

Albert E. Utton Memorial Water Lecture: A Kaleidoscope of Water Issues

Representative Joe Stell, retired New Mexico Legislator

Joe is the 2009 Albert E. Utton Memorial Water Lecturer. Former Representative Stell retired from the New Mexico Legislature after serving twenty years and being recognized as the preeminent legislative expert on water issues in New Mexico. Governor Richardson referred to him as "Mr. Water." He served as chair of the Agriculture & Water Resources committee and was a member of the Energy & Natural Resources committee during his tenure. A former school teacher and football and basketball coach, Mr. Stell was educated in New Mexico and has received degrees from UNM and WNMU and has earned graduate credits from NMSU and ENMU. In retirement, Mr. Stell continues to work his cattle ranch near Carlsbad.



I want to thank you for allowing me to be here today as a speaker. It is quite humbling to be speaking after all the very capable speakers that I heard this morning and also the fine speakers in prior years of the WRRRI water conference.

I would like to thank Andy Nuñez for his glowing introduction of me. Andy is a State Representative and is chairman of the important Agricultural and Water Resources Committee. Thank you Andy for your time and effort as a legislator and committee chairman, and good luck in the upcoming special session.

Karl, I thank you for organizing and putting the year's agenda together for this year's conference. However, I can't omit Bobby Creel, Cathy Klett and others of your staff who always play a big part in organizing WRRRI functions.

Also, since we are meeting here at Isleta Pueblo, it is of historical significance that I should mention the 1680 Northern Pueblo revolt. About 2,000 refugees including many Isleta Pueblo members and Hispanics fled south to El Paso and Del Norte to avoid annihilation. The Native Americans settled

in the present day Texas communities of Ysleta and Socorro southeast of El Paso, Texas. Their descendants are there to this day.

One other personality that I would like to acknowledge is Em Hall. He has made presentations to this conference in past years. Em is also the author of the book "High and Dry", a documentary of the origination of the Pecos River Compact. He was employed by the Office of the State Engineer when the noted Steve Reynolds was state engineer. Em is a professor at UNM and has authored other books regarding water and water issues. Thank you, Em.

I want to issue my usual disclaimer that any information that I disclose is strictly my own opinion and not necessarily anyone else's.

Andy Nuñez told you my age is 81. That reminds me of a story of an old fellow who was hard of hearing and who had a mild heart condition. He went to his doctor for a periodic checkup, and the doctor gave him advice regarding his heart problem. A week later the doctor was surprised to see the old gentleman with a young

lady coming down the sidewalk arm in arm, laughing and skipping. The doctor approached the pair and asked what was going on. The old gentleman said "Doctor I'm following your advice, you told me to get a hot mama and be cheerful." The doctor replied, "I never said that, I said you have a heart murmur, be careful."

I have written out several things that I wanted to convey to you, then I rewrote them several times and each time they came out differently. I have ended up with a few note cards so here we go.

Everyone has probably got an opinion regarding climate change and global warming. Let's go back in time: climate change is with us now, and it has been with us in the past and undoubtedly will be with us in the future. The climate is changing and always has changed. Around 570 million years ago water covered the southern part of New Mexico, west Texas and northern Mexico. Then some of the earth's crust started rising, thus causing the water to recede to lower elevations. This geological activity continued, and 140 million years ago some of the earth's crust rose to form some mountain chains, some depressed and then water returned to the lower elevations and formed inland seas. About 90 million years ago, the water left again. Thus there has been continuing climate change for eons of time.

Another bit of information regarding climate and environmental change and then I'll get on to other topics. Fifty million years ago there existed different animal and plant life. Dinosaurs and reptiles ruled the world of that day and time. There are different theories as to why they no longer exist, with some of the theories suggesting that climate and environmental change played an important role during that age.

I want to talk about ice caps. Throughout time the earth has had numerous ice caps. Some of the ice caps have extended further south than where we are located today. We are now in the process of the last ice caps receding further to the north at a rapid rate in geological time. The glaciers are melting and moving from the Alaskan mountains toward the ocean. Will the recession stop and an advancement of the ice caps begin again as it has many times in the past? How far will the present recession go? The present receding of the ice caps has not retreated as far as past ice caps receded. I have read a publication of the University of New Mexico that scientists are finding signs of early man such as tools, spear points, weapons, and arrow

shafts at sites that have been under the ice cap for thousands of years. Alaska was once a warmer place than it is at the present time. Core drilling that is occurring at the present time has established that plants subtropical in nature grew before the advancement of the ice caps and glaciers covered the area.

