

21st Annual Dialogue Statewide Meeting Planning for a Changed World

by Consuelo Bokum

When regional water planning began in the 1980s, the average annual precipitation was above the historical average and rising. By the time the first regional water plans were completed in 1998, however, there had been a significant drought year in 1996 and there was a possibility that the high precipitation levels from the mid-1970s to the mid-1990s were falling. By the time the last regional water plan was completed in 2008, the trend indeed was moving downward. And recently New Mexico experienced three years of severe to exceptional drought. Thankfully, there was increased precipitation in this fourth year, but even so, the state's precipitation this year is at 82 percent of normal with parts of the state still experiencing abnormally dry to extreme drought.

Now, 15 years after the first plans were completed and six years after the last plan was completed, the Interstate Stream Commission has begun a process to update all of the regional water plans at the same time with the goal of completing all of them by the end of 2015.

As noted above, New Mexico now

faces a very different reality than the one faced by water planners in the 1980s when the program began.

First, communities face challenges not identified or taken into account in the first round of planning. Precipitation is changing not only in the quantity, but also in timing and intensity. Snowmelt and runoff occur earlier before farmers need it for new crops. In dry years, communities must now plan for fires. Because some precipitation comes with greater intensity, communities must also plan for flooding. The new conditions, among others, were not addressed in the original regional water plans.

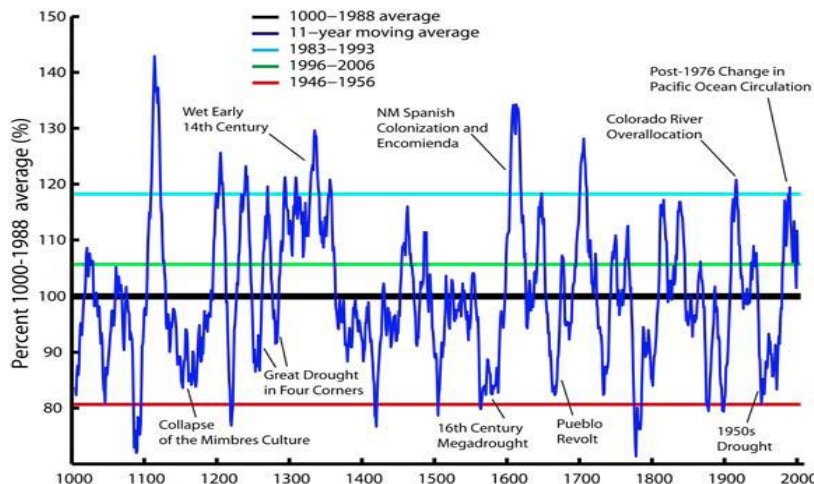
Moreover, it is now likely that drought

is the new normal, which changes what communities must plan for. One critical component is the issue of groundwater. Even when we had significant precipitation, many communities relied solely on groundwater for their supplies, and others increased their withdrawals to meet new demand as well. Communities with resources have been able to quantify the impact that withdrawals are having on the groundwater supply and have taken steps to reduce groundwater withdrawals by taking advantage of renewable surface water supplies. For example, Albuquerque/Bernalillo County Water Utility Authority and the City of Santa Fe, County of Santa Fe, and Las Campanas have diverted San Juan Chama water and native water rights from the Rio Grande and built new water treatment plants. Other communities have not had those resources and have faced problems with inadequate infrastructure as well.

And finally, there is just less water. The issue is no longer taking steps to reduce demand or increase supply – it will be to learn to live with less and to plan for the social and economic consequences of a changed environment.

Planning just got a whole lot harder.

Precipitation Estimates for Northern New Mexico Based on Tree Ring Data A.D. 1000-2000



Source: G. Garfin, University of Arizona



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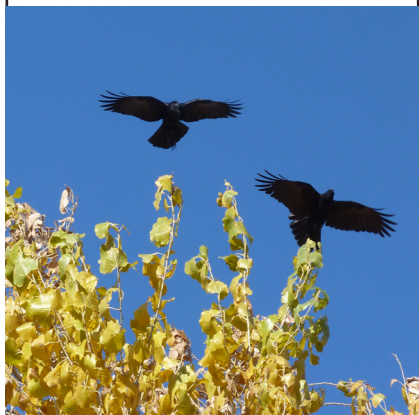
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Update from the President

by Jason John, President, Board of Directors



As we enter another election season, we need to remember that the water resource issues facing the Southwest transcend the political timeframes of many elected leaders and, therefore, need the support of water planning advocates to ensure that progress continues toward solving issues. For example, many of the water projects take years to conceptualize and plan before seeking funds. Once initial funding is obtained for preconstruction activity, it can take months to years to obtain the necessary permits and approvals for construction. Finally, depending on the cost of construction, it can take years to complete construction. Once complete, the success should be shared by the community, planners, and administrations that participated throughout the years.

