Expenses</b>	<b>5885.43</b>
<b>Deposits</b>	
Dues	781.43
1992 Meeting/Dues	5039.43
<b>Total Deposits</b>	<b>5820.43</b>

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## **NEW RIPARIAN PROJECTS**

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This section features new projects of agencies and university departments. If you are undertaking an interesting new project (research, re-vegetation, etc.) please let us know.

### **Initiation of Research Project: Development of Best Management Practices for Water and Riparian Resources Along the Santa Cruz Watershed, U.S./Mexico Border**

*Julie Stromberg, ASU,  
Center for Environmental Studies*

The Santa Cruz watershed has been impacted by many types of human activity. On its pathway from southern Arizona into northern Mexico and then back into Arizona, the Santa Cruz River and its floodplain are variously used for grazing, agriculture, and urbanization. In some reaches the surface flow has been lost due to groundwater pumping while in others the flow is supplemented by municipal and industrial effluent. Basic information is lacking on the effects of these activities on the quantity and quality of the aquatic and riparian ecosystems associated with the Santa Cruz River.

Preservation and restoration of riparian and aquatic systems hinges on a thorough understanding of the factors that cause riparian degradation as well as those essential for maintenance and recovery.

Project researchers, Duncan Patten, Douglas Green, Milton Sommerfeld and Julie Stromberg propose to (1) to design and initiate a comprehensive program of monitoring and analysis of water and riparian resources (quality and quantity) in the transboundary region of Nogales, Arizona and Nogales, Mexico with emphasis on the Santa Cruz River and its watershed within 100 km of

the border, (2) to integrate data on water resources, species composition and diversity in the riparian and aquatic communities using a Geographic Information System, (3) to determine the effects of various resource management practices on the riparian resources along the Santa Cruz River, and (4) to assess flow regimes and stream geomorphological conditions necessary for establishment and maintenance of riparian ecosystems. The goal is to delineate management practices that will allow land and water resource utilization compatible with preservation and/or enhancement of the biodiversity unique to low desert riparian ecosystems such as the Santa Cruz River.

The first phase of this study, to be completed in 1993, will be development of GIS components, consolidation of existing data bases on the Santa Cruz River basin, mapping of vegetation and other land use parameters, characterization of water resource parameters, and quantification of riparian establishment parameters. The second phase will utilize the information generated above to develop management oriented models for water resources along the Santa Cruz River.

This project is being funded by the Southwest Center for Environmental Research and Policy, which is a five-university consortium established by the Environmental Protection Agency to address regional water quality and quantity, air quality, hazardous waste, and environmental policy issues of the US-Mexico border region.

### **ADEQ to Assess Wetlands as Water Quality Improvement Technique**

*Kris Randall, Arizona Department of Environmental Quality*

The Nonpoint Source Unit of the Arizona Department of Environmental Quality has received a Wetland Protection grant from EPA. The purpose is to assess the use of artificial wetlands and riparian areas as a biological process for improving water quality associated with effluent discharges, urban runoff, and/or agricultural wastewater (dairies and pig-gries). Assessing the efficiency and limitations of artificial wetlands as biological systems which filter and sequester toxins, nutrients, and sediment is an essential component for development and implementation of an effective wetland/riparian protection program. Due to the unique hydrologic and climatic factors present in the arid Southwest, understanding the necessary criteria for properly functioning wetlands is essential.

The information will provide conceptual guidance that can be utilized in developing wetland projects for the purpose of limiting nonpoint source pollution. The grant integrates well with other on-going programs within the Nonpoint Source Unit. Such programs considering using wetlands as a biological process for improving water quality are: the Regulated Agriculture, Hydrologic and Habitat Modification, Resource Extraction, and Urban Runoff.

We anticipate that the Request for Proposals will be released for contracts sometime in September.

### **Job Opening**

Arizona Game and Fish is looking for a Wildlife Specialist III for the Non-Game Branch. The person will be based in Phoenix and be responsible for ecosystem projects, plant communities and native plants, with emphasis on riparian habitats and wetlands. For information, contact the State Personnel Office in Phoenix or your regional office and ask for job description and application #376-OF.

