divining rod

Vol. XIV No. 2

New Mexico Water Resources Research Institute

Spring/Summer 1991

36th Water Conference to look at agencies & science

"Agencies and Science Working for the Future" will be the theme for the 36th Annual New Mexico Water Conference to be held November 7-8, 1991 in Las Cruces. This year's conference will be held in conjunction with the U.S. Department of Agriculture Forest Service's Centennial Celebration, slated for November 7-9 on the New Mexico State University campus. Part of our conference will emphasize Forest Service issues such as water problems the agency is facing and research it is conducting. Topics to be addressed include endangered

species issues, wetland/riparian corridor issues and public land water rights issues. The 1991 conference will focus on the ties between science and water management and the relationship between agencies and academics. We will look at how agencies and universities interface, how training needs are met and what gaps exist between research conducted at universities and research needed by agency personnel.

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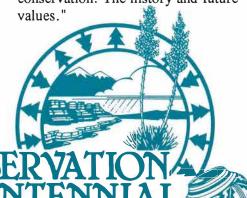
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Forest Service Centennial to celebrate ecological and cultural values at Southwest symposia

This year marks the centennial of the Forest Reserve Amendment, passed by Congress on March 3, 1891. Although Congress took sporadic interest in preserving unique natural areas as reserves before 1891, it wasn't until passage of the FRA that a continuing policy of public land retention for resource conservation became a reality.

To celebrate the centennial, the U.S. Department of Agriculture

Forest Service is planning three symposia in the Southwest with an overall theme of "A celebration of conservation: The history and future values."



Each of the three symposia—to be held in Flagstaff, AZ, Las Vegas, NM and Las Cruces, NM—have a different focus. The Las Vegas symposium on October 4-5, 1991 will emphasize cultural values, while the Las Cruces program on November 7-9, 1991 will focus on water conservation. The Forest Service is planning for nationally known speakers and entertainers to participate in the celebration as well as local community members.

By holding these symposia and other celebrations, the Forest Service hopes to heighten public

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"Water Rights East and West: Environmental and Allocation Issues" to be discussed July 30 - August 3, 1991

The University of New Mexico, New Mexico State University and Texas Tech University are hosts to this year's Universities Council on Water Resources annual meeting.

To be held in Albuquerque July 30-August 3, 1991 at the Sheraton Inn Old Town, the conference is designed to provide an overview of the legal, environmental, economic and social issues involved in water allocations with specific examples of such controversies in western and eastern states. In addition, the con-

ference will examine innovative and interdisciplinary approaches to graduate and undergraduate education in water and environmental resources to meet the growing demand for broadly trained scientists and managers in the 1990s. A partial program is shown below. Although the meeting will be attended primarily by delegates from UCOWR's 100 member universities, others may attend the conference.

The registration fee for the con-

ference is \$195 prior to July 1; \$225 after that date. Member institutions receive a discount on multiple delegates. The fee includes two luncheons, three continental breakfasts, coffee breaks, and an evening meal and entertainment at the All Indian Pueblo Cultural Center. For more information regarding registration and a complete conference program contact Margery Robinson, UCOWR, 4543 Faner Hall, Southern Illinois University, Carbondale, IL 62901; (618) 536-7571.

"Water Rights East and West: Environmental and Allocation Issues"

WATER ALLOCATION ISSUES: A GROWING NATIONAL CONCERN

John Thorson, Special Master Arizona State Courts - "The Prior Appropriation Doctrine: 19th Century Dogma Meets the Iconoclastic West"

Leonard Shabman, Virginia Polytechnic Institute - "Analytical Perspectives of Water Transfers in the Eastern United States"

W.R.Z. Willey, Environmental Defense Fund - "Water Transfers: An Environmentalist's Perspective"

Duncan Patten, Arizona State University "Instream Flows for Aquatic/Riparian
Ecosystem Integrity"

Helen Ingram, University of Arizona "Does Anybody Win? Rural to Urban
Water Transfers"

