

Divining Rod

Vol. XXXIV, No. 1 • August 2011

An Interview with NM WRRRI Interim Director Sam Fernald

Alexander “Sam” Fernald was appointed Interim Director of the New Mexico Water Resources Research Institute in January 2011 upon the retirement of Karl Wood (see page 12 for a related article on Dr. Wood’s retirement). Along with his position at the institute, Dr. Fernald holds a joint appointment at New Mexico State University as professor of watershed management. His research and academic background are featured in an article beginning on page 4.

Catherine Ortega Klett: *What are some of the goals that you hope to accomplish as the interim director of WRRRI?*

Sam Fernald: Three things immediately come to mind. First is to increase our statewide mission, and that means moving beyond our historic strongholds. WRRRI has always been a statewide institution, but I would like to reinforce and rejuvenate our connections to the other universities in New Mexico along with agencies, water users, water management groups, and the interested public throughout the state.

Second, I would like to see the institute become a clearinghouse for water expertise and information. We’re working to revamp our newsletter so that it provides cutting edge electronic information delivery.

And finally, another goal is to fortify research in areas that may not have traditionally been covered by WRRRI. For example, working with small-scale acequia irrigators in the north will complement our strength with the irrigation districts along the Rio Grande. Given water use complexity, we have water conservation, agricultural water use, and energy and food all coming together needing integrated water management. We would like to provide water research that helps the State of New Mexico confront complex water management situations.



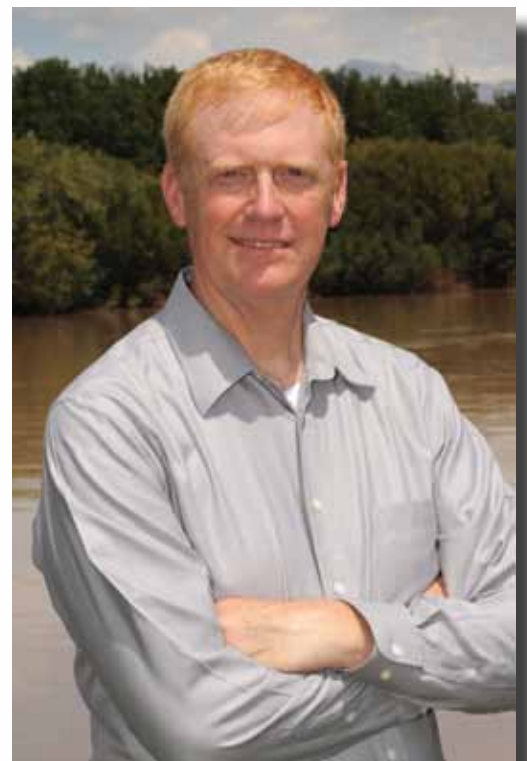
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Divining-Rod

Published by
The New Mexico Water
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In addition to those three goals, we will continue with our important ongoing programs including the annual water conferences, technical publications, research coordination, and student involvement.

Ortega Klett: *As an NMSU faculty member involved in research, what water issues have you been involved in and how do you think your background has prepared you for your new position?*

Fernald: I have had experience with some but not all of the water challenges faced by New Mexico. A good deal of my experience is in rangeland hydrology and vegetation management for runoff quantity and quality. Another major area of my research deals with interactions between surface water and groundwater in river valleys. I also have domestic and international experience in community water projects, river ecosystem restoration, and river basin management. Recently I have become involved in water treatment and connections between water, energy, food, and the environment.

Ortega Klett: *You mentioned that WRRI is a statewide institute. How do you plan to work with faculty across the state to encourage and fund water research and training?*

Fernald: That's a great question. A broad objective is to help WRRI grow the pie for all water-related research in New Mexico. Some of the ways that we are starting to do that is to lead and participate in efforts to obtain competitive grant funding. One of the ways to improve competitiveness is to involve multiple institutions and the expertise that can only be mustered by involving those institutions.