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## NOTEWORTHY PUBLICATIONS

*Pat Ellsworth, Section Editor*

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This section features recent publications relating to riparian areas and wetlands. Anyone with book or article reviews or suggestions for such reviews should submit them to Pat Ellsworth at 202 South Virginia Street, Prescott AZ 86303.

### BOOKS

Echeverria, J.D., P. Varrow, and R. Roos-Collins. 1989. *Rivers at risk: the concerned citizen's guide to hydropower*. Island Press, Washington D.C. 220 pp.

Hydroelectric development is a serious threat to free-flowing rivers in America. This handbook serves as a resource for attorneys, engineers, and professional conservationists interested in hydropower issues.

Rodiek, J. E. and E. G. Bolen (eds). 1990. *Wildlife and habitats in managed landscapes*. Island Press. 250 p

Americans are having an increasing impact on the rural landscape. This book presents a strategy for dealing with this problem by redefining habitats to include the concept of landscape. The authors attempt to help natural resource managers apply management tools to meet the needs of both wildlife and humans. A chapter by R.C. Szaro discussed "Wildlife Communities of Southwestern Riparian Ecosystems."

Folk-Williams, John. 1991. *The Gila Basin and the waters of southern Arizona: a guide to decision making*. Western Network, Santa Fe.

This 58-page booklet offers a concise view of the Gila River Basin. Chapters deal with issues such as Indian water rights, adjudication, and water quality. \$15. Western Network 1215 Paseo de Peralta, Santa Fe NM 87501.

Hunt, C.E. and V. Huser. 1988. *Down by the river: the impact of federal water projects and policies on biological diversity*. Island Press. 266 pp.

This is a compilation of case studies of development projects on seven river systems, including the Colorado, to illustrate the effect on biological diversity.

Kusler, J. A. 1983. *Our national wetland heritage: a protection guidebook*. Environmental Law Institute. 167 pp.

The guidebook includes a literature review, examination of state wetlands statutes and cases, survey of protection programs, and many practical solutions.

### ARTICLES AND REPORTS

Blinn, D. W. and C. Runck. 1990. *Importance of predation, diet, and habitat on the distribution of *Lepidomeda vittata*: a federally listed species of fish*. Report submitted to Coconino National Forest, 2323 E. Greenlaw Lane, Flagstaff, AZ 86004. 47 pp.

Blinn and Runck (Dept. of Biol. Sciences, NAU, P.O. Box 5640, Flagstaff, AZ 86011) studied a population of the Little Colorado spinedace in Nutrioso Creek, a tributary of the Little Colorado River. "Because the number of viable populations . . . appear to be diminishing it is important to identify those parameters that restrict the distribution of this native fish species." Their observations "strongly suggest that predation by rainbow trout is very important in the success and distribution of the Little Colorado spinedace."

"Texas' vanishing wetlands." *Texas Water Resources Institute Newsletter*. Spring 1992.

This edition of the TWRI Newsletter is entirely devoted to wetlands and

discusses trends, regulations, options and restoration. Write to TWRI, College Station, TX 77843.

Allendorf, F. W. 1988. *Conservation biology of fishes*. *Conservation Biology* 2: 145-148.

Sheldon, A. L. 1988. *Conservation of stream fishes: patterns of diversity, rarity, and risk*. *Conservation Biology* 2: 149-156.

Meffe, G. K. and R. C. Vrijenhoek. 1988. *Conservation genetics in the management of desert fishes*. *Conservation Biology* 2: 157-169.

Allendorf, F. W. and R. F. Leary. 1988. *Conservation and distribution of genetic variation in a polytypic species, the cutthroat trout*. *Conservation Biology* 2: 170-184.

This group of four articles on the conservation of fishes constitutes a special section in the June, 1988, issue of *Conservation Biology*, the official publication of the Society for Conservation Biology.

Moyle, P. B. and J. E. Williams. 1990. *Biodiversity loss in the temperate zone: decline of the native fish fauna of California*. *Conservation Biology* 4: 275-284.