POLICY AND RESEARCH IMPLICATIONS OF WATER TRANSFERS AND ALLOCATION ISSUES IN THE EAST AND WEST

Lawrence MacDonnell, University of Colorado Law School - "Case Studies of Water Reallocation in the West: Role of U.S. Bureau of Reclamation

William Cox, Virginia Polytechnic Institute - "Reallocation Impacts of Eastern Water Law Changes"

Stuart Pyle, Kern County Water Agency (California) - "Water Reallocation from Agriculture to Urban Use in California Ari Michelsen, University of Wyoming - "Feasibility of Leasing Agricultural Water During Drought: Colorado Case Study"

Craig Sommers, ERO Resource Corporation - "Case Studies in Indian Reserved Right Settlements"

Ronald North, University of Georgia "Economic and Political Issues in Water Services Reallocation: A Case Study in the Southeast"

TRANSBOUNDARY WATER ALLOCATION ISSUES BETWEEN THE U.S. AND ITS NEIGHBORS

Al Utton, University of New Mexico Law School

Alberto Szekely, Secretaria de Relaciones Exteriores, Tlatelolco, Mexico

Andrew Hamilton, Rawson Academy of Aquatic Sciences, Iota, Ontario, Canada

Michael Donohue, Great Lakes Commission

STATUS AND TRENDS IN U.S. WATER RESEARCH: PERSPECTIVES OF JOURNAL EDITORS

William Yeh, Editor, ASCE Journal of Water Resources Planning and Management

Soroosh Sorooshian, Editor, Water Resources Research

Dale Meredith, Editor, Water Resources
Bulletin

F. Michael Saunders, Editor, Research

Journal of the Water Pollution Control Federation

Nancy M. Zeilig, Editor, American Water Works Association Journal

ISSUES IN WATER AND ENVIRON-MENTAL RESOURCE EDUCATION

Daniel Willard, School of Public and Environmental Affairs, Indiana Univ. Soroosh Sorooshian, Dept. of Hydrology,

Soroosh Sorooshian, Dept. of Hydrolo
University of Arizona

Erhard Joeres, Department of Civil and Environmental Engineering, University of Wisconsin

David Moreau, Department of City and Regional Planning, University of North Carolina

Kenneth K. Tanji, Department of Land, Air and Water Resources, University of California

RESEARCH AND EDUCATIONAL OPPORTUNITIES IN HYDROLOGIC SCIENCES

Jon Bartholic, President of UCOWR, and director, Michigan Institute of Water Research

Henry Vaux, Chair of National Assoc. of Water Institute Directors

Bruce Rittman, President of Assoc. of Environmental Engineering Professors

Terry Nipp, National Assoc. of State Universities and Land Grant Colleges

Dale Vanderholm, Agricultural Research Division, Univ. of Nebraska

USGS 104/WRRI allotment funding for 1991-1992 announced

Thirteen proposals and six requests for continuation of funding were received for the 1991-1992 fiscal year. Of these, a total of eight projects were funded—the six continuation projects plus two new projects. Three of the projects fall into the water conservation category, three into water quality, and two into the category of atmospheric/surface water/groundwater relationships. A brief description of each project is given below.

One of the water institute program's missions is to provide training for students. This year WRRI-funded projects will provide support for four undergraduate students, 16 graduate students, and two post-doctorals.

An Expanded Suite of Tracers for Hydrological Investigations -Robert Bowman, Department of Geoscience, New Mexico Institute of Mining and Technology.

Dr. Bowman's study will attempt to increase the number of proven water tracers and to improve analytical methods which allow these tracers to be easily used by researchers, regulators, and technicians. The success of this work could lead to large multi-tracer investigations such as those proposed for prospective high-level nuclear waste repositories.