Undergraduate students and David Archuleta (far right) install a groundwater monitoring well at the Sustainable Agriculture Science Center at Alcalde, one of Dr. Fernald's research sites.

Ortega Klett: *Given our current difficult economic situation with shrinking state and federal revenues, what might be the best strategy for maintaining the vitality of the New Mexico Water Resources Research Institute?*

Fernald: It is a challenge to keep the institute vibrant in times of shrinking budgets. Again, we clearly must strive to accomplish more with less, and we must also be more diligent in engaging those individuals and institutions around the state with the knowledge and resources needed to help establish new initiatives pertaining to water issues.

An example of how we can do this is a new water degree program at New Mexico State University that

complements the other water degrees offered around the state. We are doing this in a time of shrinking budgets by innovating. We will take the expertise of all the existing faculty and classes at NMSU and deliver a new educational product, this water degree.

Similarly, we hope to build on our understanding and connection among researchers in order to innovate and seek competitive funding. We will seek funding outside of the traditional sources; we will look to foundations and other private entities. And what will drive this is the absolutely critical and vital importance of water in this area. In New Mexico this year, we have experienced the driest beginning of the year in recorded history. Part of southern New Mexico was at 7 percent of normal precipitation in early July. All of the state was in drought and 48 percent of the state was in exceptional drought. This situation demands that we come together and better manage our water resources. It will be the driver for innovation, and along with the vast expertise we already have around the state, it will inspire us with a greater sense of urgency and commitment to make that important work happen. 💧

WRRI Recent Publications

The WRRI has published two technical reports and one miscellaneous report since the last issue of the *Divining Rod*. These reports are peer-reviewed and are available online at: <http://wrri.nmsu.edu/publish/publications.html>.



Estimating Water Use through Satellite Remote Sensing

December 2010 - Report No. 357 by Aldo R. Piñón-Villarreal, Zohrab A. Samani, A. Salim Bawazir, Max P. Bleiweiss, Rhonda Skaggs, and Vien T. Tran



Analysis of Water Rights Prices in New Mexico's Lower Rio Grande Basin

November 2010 - Report No. 356 by Leeann DeMouche, Shawn Landfair, and Frank A. Ward



Hydrologic and Vegetal Responses to Prescribed Burning and Herbicidal Treatment of Broom Snakeweed on Blue Grama Rangeland in New Mexico
December 2010 - Miscellaneous Report No. M31 by M. Karl Wood and John H. Mosley

Save the Date

56th Annual New Mexico Water Conference

New Mexico WRRI and Bureau of Reclamation present

New Water New Energy: A Conference Linking Desalination and Renewable Energy

December 13-14, 2011
Civic Center, Alamogordo, NM



Call for Abstracts Coming Soon - Posters and presentations on any water research and management topic

Meet the Researcher

by Will Keener

For Alexander G. “Sam” Fernald, it seems all roads have led to the multi-institutional, five-year, \$1.4 million water research project he is now leading. Centered on a group of acequia systems and their surrounding watersheds in northern New Mexico, the study, funded by the National Science Foundation (NSF), seeks to examine the flow and control of waters in the region from the perspectives of the environment and the communities impacted by the water.

Acequias are community irrigation systems, typically made up of engineered canals and diversion structures that carry snow runoff or river water from highlands to farms, orchards, and for other agricultural pursuits. Brought to Spain during an Arab occupation of the Iberian peninsula, the Spanish later spread the technology to the Americas in the 1600s.

Fernald, who earned his PhD at Colorado State University (CSU) in 1997 in watershed science, has taken on increasingly more complex water research of this type throughout his career. “The work is all tied to water scarcity. People all over the world are facing more demands on the same water, or even less water if you consider climate change,” said Fernald. Climate change studies forecast as much as 40 percent less water availability in arid lands in the future.

“Acequias have dealt with dry periods around the Southwest U.S. for 400 years and in Asia and the Middle East for a thousand years,” he said. The goal of the current research is to study “the human management, physical structures, and changes in the watersheds and to communicate the successes of these shared methods for dealing with water scarcity.”