The process for developing water infrastructure is, for the most part, defined, unlike the process for dealing with water shortages or the gap between supply and demand. There continues to be a lot of research and dialogue to better understand alternatives to resolving the gap between water supply and demand. The debate of how to approach the gap may differ between New Mexico's 16 planning regions, due to the variations in water supplies and future water demands. Some of the solutions may require changes that need approval of the state legislature and other governing bodies.

Currently, to begin the process for updating the regional water plans, the State plans to provide the planning regions with

technical information on water supplies and demands. It is my understanding that the purpose for providing this information is to assist regions with a technical platform that will allow more time to focus on the discussion of alternatives to filling the gap between water supply and demand as well as proposed projects. The regions will be able to comment and supplement the technical information that is provided. The New Mexico Water Dialogue encourages everyone's participation in the regional meetings and for each region to identify key stakeholders to be a part of the steering committees to assist in the update of the regional water plans.

The New Mexico Water Dialogue hopes to assist in the discussion of alternatives to meeting the future water needs of New Mexico for the 21st Annual Statewide Meeting. Therefore, the theme of the 21st Annual Statewide meeting on January 8, 2015 is "Learning to Live with Less Water." We look forward to your continued support and participation in water planning in New Mexico and the Southwest.

Correction

We would like to correct errors made in transcribing Frank Chaves's presentation at the last Dialogue Annual Meeting. The errors appear on page 6 of the Spring 2014 issue. Please note that the legislation establishing the Preservation Trust Area is federal legislation, not state legislation, and that because the Pueblo has "treatment as a state status" with the US Environmental Protection Agency, it has "primacy" over water quality within its lands.

Long-Range Planning from the Perspective of a Water Manager

by Alex Puglisi

The New Mexico Water Dialogue's Annual Statewide Meeting for 2015 proclaims the following as this year's topic for discussion:

"The worst long-term drought in many of our lifetimes has been punctuated this summer by record-setting rainfall and localized flooding in many parts of New Mexico. Despite this, some reservoirs remain perilously low. El Niño, recently thought to be strengthening, remains weak.

The ISC this year has initiated a process for updating regional water plans that were completed between 1999 and 2008.

The basic challenge remains the same: to close the gap between supply and demand. But with drought, warming, and greater unpredictability as the likely "new normal," it may be that there will just be less water to meet aggregate demand. If so, New Mexicans will need to identify the associated economic, environmental, social and cultural vulnerabilities and learn together how to live with less water."

Although a water manager may accept this statement as true, how exactly does a water manager deal with a reality of "living with less water"? Are we really heading into a future where municipalities and public water supply systems will have to deal with less water in the face of potential growth in population, industry and commerce? Or will it be a reallocation of less water to fewer users (i.e., municipal vs. agricultural and environmental concerns)? Will new water sources be "created" through the mining of groundwater reserves and brackish water? Or through conservation, wastewater reuse, aquifer storage and recovery, or the increased use of surface water, which can be "replenished"? Will there be less water, or will the challenge be to create an infrastructure that can catch, treat and store the water when it is available and to rely on other reserve capacities when it is not?

When considering the future "new normal" in light of the provision of a reliable and safe water supply to the customers of a public water supply system, water managers are most concerned with the ability to plan for, and secure, sustainable and reliable portfolios of water sources. Any plan

for future water availability must chart a road map for optimizing existing water supplies and infrastructure, as well as providing any new supplies deemed necessary. This is especially relevant in the current environment where the "new normal" conditions facing us are both uncertain and evolving.

It is understood by most water managers that water supply planning inherently includes uncertainty, especially if it is a plan spanning 40 or 50 years. Population growth, future-use patterns, energy conditions, local food production, and changing hydrologic (e.g., climate change) and socioeconomic conditions are unknown. These uncertainties must still be accounted for by a water manager. Municipalities and public water supply systems anticipate supply needs based on current policies, conditions, and population patterns. Such entities must also anticipate a plan for the implementation of strategies that will provide them with the ability to withstand and, perhaps more importantly, adapt to a range of potential future conditions quickly, reliably, and with minimal adverse impact to system users and the public. It has become evident to most water managers that this can no longer be done without the use of a strategic long-range water supply plan that spans several decades, which is updated frequently.