Manipulation of Water-Use Efficiency and Quality through Engineering of Nematode Resistance - Champa Sengupta-Gopalan, Agronomy and Horticulture Department, and Stephen Thomas, Entomology, Plant Pathology and Weed Science Department, New Mexico State University.

This is the second year for a three-year project to genetically engineer into plants a gene enabling the plant to produce a collagenase enzyme capable of attacking and killing nematode pests.

Wetting Front Instability in the Vadose Zone of New Mexico's Soils - Year One - Jan M. H. Hendrickx, Department of Geoscience, New Mexico Institute of Mining and Technology.

To better understand the vulnerability for groundwater contamination in New Mexico, Dr. Hendrickx will conduct a field study in the Sevilleta desert and on irrigated lands near Socorro to investigate the occurrence of wetting front instability in the vadose zone.

Somatic Cell Selection to Genetically Improve Plant Water Use Efficiency and Tolerance to Stresses - Gregory Phillips, Agronomy and Horticulture Department and Glenn C. Kuehn, Chemistry Department, New Mexico State University.

This is year three for the project to test the hypothesis that the increased production of certain polyamines will result in greater crop water-use efficiency and/or plant tolerances to drought and heat stresses.

Depletion of Groundwater in New Mexico's Confined Aquifers: Some Critical Extensions - H. Stuart Burness, Department of Economics, University of New Mexico.

Dr. Burness will focus on economic and institutional variables that would delimit an appropriate model of optimal groundwater use. The project's first phase included variables reflecting quality of life. The second phase will investigate the role of water-saving capital technologies and analyze the role of potential policies that might facilitate the development of such technologies.

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Workshop to tackle communications issues for the '90s

An information transfer workshop to be held in conjunction with the Universities Council on Water Resources annual meeting will focus on problems facing communication specialists in the '90s such as:

- Communicating with the general public in the decade of environmentalism
- Building relationships with the print and broadcast media
- Coping with tight budgets
- Measuring the effectiveness of information transfer programs

The workshop is designed especially for communication specialists working at the 54 water institutes, but others dealing with information transfer of water issues may be interested. Cost for the conference to be held at the Sheraton Old Town in Albuquerque, July 30-31 is \$45.

According to Leslie Blair, workshop coordinator and information coordinator for the NM Water Resources Research Institute, many of the problems facing communication personnel at the institutes are also faced by those communication specialists at other agencies and research centers. She says, "These include the need for more information and technology transfer in light of shrinking budgets and limited staff. There are also problems in reaching the general public and explaining technical information in terms that others can understand."

Some of the most successful water education programs in the country will also be discussed at the workshop including ones in Michigan and Utah.

For more information regarding the workshop, call Blair at (505) 646-5367.

Chino Mines provides funding for 7 projects and courses

A September 19, 1990 agreement between the Chino Mines Company and the Environmental Improvement Division provided \$205,000 to support environmentally related studies and courses through New Mexico Water Resources Research Institute.

CMC announced the availability of the funds to the presidents of colleges in New Mexico in October. After the January deadline, proposals were screened by the EID and CMC for subject matter relevance. The proposals were then sent for peer reviewers to evaluate and rank using a system which addressed five factors: importance of the environmental problem, technical quality, originality and creativity, training and facilities, and the investigator's qualifications.

Below is a brief summary of the projects and courses funded.

Side-by-Side Comparison of the Functioning Efficiency of a Conventional Septic Drain Field and Alternative Biofilter at the Individual Residence to Small Community Scale - Eleonora Trotter, Department of Biology, University of New Mexico and Bruce Thomson, Department of Civil Engineering, University of New Mexico.

This project will test an experimental biofilter at the Sevilleta Long-Term Ecological Research Field Station compared to a conventional system. A subsurface flow system planted with native marsh plants will be installed adjacent to a septic tank drainfield, so both can receive effluent from a common septic tank. Monthly, the researchers will measure water quality from each site using BOD, TKN, TKP, fecal coliform, TDS and TSS tests.