Fernald, who joined New Mexico State University (NMSU) in 2001, is a Professor, and spends about 40 percent of his time teaching watershed management and related courses for students in the Department of Animal and Range Sciences and the College of Agricultural, Consumer, and Environmental Sciences. The balance of his time involves his research projects.

Growing up in Boulder, Colorado, Fernald earned his bachelor’s degree in 1987 at Stanford University in

international relations. His work there with Professor John Wirth involved examination of an international conservation project along the Rio de la Plata in Argentina and Brazil. “I went down there and it turned out what really stalled progress was a lack of technical sharing of information or openness between the two countries. My take-home message was to learn more about the technical side,” he said.

He earned his master’s degree at Duke University in 1993 working in the San Francisco Water Department, Alameda Creek Watershed, where he first saw the importance of riparian areas in the complex terrestrial water cycle. Next he worked for a stint at the United Nations, looking at community water projects. He returned to Colorado to earn his PhD at CSU, with a focus on groundwater-surface water interactions, still a key research interest.

Post-doctorate studies at Oregon State University included a year as a Fulbright Scholar in Chile. “I found irrigation had a big impact in that system,” he said. His work was done in cooperation with the University of Concepción and focused on the south end of Chile’s Central Valley, a long north-south valley between the country’s Coastal Range and the Andes.

Fernald and several colleagues finished an innovative study at NMSU’s Sustainable Agriculture Science Center at Alcalde in northern New Mexico last year. “There has long been a sentiment among acequias that ditch seepage and return flow are helpful to the river and environment. But there were no data,” Fernald explained. The Alcalde study addressed how much water goes back to the river. “Our study confirmed that recharge provides water back to the river. We quantified major components of the water balance equation with crop use, seepage, ditch seepage, river flow, precipitation, and evapotranspiration,” he said.

“Now we are going to connect the watershed with the valley,” he said of the NSF project now underway. “We will study from the perspective of the people in the community and the natural processes,” he said. A recently completed poster outlining the complex effort identified 16 authors on the research team. In addition to NMSU, partners in the study include the University of New Mexico, New Mexico Tech, Sandia National Laboratories, the New Mexico Acequia Association, and the Maxwell Museum.

“The acequias have survived during extreme, persisting droughts. They did this by water management as a community. . . They have developed ways to divide water at the headgates in determined fractions, such as one-third and two-thirds. These structures work in low flow the same as high flow. This is much different than the Western “senior rights first” approach, where in a scarce situation junior water rights may get little or no water in a given valley or watershed.”

On a recent trip into one of the watersheds to be included in the study, Fernald encountered a shepherd on horseback with his dog. He spoke only Spanish. “The shepherd on horseback knows a lot about the land, but he does not have the data to go to the state engineer and tell him how to manage the water,” said Fernald. “This project examines traditional uses of water and provides the data to tell the story to others for improved water management.”

Alexander G. “Sam” Fernald
Prof of Watershed Management,
New Mexico State University
NM WRRRI Interim Director

Research Focus

Effects of surface water/groundwater exchange on water availability, water quality, and floodplain functions; forest and rangeland vegetation management effects on water yield and nonpoint source pollution; and multidisciplinary water resources modeling and management.

Education

National Research Council
 Postdoctoral Fellow, 2000, US EPA
 Ph.D., watershed science, 1997,
 Colorado State University
 M.E.M., water resource management,
 1993, Duke University
 B.A. international relations, 1987,
 Stanford University

Experience

Sam Fernald joined the faculty at NMSU in 2001 and is now a professor of Watershed Management, Department of Animal and Range Sciences, College of Agricultural, Consumer, and Environmental Sciences. He is also the recently appointed interim director of the NM WRRRI. Prior to coming to NMSU, he

was a Natural Resources Specialist, NMSU; Fulbright Scholar, University of Concepción, Chile; Courtesy Assistant Professor, Oregon State University; and Postdoctoral Associate, U.S. EPA.