Other evidence of climate change is substantiated by the skeletal remains of animals, now extinct, that were cold weather animals killed by the early man Clovis culture. The signs of Clovis man have been found in south eastern and southern New Mexico and west Texas. Arrow points and spear points of the Clovis culture have been recovered from the bones and skeletons of now extinct animals that were used for food by early man.

Climate change in New Mexico has made us a drier area than it was a few thousand years ago. Even during my lifetime, I have witnessed tributaries of the Pecos River diminish in stream flow. Tributaries that were fish laden, crystal clear waters that flowed year round into the Pecos river are now dry or only occasionally flow into the Pecos. Many springs in the Guadalupe and Sacramento Mountains have diminished or dried up as well. Part of the reason for weaker flows has been population growth. Over 5,000 domestic wells have been drilled on the upper Pecos River west of Artesia, New Mexico. Similarly, the community of Ruidoso has grown tremendously and utilized water that would normally recharge the artesian aquifer in the Pecos Valley.

I have used the lower Pecos to exemplify some water problems in that area but other parts of the state have water problems also. As you go west on I-40 from Gallup into Arizona and observe the Painted Desert, within the Painted Desert is the Petrified Forest National Park. Those petrified trees were under water at some time in the past. Again, a different climate exists now as compared to the past.

Walter Clay Lowdermilk (deceased), former Asst. Chief of Soil Conservation Service, now known as the National Resource Conservation Service, made an 18-month study of agriculture in ancient Mesopotamia in 1938-39. I would like to quote some of his words. No religious intent is intended here, only historical. "For at least 11 empires have risen and fallen in this tragic land in 7,000 years. It is a story of a precarious agriculture practiced by people who lived and grew up

under the threat of raids and invasions from the denizens of grasslands and the desert, and of the failure of their irrigation canals because of silt. Agriculture was practiced in a very dry climate by canal irrigation with muddy water from the Tigris and Euphrates Rivers. This muddy water was the undoing of empire after empire. As muddy waters slowed down, they choked up the canals with silt. It was necessary to keep the silt out of the canals year after year to supply life-giving waters to farm lands and to cities of the plain. As the population grew, canals were dug farther and farther from the rivers. This great system of canals called for great force of hand labor to keep them clean of silt. Now we know understand why the captive Israelites 'sat down by the waters of Babylon and wept'. They also were, doubtless, required to dig silt out of canals of Mesopotamia. The peoples of Mesopotamia were brought face to face with disaster in canals choked with silt. Stoppage of canals by silt depopulated villages and cities more effectively than the slaughter of people by an invading army."

Here in New Mexico we have silt being deposited in the Rio Grande by tributaries such as the Rio Puerco. Already a channel has been dredged at the delta of upper Elephant Butte Lake. The old McMillan Lake on the Pecos River was abandoned because of silt and a new dam has replaced it (Brantley). Are we following in the footsteps of the Mesopotamians?

Another topic to mention is the loss of productive farm and agricultural land to development of subdivisions. Areas all over the nation are experiencing the growth and sprawling of cities like Chicago and other Midwest cities in the heart of farming regions. Albuquerque and Las Cruces and other New Mexico cities are not exempt from this problem. As you know by the prices we pay for gasoline, we are dependent on foreign oil. If our supply of foreign oil were to be stopped our nation would see some extreme difficulty, likewise regarding our nation's food supply. For years the U.S. has imported approaching 50 percent of our fruit and vegetables. How would we be with both our food and fuel supply interrupted?

A nation's wealth is determined by its natural resources and its ability to produce and feed its population. How do we compare now as a nation in our ability to support our population compared to 50 years ago? Have we lost many thousands of acres of prime farm land to subdivisions, thus lowering our farmer's ability to produce food and

fiber and making our nation more dependent on foreign imported food?

I have talked about some of the problems and challenges we are facing, let's talk about some solutions.