Aquatic Ecology/Toxicology &

Lab Course Development - Carleton S. White, Department of Biology, University of New Mexico.

Dr. White's proposal includes the development of a course in Aquatic Ecology/Toxicology geared for practitioners in water-related fields who are non-biology graduates. It will present basic biological and ecological concepts and principles that control the fate of inorganic and organic chemicals in the environment. A laboratory portion of the course will present evaluation of each technique covered in the classroom with respect to its application, interpretation and limitations.

Air Quality Studies in Albuquerque, NM - Carl Popp, Department of Chemistry and Geophysical Research Center, New Mexico Institute of Mining and Technology.

Dr. Popp's study aims to characterize the chemistry of air pollution in Albuquerque so that more informed analysis can be made toward finding solutions. Air samples will be analyzed for low molecular weight hydrocarbons, peroxyacetyl nitrate, nitric acid, aerosols, NO_x, CO, and O₃ during winter and summer. Using the data, Popp plans to model and predict changes in atmospheric concentrations of pollutants as a consequence of the use of alternative fuels, especially oxyfuels.

Sewage Sludge Application in Semiarid Grasslands: Effects on Vegetation and Water Quality - James R. Gosz, Department of Biology, University of New Mexico. Dr. Gosz will look at the effects of sewage sludge application on soils and vegetation in a grassland environment with the Sevilleta National Wildlife Refuge, determine how

subsequent vegetation changes following sludge application influence water and sediment yield, and determine the fate of potential contaminants introduced by sludge applications with this grassland environment. Gosz suggests that if sludge application is proven environmentally sound, this manipulation could be conducted on entire watersheds to decrease rangeland erosion, thereby decreasing sediment in drainages and streams.

Long-Term Effects of Sewage Lagoons and ET Beds on Groundwater Quality - A. W. Blair and Ricardo Jacquez, Department of Civil, Agricultural and Geological Engineering, New Mexico State University.

The researchers will determine groundwater degradation caused by a sewage waste lagoon and one subdivision's evapotranspiration beds. Both sites have been operating for six or more years. Blair and Jacquez will quantify the magnitude and nature of groundwater contamination, the mode by which pollutants migrated into the groundwater, and a reconstruction of the operation of each system and movement of the contaminated groundwater. The final report will address procedures necessary to clean these sites and document the economics of these problems.

Environmental Undergraduate Fellows and Seminar Program Proposal - Ron Bhada, Department of Chemical Engineering New Mexico State University.

Funds will be used to provide six undergraduate fellowships for students enrolled in the environmental management program. The project

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Chino funding, cont'd.

also supports three seminars featuring world-class experts in subjects of interest to New Mexico's environmental issues.

Experimental Investigation of Unstable Wetting Fronts in Dry Homogeneous Soils without Layering - Jan Hendrickx, Department of Geoscience, NMIMT, and William Stone. Department of Mathematics. New Mexico Institute of Mining and Technology.

This project will explore and extend present theories on unstable wetting fronts through hydrodynamic stability analysis of planar wave front solutions. The researchers will study new solutions and existing theories in a three-dimensional flow field under controlled conditions in a non-weighing lysimeter. New Mexico soil water regimes will be simuated in the lysimeter and inspected for instabilities.

Get that grant

The Black Range Resource Conservation and Development Area and the City of Socorro are sponsoring a workshop for those wanting to learn to write effective grant proposals and manage the grant-seeking process. Offered June 3-6, 1991 at the Macey Center at New Mexico Institute of Mining and Technology, the workshop will teach participants to develop a funding strategy, identify opportunities and trends in funding, organize and conduct a funding search, and query targeted funders. Developing project goals, methods and approaches; demonstrating the link between needs, goals, design, staffing and budget; and planning for dissemination and use of project results will be covered also. For more information, call (505) 546-2062.