Courses Taught

Watershed Management; Watershed Methods and Measurements; Theory and Application of Surface Water-Groundwater Interaction Simulation Models; and Forestry and Society.

Recent Projects

NSF, “Natural and Human Dynamics of Acequia Systems Innovation Working Group,” 2009.

NSF, “Mountain Snow Hydrology for Rio Grande Water Supply Modeling and Forecasting,” hydrology component, 2008-2013.

USDA-CSREES Hatch, NM, “Land use effects on runoff and water quality in upland watersheds and along stream corridors,” 2001-2010.

New Mexico Bureau of Geology and Mineral Resources, “Sacramento Mountains Watershed Project, 2007-2011.

USDA, Rangeland management effects on runoff and water quality in upland watersheds, 2001-2009.

USDA, “Traditional irrigation system effects on surface water—groundwater interactions in the Rio Grande Basin,” 2008-2011.

Bureau of Reclamation Conservation Field Services Program, “Hydrologic measurements for improved acequia water management,” 2005-2008.

Range Improvement Task Force, “Rangeland watershed research: Effects of stand density on runoff and sediment production from piñon-juniper rangeland ecosystems,” 2001-present.

Recent Publications

Ochoa, C.G., A.G. Fernald, and S.J. Guldán. Caracterización del balance hídrico y la recarga por retorno de riego en un valle agrícola de una región semiárida de los Estados Unidos de América. *Estudios en la Zona no Saturada del Suelo*. Vol. 10., 2011 in press.

Ochoa, C.G., A.G. Fernald, and S.J. Guldán. Deep percolation from surface irrigation: Measurement and modeling using the RZWQM. In M.K. Shukla (Ed.). *Soil Hydrology, Land Use and Agriculture: Measurement and Modeling*. CABI, Wallingford, UK., 2011 in press.

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WRRI hosts 55th Annual New Mexico Water Conference

In early December 2010, 170 participants gathered at New Mexico State University for WRRI's annual New Mexico Water Conference. The theme, *How Will Institutions Evolve to Meet Our Water Needs in the Next Decade?* was addressed by speakers from a variety of backgrounds in water including water lawyers, municipal staff, mutual domestic organization representatives, academicians, non-profit groups, conservancy districts, federal and state agencies, Indian Tribes, a federal laboratory, and the private sector. The diversity of speakers helped provide many interesting perspectives on how water-related institutions will deal with water in the near future, particularly in times of economic uncertainty. A full proceedings of the conference is online at <http://wrri.nmsu.edu/publish/watcon/proc55.html>.

The conference's luncheon speaker was Bill Hume, a longtime journalist with the *Albuquerque Journal*. In 2002, he joined the staff of Governor Richardson as director of policy and issues. In Bill's tenure on the governor's staff, his primary areas of responsibility were water matters, Mexican affairs, and Native American issues. Other service included membership on the Governor's Blue Ribbon Water Task Force, the New Mexico-Chihuahua Commission, and the Commission on Indian Affairs. Bill retired in late 2009 although he continued to be involved with work with the New Mexico Border Authority through the end of 2010. His luncheon talk was very insightful and well received. The text of his talk follows.

The Future of Our Water Agencies: Do We Have the Right Agencies Doing the Right Things?

Bill Hume, December 2010



I should by rights be intimidated at the thought of talking water issues to such a learned assembly. But, three decades in the ivory tower of a newspaper—topped by seven years among the learned, and less learned, staff of Governor Bill Richardson—have cured me of any virtue of knowing my own limits.

Now, when I agreed to undertake this conversation about the coming evolution of our water institutions, I envisioned comments about lists of record for water rights, mandatory disclosure of appurtenant water or lack thereof in records of land ownership, the continuing saga of adjudication.

In other words, my thoughts about the things you all had been wrestling with for years, with greater or lesser progress recorded.

