

Arizona Department of Water Resources
GROUNDWATER USERS ADVISORY COUNCIL
Tucson Active Management Area
Kenneth Seasholes, Area Director



DEE T. O'NEILL
Chair

DAVID MODEER
Vice-Chair

JOHN MAWHINNEY

JON POST

CHUCK SWEET

Minutes
May 24, 2006

Members Present: Dee O'Neill, Chair
John Mawhinney
Jon Post
Chuck Sweet

Tucson Staff Present: Kenneth Seasholes
Mary Bauer
Christina Bickelmann
Jeff Tannler
Virginia Welford

Phoenix Staff Present: Susan Craig
Evelyn Erlandsen

Others: Beryl Baker, Concerned Citizen
Hope Bracken, Lewis and Roca
Janet Lea Carr, SAWUA
Kathleen Chavez, Pima County
Dave Crockett, FWID
Dennis Dickerson, PAG
Art Gabaldon, Community Water Co. of Green Valley
Gregg Garfin, U of A
Pierre Hanhart, Community Water Co. of Green Valley
Val Little, Water CASA
Philip Saletta, Oro Valley Water Utility
Linda Smith, Tucson Water
Warren Tenney, Metro Water

1. Call to Order

Chairperson, Dee O'Neill called the meeting to order at 1:00 p.m. Introductions were made.

2. Approval of Minutes

Jon Post made a motion to approve the minutes of March 29, 2006. Chuck Sweet seconded the motion. The minutes were unanimously approved.

3. **Drought Status, Planning and Response**

Monitoring

Greg Garfin, Climate Assessment for the Southwest Institute for the Study of Planet Earth, University of Arizona, presented a scientific analysis of the current drought situation facing Arizona.

The Arizona Department of Water Resources (ADWR) is the lead state agency that addresses drought. Monthly drought monitoring reports are accessible through ADWR's website: www.azwater.gov

As a result of the Governor's executive order to develop a statewide drought plan, a Drought Monitoring Technical Committee was formed in summer 2003. To compile information the committee uses surface watershed data that have at least 30 years worth of records. The committee acknowledges that there are both short and long term impacts from drought.

In formulating a drought status, indicators are used such as precipitation, stream flow, reservoir levels, groundwater, and drought indices from 1975 to present. This is done so that data being compared is from the same time period.

There are drought triggers, which are specific levels within each of the indicators. Each trigger level is tied in with different management responses. The goal of the trigger system is to have advanced warning going into drought, as well as being cautious when coming out of drought. Before the drought status is released to a lower category, it must be consistently at a lower level for four months. This will allow for a smooth transition between drought levels. The committee strives to be consistent with historical impacts.

Data collected is ranked from the lowest to the highest and a percent category is assigned. This is done so that each indicator can be given a status level, which is averaged by the reporting stations within each watershed.

In order to better address drought status in different regions of the state, Local Area Impact Assessment Groups are being formed. One of the goals of the Drought Monitoring Technical Committee in working with the Local Area Impact Assessment Groups is to link the monitoring committee's data with the local areas information. This should provide credible information on how drought is impacting a specific area.

In turn, the Drought Monitoring Technical Committee will report data collected to the U.S. drought monitors. The drought monitors are used by the Department of Agriculture to make determinations on where drought relief money should be directed.

Climate, Outlook

Mr. Garfin talked about the climate outlook in relationship to the current drought status. When looking at the statewide average precipitation from one month to one

year since 1998, the past six months have been the second driest in 110 years. The past year has been the fifth driest.

According to the National Weather Service, within the past six months eastern Pima County's average precipitation was less than 20 percent. As a result of this dry period, the effects on vegetation and wildlife are evident, in addition to many wildfires.

Tucson normally receives on average 12 inches of rain annually. Only two out of the past 10 years were above the 12 inches. The accumulative deficit since 1999 is 23 inches, resulting in approximately a two year shortfall.