In uncertain times, a water supply plan must apply an integrated, multi-objective approach to develop and evaluate portfolios of water supply alternatives that can be used to meet a water system's projected long term demands. This approach reflects the diverse array of options potentially available to a water system, and the complex nature of satisfying multiple and potentially conflicting objectives in meeting future water demands. The existence of these multiple and possibly conflicting objectives requires that any evaluation of water supply portfolios needs to be conducted in an open and collaborative manner that includes the integration of public input at several key points throughout the planning process. These objectives should be the underlying criteria by which portfolios are defined, compared, and chosen.

Another key step for managers in de-

veloping a water plan is identifying a system's future projected demand. The projected demand would include the system's current and future customer base and other existing obligations for water. Comparison of these projected demands under future scenarios of varying hydrologic conditions can be used to generate the estimates, which can then be used by water managers, of anticipated gaps between current supply and future demand (as constrained by water rights, wet-water availability, infrastructure, sustainability considerations and operational capacities).

Reliability can only be accomplished through source diversification and redundancy. The reliability of a water system's portfolio of sources can only be measured by the reserve capacity that it generates (e.g., unused groundwater reserves, available water in storage, the ability to reduce demand through conservation or emergency measures, etc.). Only by securing additional sources, thereby allowing a system to hold other sources in reserve, can a water system or manager be in a better position to deal with an uncertain future.

Future uncertainties about climate, demand, population growth, and the availability of wet water both in time and space, can only be addressed through the adoption of a long-range strategic water plan, updated on a regular predetermined basis. The plan should chart the steps and provide the road map necessary for optimization of existing water supplies and system infrastructure, while providing for new supplies and diversification of a system's water supply portfolio. This plan must coexist in the context of regional and statewide realities concerning water rights, environmental protection, general public objectives, and constantly changing realities in the timing, availability, and location of wet water.

Implementation of that plan will reduce or eliminate the need for future water restrictions, as well as uncertainties in the provision of a sustainable water supply during current "normal" conditions and into a very uncertain future, made even less certain if State and Regional water plans are not equipped to handle "new normal" realities.

Thoughts about Future Water Planning

by Eileen Dodds

The Rio Grande has been the focus of growth in New Mexico. For most of our history, the Rio Grande has been used for farming and livestock, and that continues today. While agriculture remains the lifeblood of New Mexico, the population has become concentrated in urban areas within a 50-mile radius of the crossroads of I-40 and I-25.

Hatch chile has become so popular that imitators in other states caused the New Mexico Legislature to pass laws to protect the Hatch name. Local farmers markets sell specialty cheeses from goats raised on small family farms, and large dairies produce the milk products we use every day. Sheep and cattle are raised for meat on ranches on the eastern and western plains. Alfalfa, cotton, pecans, and small truck farms rely on river water supplies through a system of acequias that dates back more than 400 years.

Even though the Rio Grande has cultivated our diet, agriculture in New Mexico may not be able to maintain its old practices. Climate change and population growth will ultimately affect agriculture's future. Commitments for deliveries to Texas of Rio Grande Compact water have already forced the chile farmers in Hatch to cut production in the last two years because needed water wasn't available. A proposed project on the western plains to move massive amounts of water to urban areas will adversely affect ranching and destroy a way of life if it is allowed to proceed.

Future planning by farmers and ranchers needs to focus on such issues now while there is still time for solutions agreeable

to everyone. Concepts that have already proven effective include shortage sharing like that in use in northern New Mexico on the Rio Jemez between several acequia associations and the pueblos of Zia and Jemez. Another example was worked out on the lower Rio Grande to help the habitat of the endangered western willow flycatcher. Representatives of the Elephant Butte Irrigation District, Audubon New Mexico, and the farming community were able to sit down for an exchange of ideas. It's still too early to see results, but their efforts show the willingness of a diverse group of people to come together and share their concerns about a common problem.

Farmers have added the practice of laser leveling of fields and are using drip irrigation to facilitate better use of water. The drip irrigation use is often associated with incentive programs provided by irrigation districts. Farmers may also consider a "field fallowing" system in exchange for payments by urban water authorities like those currently being used in other parts of the West, particularly in California by the Los Angeles Metropolitan Water Authority.