Then, virtually on the eve of this event, the New Mexico Court of Appeals rendered two water matter

decisions that work significant changes on sections of our water law. I refer, of course, to Tri-State—the ruling on Active Water Resource Management regulations, and to Bounds—the ruling upholding the constitutionality of the Domestic Wells Statute.

I am not a lawyer, so my thoughts that follow are but the musings of a somewhat informed observer, perhaps somewhat hyped by the habits of an unrepentant newspaper editorialist. But looking at those two decisions, in summary, I think the court may have accomplished more than it intended.

As you all know, priority of appropriation is the gold standard of water rights characteristics. The more senior the right, the greater the assurance of access to water. The power of that protection depends on at least the threat of priority enforcement.

Greetings to you all. It is always my pleasure to be in a concentration of New Mexicans engaged in water law and policy. There is no more important—or stimulating—group in all of New Mexico government and society.

However, Tri-State says that the engineer may enforce priorities based only on water rights that have been adjudicated by a court, or licensed by the State Engineer. All others are immune to priority enforcement—which as I read it means there can be NO priority enforcement in any but fully adjudicated basins.

How can you enforce priorities when some classes of users are exempt from the process?

But in *Bounds*, the court finds that the Legislature may instruct the State Engineer to issue domestic well permits without regard to senior water rights, because, as the court put it, priority of rights is only a broad principle.

It seemed to me that the two decisions are contradictory in some respects. The court in *Tri-State* said that since the Legislature didn't specifically say the State Engineer could enforce priorities in the manner he wished, he didn't have that power. Yet, in *Bounds*, the court said that "the priority doctrine is but a broad principle."

"Although priority calls have been and continue to be on the table to protect senior users' rights, such a fixed and strict administration is not designated in the Constitution or laws of New Mexico as the sole or exclusive means to resolve water shortages where senior users can be protected by other means."



For 55 years, members of the New Mexico water community have met to discuss the critical issues of the day at WRRI's annual meeting held at various locations around the state.

Where the apparent conflict between priority enforcement and domestic well permits is concerned, "We further must presume that the Legislature has determined that it sees the hydrological expertise of the State Engineer as the preferable, IF NOT THE ONLY REASONABLE WAY to attempt to reach the right balance of priorities and needs."

So, the Appeals court has left us with the seemingly inconsistent duality that the State Engineer can use his hydrological expertise to protect the senior agricultural water users from the encroachment of tiny domestic wells—but that protection from the gargantuan Johnny-come-lately municipal and industrial users must await the completion of basin-wide adjudications. The sum of those two approaches provides scant protection for those seniors.

If a water right that hasn't got a priority date blessed by an adjudication or a State Engineer license cannot be

considered in a priority call, is it even a water right under New Mexico law?

So, the Appeals court has left us with the seemingly inconsistent duality that the State Engineer can use his hydrological expertise to protect the senior agricultural water users from the encroachment of tiny domestic wells—but that protection from the gargantuan Johnny-come-lately municipal and industrial users must await the completion of basin-wide adjudications.

Could the State Engineer enforce priorities among licensed rights holders in an unadjudicated basin, and move all others to the back of the line?

Pre-1907 water rights are deemed valid by the 1907 Water Code. But, if the determination of their pre-1907 status is dependent upon a priority date, which can only be determined by an adjudication or a license, what is their status before that determination?

It appears to me that the Tri-State decision opened more questions than it answered. How the Legislature, the courts, and the State Engineer deal with this in the year ahead could well be the dominant factor in determining how our water agencies do the right thing in the future.

What legal force or protection may be ascribed to water rights declarations?

The truth is that Tri-State appears to neutralize the authority to protect senior users in unadjudicated basins. Certainly a senior user with the resources to hire a lawyer could ask a court to limit a more junior user from impairing his right. I leave it to the courts to determine whether a court has the authority to do that which the Appeals Court has said can only be accomplished by adjudication or licensing.