Mr. Garfin continued with an overview on what drives drought. In winter much of Arizona is under high pressure because it is south of major storm tracks. This high pressure is associated with warm, dry, clear days. In summer the storm tracks move further north as the hemisphere heats up, creating a south easterly flow. This brings moisture from the Gulfs of Mexico and California into Arizona resulting in summer monsoons.

The main monsoon area is in northern Mexico, whereas Arizona is on the fringe, hence the variability in dictating monsoon frequency from year to year. The tendency is if there is a wet winter summer will be dry and vice versa.

The climate system begins with the oceans. The oceans have what is referred to as thermal inertia, which means they heat up or cool down relatively slowly, releasing or gaining heat.

There are three major systems that effect climate of the western United States: El Niño Southern Oscillation (ENSO), Pacific Decadal Oscillation (PDO), and Atlantic Multidecadal Oscillation (AMDO).

The ENSO has two major phases: 1) El Niño, where there is warmer than average sea surface temperatures in the eastern pacific. The major winds go from west to east across the tropics, and 2) La Niña, which is a cooling in the same area and major winds go from east to west. These systems redistribute energy and moisture from the tropics to other parts of world, lasting roughly one to three years, returning every two to seven years.

PDO is a persistent weather behavior similar to El Niño and La Niña, which occurs approximately every 20 to 30 years. When the PDO is in El Niño mode, Arizona receives below average precipitation and when it's in La Niña mode, there is above average precipitation within the 20 to 30 year time frame.

Based on historical temperature data, a reliable climate outlook predictor, there could be better than a 50% chance of temperatures ranking into the highest third of historical records for most of the western United States this summer.

Using the PDO as a strong bearing on long term climate prediction, coupled with tree ring records, there is a good possibility of drought continuing. As with any weather system, there is also the possibility of it being interrupted.

4. Statewide Planning – Response and Mitigation

Susan Craig, ADWR's Drought Coordinator, gave a presentation on the Arizona Drought Preparedness Plan the state is currently undertaking.

The plan's principal intent is to refine the state's drought monitoring processes, get a better understanding of drought impacts, and to limit future vulnerability to the state.

The plan is made up of three sections: 1) Background and Impact Assessment, 2) Operational Drought Plan, and 3) Statewide Water Conservation Strategy.

The goals are to identify drought impacts on water use sectors, define areas vulnerable to drought and outline monitoring programs, and prepare drought response options and mitigation strategies.

There are five major components identified for implementing the plan: 1) creation of a Statewide Drought Program, 2) creation of a Statewide Conservation Office, 3) creation of a Monitoring Technical Committee, 4) forming Local Area Impact Assessment Groups, and 5) establishing an Interagency Coordinating Group.

The Local Area Impact Assessment Groups are set up to identify local drought-related impacts and to identify and assess the societal impacts, severity, and the loss and costs associated with drought. The groups will also identify response options that work for their area. The data compiled will be provided to the Monitoring Technical Committee.

The Monitoring Technical Committee is responsible for tracking changes in climate conditions, forecast future conditions, provide early warning and detection, facilitate preparedness, and determine drought status based on data.

The Interagency Coordinating Group directs state agency action to assess, implement and develop drought response options. It also identifies needs for additional resources, and advises the governor of changes in drought status. Each year the committee has the responsibility to review the plan and provide recommendations for improving monitoring, implementation and response.

Also part of the plan is the implementation of House Bill 2277. This legislation requires water providers outside of Active Management Areas to maintain water use records, submit annual water use reports and to submit a system water plan. The purpose for the requirements is to reduce the community water systems vulnerability to drought and to be prepared to respond to drought conditions. It will also give information to the state so that it can provide regional planning assistance to prepare for, mitigate and respond to drought.

In terms of addressing conservation programs, ADWR's Statewide and Regional Conservation offices are working with local communities to assess conservation needs and to develop new programs. The offices will provide assistance with conservation goal setting, along with developing partnerships with businesses and organizations. Also being developed is a statewide message so that everyone has a consistent voice on conservation efforts.