One good program that needs recognition is the U.S. Interior Department and Bureau of Land Management, in cooperation with the Natural Resource Conservation Service and individual farmers and ranchers, is the Restore New Mexico initiative. The program involves the removal of invasive plants by chemical application and fire control creating range conditions as they were in the mid 1800s. Thus far, over one million acres in southeastern New Mexico have been treated. Land that was once erosive and contributed silt in our waterways are now again covered with native grass thus holding the soil firmly in place and slowing rainfall run off. This is a program that benefits wildlife and our population in general. The Rio Puerco drainage as well as other silt producing drainages could benefit if similar programs could be developed in those areas.

Some communities are filtering and reusing gray water in their water systems. Using this water on municipal and public golf courses is becoming more common and is a conservation measure. Also, filtering brackish water and blending it with fresher and sweeter water is becoming more common.

New Mexico currently is not utilizing some water sources that could be used to take pressure off of some presently over-used or fully-used aquifers. One such source that comes to mind is the Salt Basin. The Salt Basin name is somewhat misleading. It is a basin on the extreme southern boundary of New Mexico just north of Dell City, Texas. The basin is on both the New Mexico and the Texas side of the state line. The recharge of water for the Salt Basin is almost entirely on the New Mexico side of the border from the western slopes of the Sacramento Mountains and the western slopes of the Broke-Off Mountains. The water is not salty as the name Salt Basin would indicate. The water is entirely potable and is used as such by many of the area residents. When flood waters from rain storms in New Mexico rush southward, the waters collect in a shallow basin called Salt Flat, thus the reason for the name Salt Basin. Salt Flat is in Texas and Straddles US highway 62-180. This water source is estimated to yield from 75,000 to 125,000 acre-feet per year. What is used from this aquifer is used predominately in Texas. It is a

source of water that could be used, if transported, by New Mexico communities. Holloman Air Force Base and Alamogordo would be the closest big users that could benefit from this source of water. Expensive, yes, but it is a source of good fresh clean water. Albuquerque or Santa Fe could benefit from it. Perhaps the State could build a pipeline and sell it to customers along the way.

The state of Arizona years ago constructed a water conveyance system across their state from the Colorado River to Phoenix and Tucson. This has allowed billions of dollars in economic development in Arizona. Phoenix has become the 5th largest metropolitan area in the U.S. and much of this is due to their far-sightedness in building the Central Arizona Project as their water conveyance system is known as. While I am mentioning Arizona and complimenting them on their insight as to the value of providing water for economic development, I will mention the Gila River.

The Gila River is a free-flowing stream from its headwaters in New Mexico to the Arizona- New Mexico state boundaries. An agreement has been made between interested parties, including New Mexico, to allow a diversion of water to be used by certain parties for beneficial use. There is a time limit for a plan to be presented. If a plan is not approved in time, New Mexico loses its rights to waters of the Gila River. I have simplified this complicated issue, but my point is that water is available from the Gila if New Mexico will act and not default. Arizona will benefit from the share of water that could have been for New Mexico.

The state legislature is a body of people that works without a salary, only per diem and travel expenses. For the most part they are intelligent, knowledgeable, and willing to learn. However, they come from different backgrounds and walks of life. Water knowledge may not be one of their strong points. This possible lack of knowledge may affect their vote in the legislature regarding water issues. I would suggest an educational program targeting legislative members and certain legislative employees such as legislative Finance Committee directors and bill drafters in the Legislative Council. The Office of the State Engineer has more knowledgeable, informed, trained personnel than any other group. Water is their job and responsibility. The legislators and other decision makers must be made aware of the problems, the issues, the necessity, and the actions they need to take to benefit the state. They need to provide funding to properly resolve various

problems as pointed out by the Office of the State Engineer.

Various methods of educating decision makers can be used.

1. Written information short but concise on a regular basis.
2. Personal consultation with legislators at every opportunity.
3. Request being a presenter at interim committee meetings.
4. Develop friendly and amiable relationships with decision makers.

It will pay off to inform and educate the people who make the budget. Be straight forward and patient with them. We have a good, intelligent group of people in Mr. D'Antonio's staff and we are counting on them to lead us into the future regarding water issues.

I have told you about some historical facts about water such as climate change, global warming, ice caps, and some of New Mexico's water conditions. I have touched on some possible actions that might be taken to alter some of those conditions such as conservation, restoration, transportation, and education. Any one of the topics I have mentioned could stand hours, if not days, of elaboration but time does not allow that today. I thank you for your time and attention as I now conclude my presentation.