Moyle and Williams hypothesize that "in proportion to the entire fauna, loss of species may be as great in temperate regions as in tropical regions." To test this idea, they analyzed the status of California's native fishes using a method that quantifies expert knowledge. Only 36% of the native fish taxa in the state appear to be secure. Much of the decline has occurred recently, including the unexpected and rapid decrease of species that were once abundant. "Just because a species is abundant does not mean we can be complacent . . . any species that already shows signs of decline probably needs immediate attention."

What went wrong? - from page 1

My observation is that the "riparian issue" has become the centerpiece in the debate over several much broader issues:

**Control of the future use of water:** I think Doc Lane of the Cattlegrowers said it best in a recent column in *Arizona Water Resource*, "This argument is not about riparian protection. This is an argument about who controls the land and water and what activities are allowed on that land."

## Wash Protection in Pima County Fails

What looked like a very promising ordinance to help protect washes in Pima County was killed (at least for the next six months) when false information aroused strong opposition from a few rural landowners.

The purpose of the draft ordinance was to require mitigation where wash vegetation was to be damaged or destroyed. It would have discouraged activities such as structural flood control projects in the wash or on adjacent banks, but would not have prohibited them. It would have been an extra element in the existing flood plain permitting process.

Unfortunately, rural ranchers were convinced that the ordinance would require them to take down their fences, allow the public on private land and end the ranching lifestyle. This, of course, had no resemblance to reality, but no amount of factual information from flood control staff could allay their fears. Because of these and other "private property" concerns, the measure failed 3-2.

The instream flow portions of the legislation were drafted within the context of present Arizona water law. The proposed measures are consistent with prior appropriation and do not harm existing uses. Consumptive water rights holders, however, believe that their water right implies ownership of X amount of water rather than the right to use X amount of water in the manner described in their permit. As conditions change, or opportunities for marketing water increase, they do not wish to see their future use of water limited.

**Public/Private Property Debate:** In the bill, Arizona Game and Fish can hold a "stream resource appropriation" without owning land. The agency would be acting on behalf of the public for public purposes. This authority could be especially important where multiple ownerships along a stream course have been a problem such as in the case of Oak Creek. Currently, however, there is a renewed interest in limiting the amount of land in public ownership. This has implications for water rights too. Private consumptive water rights holders are concerned that Game and Fish, as a non-landowner, would be able to "lock up" many stream segments. The "public" is seen as a new competitor for a scarce resource.

**Regulation of Private Property:** Although water is a public resource, the riparian vegetation supported by that water grows on land. If the land is privately owned, the riparian vegetation is also privately owned. Much of the debate centers around what the next steps might be. To finish out Doc Lane's quote, "A few more laws like this one and the Central Government will control the land...sorry folks, I've been through your Endangered Species and Wetlands Protection Acts, etc., and I don't trust...."

**Where do we go from here?** It's a tough question. The dialogue must continue in the hope that with enough listening, we will get back on a problem solving track. We have been making incremental steps forward on a local level. Local river corridor planning, wash ordinances, revised grazing systems, federal regulations are all making a difference. On the state level, almost unnoticed, a riparian area effluent bill passed (see below). Also the issues within the Gila River Adjudication (page 5) could help protect riparian areas from groundwater pumping impacts. But we still need a comprehensive statewide program that will provide the ability to protect ecologically sensitive riparian habitats. So we'll be back. There's always next year!

## A Win for Effluent-Dominated Riparian Areas

Amidst the general gloom about legislative inaction on riparian areas, it is exciting to report that one important bill did pass! Passage of this bill will help ensure preservation of about twenty miles of the Upper Santa Cruz River between the Nogales Wastewater Treatment Plant and Tubac. This area is a fine example of prime riparian habitat dependent on effluent.