Upcoming conferences



Southwest Consortium on Plant Genetics and Water Resources Sixth Annual Symposium - July 26-27, 1991 -Los Alamos National Laboratory. For more information contact Mindy McAbee, Plant Genetics Engineering Laboratory, New Mexico State University, Box 3GL, Las Cruces, NM 88003, (505) 646-5453.



Water Supply and Water Reuse: 1991 and Beyond - June 2-6, 1991 - San Diego, CA. Symposium to cover wetlands policy, artificial recharge, water quality health impacts, desalinization, conservation impacts and experiences, and political and legal aspects of water supply. For details, contact American Water Resources Association, 5410 Grosvenor Lane, Suite 220, Bethesda, MD 20814-2192, (301) 493-8600.



National Conference on Irrigation and Drainage Engineering and Ground Water in the Pacific Rim and Lysimetry Symposium - July 22-26, 1991, Honolulu, HI. Sponsored by the American Society of Civil Engineers, Irrigation and Drainage Division. Contact William Ritter, Agricultural Engineering Department, University of Delaware, Newark, DE 19717, (302) 451-2468 for more information.



Wellhead Protection Area Delineation in the Western United States - September 11-13, 1991, Las Vegas, NV. Presented by the EPA. Coordinated by Association of Ground Water Scientists and Engineers. \$65 registration fee. For details contact Wellhead Protection Conference, National Water Well Assoc., P.O. Box 182039, Dept. 017, Columbus, OH 43218, (614) 761-1711.



Introduction to Geographic Information Systems for Water Resources Applications - September 7-8, 1991, Louisiana State University, Baton Rouge, LA. This short course is designed for hands-on application of GIS. Contact Michael C. Fink, AWRA, 5410 Grosvenor Lane, Suite 220, Bethesda, MD 20814-2192, (301) 493-8600 for more information.



Innovation in Western Water Law and Management - June 5-7, 1991, Boulder, CO. This conference will look at innovation in water planning, negotiated settelements of tribal water rights, conjunctive use of groundwater and surface water, and public values in decision making. Contact Natural Resources Law Center, University of Colorado, Campus Box 401, Boulder, CO 80309-0401, (303) 492-1288 for details.

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EPA soliciting agencies for groundwater remediation project

Nonprofit organizations are sought by the U.S. Environmental Protection Agency for a cooperative agreement to conduct modeling activities to evaluate the efficiency of alternative pumping schemes for groundwater remediation by pump-and-treat methods. This project will be an eighteen-month effort with funding of \$100,000 with 5 percent cost sharing required.

The modeling will be aimed at the removal of water-soluble contaminants from homogeneous or heterogeneous aquifers under transient flow conditions, where contaminant transport is limited by kinetic or diffusion processes. The evaluation must include analysis of the capability of a given pumping scheme to capture the contaminant plume for different flow geometries, and also an economic analysis in terms of the capital and operating costs for the pumping system.

For solicitation copy, write: EPA, Robert Kerr Environmental Research Laboratory, P.O. Box 1198, Ada, OK 74820, Attn: Eva Davis, Project Officer or telephone Davis at (405) 332-8800, ext. 346 or James McNabb at (405) 332-8800, ext. 416. Reference: Sol. RFA-91-3.

Mark your calendars for the 36th Annual NM Water Conference November 7-8, 1991 in Las Cruces

USGS/WRRI funding, contd.

Analysis of Relationships
Between Lightning, Precipitation,
and Runoff - Herbert D. Grover,
James R. Gosz and Douglas I.
Moore, Department of Biology,
University of New Mexico; William
Rison, Department of Electrical
Engineering and Carol Rison,
Department of Geoscience, New
Mexico Institute of Mining and
Technology; and Timothy J. Ward
and Susan Bolton, Civil, Agricultural and Geological Engineering
Department, New Mexico State
University.

Objectives for the past year's study included: developing equations for predicting rainfall amount and intensity from lightning location data; examining factors affecting the reliability of these predictive models and testing the applicability of models under different circumstances.