Does the State Engineer now have the authority—or perhaps the duty—to refuse any priority call entered in a basin, which is not yet adjudicated?

Given the relative rarity of priority calls, does this change make any difference anyway?

On the other hand, might some behaviors change for the worse if indeed it became clear that no priority enforcement were possible—or at the very least, water uses that were not adjudicated or licensed were immune from priority enforcement? Think growing communities with lagging water rights portfolios.

And what of federal water rights in unadjudicated basins? The water rights of tribes and pueblos? Can protection of their priority be dependent upon an adjudication or a State Engineer license? If not, how are they to be protected from all state-based water rights claimants in a non-adjudicated basin?

How does the State Engineer or the Interstate Stream Commission act to enforce compact deliveries downstream from basins in which there is no authority to enforce priorities?

It appears to me that the Tri-State decision opened more questions than it answered. How the Legislature, the courts, and the State Engineer deal with this in the year ahead could well be the dominant factor in determining how our water agencies do the right thing in the future.

But Bounds and Tri-State aren't the only items on the agenda for our water agencies.

Water rights adjudication, that necessary prerequisite to priority enforcement, is the complex, cumbersome and hugely expensive process that has been much talked about but little changed over recent years.

I participated in discussions of water rights adjudication reform with representatives of the Administrative Office of the Courts and the Office of the State Engineer. In my mind, the problem of reform boiled down to the fact that most changes that increase efficiency of adjudication either shift the burden of acting to the water user or increase the water user's responsibilities. I refer to the claims-based process used in some of our other Western states. Traditional small water users in New Mexico are having no part of that, however. So it is my personal opinion that any substantial streamlining proposals will founder in that opposition.

Licensing—the second leg of the two-legged Tri-State priority stool—is an interim alternative to full-dress adjudication. But, there is opposition to that as a strategy. Certainly, Tri-State would seem to give some additional strength to the State Engineer's concept of the legal sufficiency and utility of the licensing process.

One question that arose in my mind out of those adjudication reform discussions was the one of who—or what—is the keeper of record for the master list of water rights?

If they are licensed, the record is in OSE files. If an adjudication has been completed, there is a final decree in a court file that provides a snapshot of adjudicated rights at one point in time. But what is the best place, and the best

procedure for maintaining the list of lists from an adjudication?

It seems less than efficient to require a court proceeding to alter the list every time Smith sells his water right to Jones. The Office of the State Engineer has long operated under the assumption that OSE is the primary repository for recording changes. I agree. It is the actual list for water rights prior to an adjudication. Post-adjudication changes in ownership, location or use of rights could be recorded there. The court would retain the authority to settle differences.

I think the public interest would also be served by imposing some duties on water rights holders in the system and records of land ownership as well. I haven't thought this through in detail, but I think that it should be required to note on any recorded deed the presence or absence of water rights. Or, in the case of residential properties, the source of domestic water—municipal system, mutual domestic, domestic well, and so on. And, in the case of a domestic well, the new owner would have to affirm that a transfer of the well to new ownership had been accomplished.

Deeds should reflect the presence of acequia water rights. I have heard stories of land buyers clashing with their fellow parciantes over ditch access matters or water use because they don't know—or don't choose to respect—the rights and obligations they acquired along with their land.

The deed description of a farm should not be legally complete without information about its access to water. We make point of diversion and place of use an integral part of a water right; we should make water rights

information an integral part of the land record as well.

It must be noted that adjudication reform is likely a dead issue for the immediate future. It can be expected to be one of the processes that ends up largely on the cutting room floor in the budget making process we face in January. Given the dire shortage of funding, things that can be postponed will be.

Another State Engineer function vitally necessary to the smooth functioning of our water allocation system is the efficiency of the water rights transfer system. Additional resources have been allocated in recent years to the State Engineer's processing of transfers, protest hearings, and so on. But the number, complexity, and protests of transfers have grown at a greater rate.

Delays in protested transfers are usually the fault of the parties. But, I fear delays in the processing of all transfers will grow as budget-cutting digs into this area as well.