Last year ADWR told the City of Nogales that in order to claim recharge credits within the AMA, they would have to remove the effluent from the river and place it in an artificial basin. This legislation will allow Nogales (and other similarly affected communities *upstream of national or state parks*) to get recharge credits while leaving the water in the river. Congratulations to Marco Rivera and Hugh Holub representing Nogales, Senators Rios, Arzberger, Pacheco and many others for this achievement.

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## **REGULATORY ACTIONS TO WATCH**

This section features regulatory actions of concern to those interested in riparian areas. Please submit information about on-going activities to the editor.

### **Assured Water Supply Rules**

The Arizona Department of Water Resources (ADWR) has issued a "Concept Paper" as a prelude to developing rules for Assured Water Supply (AWS), a program under the Groundwater Management Act (ARS 45-576). While this topic may seem esoteric to those concerned about riparian areas, the impacts on riparian areas may be significant.

The law requires that subdividers within Active Management Areas (AMAs) demonstrate an "assured water supply" before receiving a certificate, as a requisite to development. ADWR has generally issued certificates (although a rule-making process was never adopted) where the applicant can demonstrate either that he has a CAP contract (or is served by a utility with a CAP contract) or can demonstrate that he will have adequate water for 100 years without drawing down the water table more than an average of 10 ft./year for a maximum total of 1000 ft. Many people have long considered this approach totally inadequate. (Eligibility of certain types of water companies and other providers ("deemed" and "designated" providers) is determined in the law and cannot be reviewed until 2001.)

Briefly, the proposed concepts attempt to interpret the law regarding AWS as follows:

1. Sufficient water of adequate quality must be continuously available to serve new subdivisions for 100 years.

2. The applicant must prove both legal and physical availability of water to serve the proposed uses.

3. The applicant must show financial capability to construct the delivery system and any required treatment works.

4. Water supplies must be used in a manner that is consistent with the management goal and management plan for the AMA.

Within this broad framework, the details become highly complex and far-reaching. ADWR recommends changing the current system to more strictly implement the law and truly represent an assured supply. Since the Management Plans for three of the four AMAs have a goal of "Safe Yield", any system that is consistent with that plan must discontinue mining of groundwater.

Some of the issues of primary concern to the Riparian Council are:

1. Should certificates be granted on water which is transferred from agricultural use? If so, should there be a cap on the amount, or should it be a direct one-to-one transfer? Should the water have to be used on the land in question, or can it be used anywhere in the AMA? Implications of these decisions include such matters as whether the policy will encourage reuse of already damaged land or will encourage the opening up of unspoiled desert.

2. Should water use have to be in the specific area where recharge occurs, where there is a renewable supply, or can credit for replenishment occur anywhere in the area? If it is allowed only where the recharge occurs, growth may be funneled to high recharge areas (e.g. riparian areas.)

3. Should credit be given within an AMA for capture of outflow from that AMA? If so, there will be incentives for eliminating stream-flow escaping AMAs (e.g. the Santa Cruz River where it moves from Pima to Pinal County.)

There are many more issues involved than can be mentioned here. The rule-making process is in its early stages and will be proceeding throughout the summer and fall. For a copy of the Concept Paper and to receive future mailings, contact the Tucson AMA at 602 542-1553. Cathy Jacobs, Tucson AMA Director, is handling this program for ADWR.

### **Gila Box Riparian National Conservation Area Planning**

A planning team of BLM resource specialists is working with a seven member advisory committee to develop plans for the Gila Box area, using the "limits of acceptable change" process. Five meetings will be held between May 26 and July 24, 1992. All meetings are open to the public. Individuals who wish to address the group must notify BLM at least two days prior to the meeting. BLM is looking for two additional advisory committee members. Members serve without pay but are reimbursed for travel and per diem. Most meetings are held in Safford. For more information, contact Diane Drobka, Public Affairs Officer at 602 428-4040.

#### **Free U of A Publications**

Benefits of riparian habitat for wildlife in the Southwest: A guide for enhancement - Chuck Ziebell. 27 pp.- Agricultural Experiment Station - 621-7176

Where to get technical information about water in Arizona - Barbara Tellman. 36 pp. - Water Resources Research Center 792-9591.