This year's proposal aims to refine ability to predict rainfall volume from lightning location data and to use the lightning-precipitation models to predict rainfall inputs to existing surface hydrologic models. The researchers expect that inputs based on remotely sensed lightning and atmospheric data will improve the veracity of hydrologic models designed for small watershed management.

Three-Dimensional Pump Tests for Determining Aquifer Permeability Anisotropy - Chia-Shyun Chen, Department of Geoscience, New Mexico Institute of Mining and Technology.

The first year of this project focused on the well installation and site development including six multilevel observation wells and six fully screened piezometers along with two pumping wells at the Sevilleta site near Socorro. The second year's objectives are to conduct pump tests at the Sevilleta aquifer to

collect three-dimensional data from the multilevel observation wells and two-dimensional data from fully screened piezometers; to analyze the three-dimensional data with threedimensional well hydraulics theories to determine the permeability tensor; and to use the two-dimensional data to validate a new unconfined well hydraulics solution.

Low Volatile Organics in Groundwater-Techno-Economic Evaluation of an Innovative Treatment Process - N. N. Khandan, Civil, Agricultural and Geological Engineering Department, New Mexico State University.

A prototype version of the cascade airstripping process developed by Khandan was field tested during the first phase of this study. The second phase includes design, fabrication and operation of a cascade system at Tatum, NM and to demonstrate the removal of a low volatile contaminant, methyl-t-butyl ether (MTBE).

Forest Service centennial, cont'd.

awareness of natural resource conservation, its historical evolution, its current practice and the challenges of the future; to encourage integration of conservation history and issues into the social studies and natural science curricula of secondary schools; and to develop public understanding of the multiple-use mandate under which the national forests are managed and the legitimate differences between the Forest Service's mission and those of other land management agencies.

For more information regarding the centennial celebration, contact Rita Cantu (602) 445-1762.

Report forecasts effects on Rio Grande, Pojoaque River, Rio Tesuque

In a report published by the U.S. Geological Survey, it is estimated that of the 23,700 acre-feet of groundwater withdrawn prior to 1987 from the Buckman well field (which supplies water to Santa Fe), 8,450 acre-feet or 36 percent was captured from the Rio Grande. Another 112 AF or .5 percent was captured from the Pojoaque River. The estimated captured Rio Grande flow amounts to less than one-tenth of 1 percent of the Rio Grande's discharge over the same period, and therefore would not be detected by direct streamflow measurement.

The report, Simulation of the effects of ground-water withdrawal from a well field adjacent to the Rio Grande, Santa Fe County, New Mexico (WRIR 89-4814), by Douglas P. McAda, describes estimated effects on flow in the Rio Grande, Pojoaque River, and Rio Tesuque based on simulations of historical, hypothetical, and possible future groundwater withdrawals from the Buckman well field.

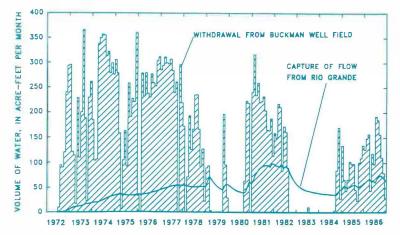
Other recent USGS publications that may interest New Mexicans are:

• Construction, lithologic, and geophysical data from monitoring wells in Albuquerque, Bernalillo County, New Mexico (OFR 90-

578), by Steven F. Richey.

- Hydrologic data for the Jemez Mountains, New Mexico (OFR 90-176) by Cynthia G. Abeyta and Bruce M. Delaney. This report presents peak flow and water quality data for 100 surface-water sites, and water quality and level data for 294 groundwater sites.
- Geohydrology of the Morrison Formation in the Western San Juan Basin, New Mexico (WRIR 89-4069), by G.E. Welder and R. L. Klausing.
- Summary of data from a pilot study and operations of the Hueco Bolson Recharge Project (OFR 90-175), by Don White and Gail Sladek describes El Paso's efforts to supplement groundwater supplies by recharging treated wastewater into the Hueco Bolson Aquifer.
- Aquifer-characteristic and waterchemistry data from wells on or near Navajo tribal lands in the Zuni River basin and Whitewater arroyo drainage, west-central New Mexico (OFR 90-147), by Carole L. Goetz.