Help for the thousands of small water systems and mutual domestics across the state never seems to quite keep up with the problems. It, too, depends upon funding—and it will be another place where tightening of budgets will have negative results. In this

I think the public interest would also be served by imposing some duties on water rights holders in the system and records of land ownership as well.

case, however, failure to perform by the state agencies will be directly reflected in hardship and health risk to New Mexico families.

Another issue that was gaining momentum even while budgets were fat is the issue of dam safety. New Mexico has a daunting number of flood control dams built mostly about 40-50 years ago with federal funding, and designed to protect agricultural lands.

Today too many of those dams are past their useful design lives, were built to



The annual water conference affords participants a chance to talk with friends and colleagues.

... it will be the availability of resources, rather than the structural organization and statutory authority of our water agencies that will be the primary determinant of future success.

more lax engineering specifications than those of today—and are now protecting vast acreages of urban development instead of alfalfa fields. Again, staffing and funding are the keys to progress against this backlog—and neither is likely to be even maintained at current levels in the budget drought ahead.

As the budget makers turn to their splitting-the-baby task, the human services areas—schools and health care at the top of the list—have the highest public and legislative priority.

Colorless, bureaucratic functions like water rights administration, and adjudication, become ripe targets for reduction or elimination. It is difficult to make a life-and-death situation out of whether an adjudication case is completed in five years or twenty. And things that aren't life and death will likely get short shrift in the next few years of New Mexico budget making.

I hope the water agencies will be able to at least maintain efforts in keeping their myriad functions from losing ground. But I am not optimistic. The stresses on agency people and the frustrations of their client group will rise in direct proportion to the cuts in funding.

I don't know which I would least rather be in the years ahead: a customer service person in the Office of the State Engineer, or a member of the Legislature trying to make ends meet.

I am not optimistic about the outlook for the capabilities of our water agencies.

As to the current configuration of the various responsibilities for water-related matters, I think the current system is generally appropriate, with one observation for change.

I think the diverse and specialized nature of the various water agencies makes their separation of functions appropriate. The State Engineer shouldn't be determining the environmental parameters of dairy farms and the Environment Department shouldn't be ruling on changes of point of diversion and use of water rights. The Game and Fish migratory bird expert shouldn't be determining the water needs of pecan trees.

However, institutionalized cross-discipline communication on state water activities is very beneficial. The strengthening of the Water Cabinet would provide the framework and mechanism to accomplish that. Established by executive order, the Water Cabinet is a sub-cabinet of all the department heads concerned with water issues. The goal was to impose top-of-the-silos coordination on all water projects and policies.

Environmental considerations would be considered from the beginning in water use and delivery system planning, for example.

We got the Water Cabinet up and running, and it was instrumental in bringing some standardization in the

treatment of applications for water project assistance. But we never got much beyond that initial project.

I think the Water Cabinet approach could superimpose the necessary interagency coordination over all aspects of water policy and implementation, without materially restructuring the existing agencies.

There are more problem areas than bright spots in the outlook for water policy in New Mexico. The backlash from some of the more controversial environmental initiatives of the outgoing administration, coupled with the stands on many of these issues advocated in the campaign, set the stage for some potentially bruising struggles in the Roundhouse come January.

But again, for the immediate future at least, it will be the availability of resources, rather than the structural organization and statutory authority of our water agencies, that will be the primary determinant of future success. I fear it ain't gonna be pretty. 💧



WRI Director Karl Wood enjoyed calling conference participants into session with his triangle. His staff presented him with a triangle at his retirement reception.

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Peggy Risner Retires (sort of)

Administrative assistant and someone who can pretty much handle anything at the WRRI, Peggy Risner, officially retired from the institute on December 31, 2010. She was hired at the WRRI in early 2001 and has worked at NMSU since 1981. However, she doesn't want to stay away and will continue to work at the institute on a part-time basis.