The Arizona Riparian Council (ARC) was formed in 1986 as a result of increasing concern over the alarming rate of loss of the State's riparian ecosystems. It is estimated that less than 10% of the State's original riparian acreage remains in a natural form. These habitats are considered Arizona's most rare natural communities.

The purpose of ARC is to provide for the exchange of information on the status, protection, and management of riparian systems in Arizona. The term "riparian" includes vegetation, habitats, or ecosystems that area associated with bodies of water or are dependent on the existence of perennial intermittent or ephemeral surface or subsurface water drainage. Any person or organization interested in the management, protection, or scientific study of riparian systems, or some related phase of riparian conservation is eligible for membership. Annual dues are \$10.00; additional contributions are gratefully accepted.

This newsletter is published three times a year to communicate current events, issues, problems, and progress involving Arizona's riparian systems, to inform you the members of ARC about Council business, and to provide a forum for you to express your views or news about riparian topics. The Fall issue will be mailed in September, with the deadline for submittal, August 1, 1992. Please call or write me with suggestions and offers of articles and/or illustrations. This publication will be as interesting and useful as the members make it.

Barbara Tellman, Editor  
 Water Resources Research Center  
 University of Arizona  
 350 N. Campbell Avenue  
 Tucson AZ 85721  
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## The Arizona Riparian Council

### Officers:

<b>President:</b> Marty Jakle	(602) 870-6764
<b>Vice President:</b> Julie Stromberg	(602) 965-2975
<b>Secretary:</b> Cindy Zisner	(602) 965-2490
<b>Treasurer:</b> Diane Laush	(602) 870-6763

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<b>Classification and Inventory:</b> Sue Monroe	(602) 789-3302
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<b>Land Use:</b> Mark Heitlinger	(602) 622-3861
<b>Protection/Enhancement:</b> Kris Randall	(602) 207-4510
<b>Water Resources:</b> Andy Laurenzi	(602) 622-3861
<b>Newsletter:</b> Barbara Tellman, editor	(602) 792-9591

## Calendar

**25-26 July** *Arizona Native Plant Society Annual Meeting* in Prescott with a focus on "Grasslands". Guests welcome. For information, write ANPS, PO Box 41206, Tucson AZ 85705

**31 July - 2 Aug** *Constructed Wetlands Meeting* in Show Low, Flagstaff Chapter of the Arizona Hydrological Society. Field trips to Pintail Lake, Redhead Marsh and Jacques Marsh as well as the Stone Container Wetland in Snowflake. Group campground in Show Low. Contact Chuck Avery at NAU (602) 523-3031.

**Sept. 13-17** *INTECOL International Wetlands Conference* in Columbus OH. Write William Mitsch, School of Natural Resources, 2021 Coffey Road, Ohio State University, Columbus OH 43210 for information.

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

**4-6 Feb 1993** *Riparian Management: An Integrated Approach*, a western regional conference in Albuquerque, cosponsored by U of A, Forest Service, and many others. Contact Mary G. Wallace or Barbara Tellman at 602 792-9591.



## ARIZONA RIPARIAN COUNCIL

Center for Environmental Studies  
Arizona State University  
Tempe, Arizona 85287-3211

(602) 870-6764/6763  
(602) 965-0864/2490

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ANNUAL MEETING: \_\_\_\_\_

NEWSLETTER: \_\_\_\_\_

OTHER WAYS: \_\_\_\_\_

\$10 ANNUAL DUES DATE SUBMITTED \_\_\_\_\_

## Important Dues Notice

Dues were increased from \$5 to \$10 at the April Annual Meeting. Those of you who have already paid your dues (including all those who attended the Annual Meeting) do not have to pay the additional \$5 this year. Procrastinators who didn't pay their dues on time need to submit the full \$10 to continue to be on the mailing list and receive this newsletter.



## Wanted

People with drawing talent to donate sketches of riparian areas, plants, wildlife, etc, for this newsletter from time to time. Full credits will be given. Illustrative black and white photos also appreciated. Please contact the editor.

**BT5 1005**  
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