5. Area Director's Report

After the two presentations on drought, Kenneth Seasholes suggested opening up a dialogue to discuss ways the Tucson region is or could be responding to drought. The following is a summary of the key thoughts and comments.

The community often equates drought with water shortage and yet this is not the case, because many municipalities have a robust water supply due to redundancy. Therefore, the effects of drought are not as evident to the public as they are to plant and wildlife. Messages need to be delivered that drought doesn't necessarily mean no water - that would be a crisis and that's what needs to be avoided.

Some of the municipal providers are working on incorporating a drought preparedness plan into their long-range water resources plan. Public outreach campaigns are also being conducted to find out what customers are willing to sacrifice in facing drought.

When in a drought, there is tendency to focus on municipal supplies due to the significant economic impacts that would result if problems arise. Increased exterior demand places stress on infrastructure, which is not necessarily a supply issue, but there is a potential connection between conservation and higher exterior demands.

Electrical rates are also an issue, because reservoir levels have already fallen enough to raise rates.

The statewide drought plan has no regulation. It is unclear if there is a drought trigger point when regulation has to take place.

There are so many variables when considering drought triggers. Public perception needs to be considered. Getting water providers to agree upon trigger points has been a challenge. Once triggers are established each entity could manage them as they feel appropriate, but it is important that messages are consistent in terms of what stage the drought is currently in.

Drought has a regional impact and, therefore, when assigning drought levels each area should be the same level. This is difficult to do, as each water provider has different factors in which they deliver water to its customers. For example, one provider may have more redundancy and another may have CAP water to deliver; whereas, others may not. Another consideration is not all providers have the regulatory authority to enact water conservation ordinances.

If the utility's daily demand can be met with well production and reservoir storage, it is doing fine from an operational standpoint. If this can't be done, ordinances could be put in place from asking for voluntary conservation on through to mandatory restrictions.

The Tucson community should think about what could be done differently when in a period of drought relative to current water management practices. Emphasis on public education could be provided by connecting science with drought impacts and long-range water management. By providing consistent messages public awareness will be gained.

It would behoove the GUAC to begin soliciting press attendance at its meetings to provide briefings on water issues. Also, briefing packets could be prepared for elected officials and for those running for election.

The dialogue was concluded by deciding that a structure should be set up to determine what the consistent public message should be and what avenues should be used to get it heard.

At this point, Mr. Seasholes provided his area director's report:

Interstate storage fund letter

A letter was drafted to ADWR's director recommending use of funds associated with the interstate agreement with the Southern Nevada Water Authority. The GUAC agreed that the letter should be sent.

Compliance Activity

Three golf courses (Stone Canyon, the Golf Club at Vistoso and San Ignacio) were fined in total over \$100,000.00. This was due to multiple years of violation of mandatory conservation requirements.

100+ failure to file letters were sent to right holders in the TAMA for not submitting their Annual Water Withdrawal and Use Report. Another 100+ failure to file letters were issued to irrigation authority right holders in the Douglas INA.

Recently there was a fairly high profile issue in Arivaca regarding the potential of illegal irrigation. This issue has since been resolved and did not result in a violation.

The AMA is also investigating potential permit violations, as well as an outstanding case regarding illegal well drilling.

Municipal conservation stakeholder process

This process is ongoing. A BMP approach to water conservation has been the focus.

Rule Packages

The final notice of rulemaking for well impact spacing has been posted. The assured water supply proposed rules have been published in the administrative record. Responses are currently being developed by ADWR to the comments received.

Other

ADWR in partnership with Tohono Chul Park held its 2006 Annual Xeriscape Contest Ceremony on May 17th.

Chuck Sweet will be resigning, effective September 1, 2006, as town manager for Oro Valley but will continue to be the GUAC representative.

6. Date and Agenda for Next Meeting

The GUAC will be polled to schedule the next meeting.

7. Adjournment

The meeting was adjourned at 2:55 p.m.