These publications may be ordered from the USGS Books and Open-File Reports, Federal Center, Box 25425, Denver, CO 80225, (303) 236-7476.



Acequia Sourcebook now available

Dr. Jose A. Rivera, director of the University of New Mexico's Southwest Hispanic Research Institute has compiled *The Acequia Sourcebook*. Published with funding from the Infrastructure Development Assistance Program at UNM's New Mexico Engineering Research Institute, the sourcebook provides information on funding programs, technical assistance, and information sources for acequia organizations.

Rivera says he saw acequia associations as fitting into IDAP's mission to assist local governments with planning, management, operations and financing their infrastructure programs. He had been collecting information for the associations for some time and also saw a need for the data to be organized in one publication, thus the venture between IDAP and Rivera

For more information, interested organizations may contact Rivera at (505) 277-2965.

BLM riparian book finished

The Bureau of Land Management's New Mexico State Office recently completed New Mexico Riparian-Wetland 2000: A Management Strategy. The publication identifies BLM planning decisions and determines the need for future planning through the year 2000 in relation to management of the over 27,000 acres of riparian-wetland areas on BLM-administered lands in New Mexico.

Copies are available from the BLM, P.O. Box 1449, Santa Fe, NM 87504-1449.

Water conf., cont'd.

This year's conference will be a little different from those in the past. Although some key speakers will be invited, we are having a "call for papers" for the first time in many years. If you are interested in making a presentation at the water conference on one of the topics mentioned above, we will need an abstract and a vita or resume by July 15, 1991. All information regarding a possible presentation should be sent to: 36th Annual New Mexico Water Conference, Box 30001-Dept. 3167, Las Cruces, NM 88003. We encourage agency personnel involved in water-related research as well as academic researchers to submit abstracts.

In addition, we will have a session devoted to presentations by graduate students regarding current water resources research. This will be a judged competition and cash prizes will be awarded for the best presentation. The research may be related to any water problem—be it legal, economic, hydrologic, or related to water quality or conservation. For more information, those interested may contact Leslie Blair (505) 646-5367.

American Wetlands Month—May 1991

May has been designated as American Wetlands month by the National Wetlands Policy Forum. According to Hal Brockman of the U.S.D.A. Soil Conservation Service in Albuquerque, the forum is an interagency organization whose membership includes six federal agencies, seven state agencies, twelve national environmental groups, six local government organizations, plus nineteen other organizations.

American Wetlands Month was declared to increase public awareness of the values and productivity of wetlands, to encourage people to enjoy them and to protect, recognize, enhance and restore our nation's wetlands. New Mexico's most prominent wetlands include La Jolla and Bosque del Apache refuges, but there are many others. Brockman notes that most playa lakes in eastern New Mexico qualify as wetlands.

Brockman says there are several federal programs with cost-sharing for those wanting to improve and enhance wetlands. The SCS, U.S.

Fish and Wildlife Department and the New Mexico Game and Fish Department are the agencies involved in the cost-share programs.

For more information on wetlands protection, call the Wetlands Hotline (800) 832-7828.



Newsletter editor wins awards

Leslie Blair, editor of the *Divining Rod*, won a second place in the Newsletter category of the New Mexico Press Women's 1991 communications contest. Blair also won a third place in the News Release category for a press release about NMSU biologist Dr. Peter Herman, who studied the feasibility of raising algae for production of an alternative source of hydrocarbon fuel.

Blair serves on the board of directors for New Mexico Press Women and is editor of that organization's newsletter, also.

Tom Bahr, Director, New Mexico Water Resources Research Institute
Leslie Blair, Editor

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