“Peggy is a wonderful person who is always ready to help on any project. It's hard to imagine organizing a water conference or a research symposium without her,” indicates colleague Cathy Ortega Klett. “She assumed additional responsibilities during the last year mostly related to maintaining our website and has always been eager to learn new skills. It's impressive how she worked full-time at the institute, part-time at another job, and still took classes every semester. We hope to continue having her help us on various projects on a part-time basis.”

An animal lover, Peggy is part of NMSU's Feral Cat Management Program that works to stabilize the feral cat

population on campus by feeding and trapping them for neutering and vaccinating before returning them to campus where they live out their lives. Peggy says she'll continue working with the program. She and her husband, Bob, have their own menagerie of pets. Peggy also enjoys traveling and hopes to do more in the coming years.



Peggy says her favorite part of her work at WRRI involved helping coordinate meetings. She made many friendships over the years. She also enjoyed working with new software, particularly design programs.

Karl Wood, former WRRI Director said, “Peggy won't be leaving the institute all together, and she will always be part of our WRRI family.”💧

Karl Wood Retires After a Ten Year Tenure as WRRRI Director

In June 2000, New Mexico State University Professor M. Karl Wood took the helm at the New Mexico Water Resources Research Institute. Karl came to the WRRRI from NMSU's College of Agricultural, Consumer and Environmental Sciences where he was a faculty member for 21 years. Although continuing to work part-time at NMSU in an advisory role to the new interim director, Sam Fernald, Karl retired as director in December 2010.

An interview with Karl appeared in November's issue of *The Border Report* (the full interview is available online at border.nmsu.edu). He was asked what his most significant contributions and accomplishments to the WRRRI were during his tenure. Karl's response:

"When I came to WRRRI, it was still healing from being a part of a huge water war with Texas that lasted from the 1980s into the 1990s. The Institute had many programs that I wanted to continue such as seed grants to water researchers, annual water conferences, member of the Lower Rio Grande Water Users Organization, and chair of the

New Mexico-Texas Water Commission. Since then the Institute has:

1. Been instrumental in forming and leading the Paso del Norte Water Task Force, which brings together all of the major water entities of southern New Mexico, far west Texas, and northern Chihuahua. These include municipalities, irrigation districts, academic institutions, and mutual domestic water suppliers. It helps resolve potential water conflicts in the region.
2. Helped New Mexico's congressional delegation get an authorized federal program passed to study aquifers along the U.S.-Mexico border. This authorizes \$50 million over ten years.
3. Assisted New Mexico's congressional delegation in obtaining funds for a desalination research facility near Alamogordo that is jointly operated by the U.S. Bureau of Reclamation and NMSU. This is a \$22 million facility with \$5 million over five years coming to NMSU for desalination research.
4. Obtained funding from the New Mexico Legislature for student research grants in each of the state's six universities.
5. Helped NMSU write a campus water plan and obtain water rights to meet NMSU's water needs for the next forty years.
6. Conducted a water research symposium held each year at New Mexico Tech for all water researchers



In the near future, Karl will be relocating with his wife, Janelle, to Price, Utah, where they will live closer to their children and grandchildren. An active outdoorsman, Karl will have more time to hunt and fish as well as travel (shown here in 2008 in China).

including students. This is in addition to the annual water policy water conference that is held at different locations across New Mexico.

7. Obtained funding from the U.S. Geological Survey to assist farmers in establishing water infrastructure in Afghanistan and Iraq."

At a retirement reception at NMSU in December, Ed Archuleta, Manager of El Paso Water Utilities, said Karl was a "builder of bridges" and helped to "bring peace to the valley." The WRRRI staff thanks Karl for his contributions to the institute and the water community over many years and wishes him well in his retirement. We hope he will visit often. 💧



WRRRI staff from left: Annette McConnell, Deborah Allen, Cathy Ortega Klett, Karl Wood, Peggy Risner, and Susanna Glaze. Photo taken at Karl Wood's retirement reception.