Ranchers are presented with a different set of problems; their reliance is primarily on groundwater from ancient aquifers that should be mapped to determine what is actually there. Groundwater is a finite resource that cannot be replaced. Ranchers now work to understand aquifer recharge, the rate of recharge, the aquifer capacity, and how it interacts with surface water. Their planning has always included a better understanding of the connectivity of precipitation, evaporation, vegetation, recharge, and the requirements of wildlife

and livestock as it relates to the aquifers.

Along with wells, catchment systems are used to improve the distribution of wildlife and livestock over wider areas, improving rangeland and expanding wildlife populations by creating habitat in areas where there is no live water. This catchment storage system is a high priority and is carefully managed with "floats" that conserve pumping and prevent water runoff.

Farmers and ranchers provide far more than fruit, vegetables, nuts, and red meat to the public. They provide clean air, clean water, wildlife habitat, and open spaces for recreation. Remembering that this article is about thoughts on future planning, it is important to point out that those who make a living from agriculture are following in the footsteps of our original conservationists. Think about it. Crop rotation was started to conserve soil nutrients. Spring cleanout of the acequias was done to facilitate a more efficient flow of water to fields, and plowing was done in such a way as to return runoff to the rivers for downstream use. Ranchers rotated pastures to prevent overgrazing and soil erosion. Everyone thinned trees and cleared underbrush to facilitate water absorption and healthier forests. These practices are still in use today in our agricultural communities. Future planning lies in knowing our limits on water use, living within those limits, and discovering the facts while setting aside the politics.

Dutch Salmon captures Luminaria award



Dutch Salmon, New Mexico Water Dialogue board member, has received the prestigious Luminaria award from the New Mexico Foundation. He is one of seven to receive the award which honors outstanding individuals who "motivate, inspire, and support the dreams of others, provide diversity and equity, and build community strength through their leadership and vision while embodying the values of the NMCF."

New Mexico Water Dialogue
 21st Annual Meeting
 January 8, 2015
 8:00 am to 4:30 pm
 Indian Pueblo Cultural Center
 2401 12th St. NW, Albuquerque, NM 87104

Learning to Live with Less Water

Registration includes lunch catered by the Indian Pueblo Cultural Center and morning beverages and snacks. By registering early, you help us plan for these items, and we offer discounts. The simplest way to register for the 20th Annual Statewide Meeting is to go on line to <http://nmwaterdialogue.org> and click on the “Register Now” button. Credit cards can be used online only. Alternatively, you may fill out this form and mail it with a check or purchase order to NMWD c/o John Brown, PO Box 1387, Corrales, NM 87048. The registration fee after January 6th is \$50 and will need to be paid at the door the day of the meeting.

Registration Form

Name(s) _____

Organization (optional, except for purchase orders) _____

Title or position (optional) _____

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I/we want to:

register for the Dialogue’s 21th Annual Statewide Meeting

_____ member(s): \$35 until 12/14/13; \$40 until 1/6/14

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Amount included: \$ _____

become a member of the NM Water Dialogue (includes a 1-year subscription to the Dialogue).

_____ Individual \$20;

_____ Representative of non-profit organization \$40

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Make a tax-deductible contribution to the Dialogue

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Payment options: A check is enclosed Invoice our P.O. # _____ for \$ _____. Payment if being mailed separately (must arrive by 1/7/14)

I (we) will pay (\$40 for members; \$45 for non-members) at the door.

If you wish to receive the Dialogue electronically, check here _____. Include email address above.

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New Mexico Water Dialogue
21st Annual Statewide Meeting

Learning To Live With Less Water

January 8, 2015

8:00 am - 4:30 pm

Indian Pueblo Cultural Center, Albuquerque, New Mexico
2401 12th St. NW, Albuquerque, NM 87104

DRAFT AGENDA

8:00 – 8:30 AM	Registration
8:30 – 9:00 AM	Introductions/Opening Remarks
9:00 – 10:00 AM	Keynote Speaker: John Fleck, staff writer, <i>Albuquerque Journal</i> ; adjunct faculty member, University of New Mexico Water Resources Program “Sharing Water: What an environmental experiment in Mexico can teach us about social capital, institutional arrangements and the future of water management in the West”
10:00– 10:15 AM	Break
10:15 – 12:00 PM	Panel: Planning Beyond the Supply/Demand Gap
12:00 – 1:00 PM	Lunch
1:00 – 2:30PM	Panel: Reports from the Regions
2:30 – 2:45 PM	Break
2:45– 4:00 PM	Panel: Preparing for the New Realities
4:00 – 4:30 PM	Closing Remarks: Next Steps for the Dialogue and New Mexicans Nominations of candidates for the Dialogue Board