

MINUTES

**MEETING OF THE NEW MEXICO/TEXAS WATER COMMISSION
MANAGEMENT ADVISORY COMMITTEE (MAC) AND
THE REGIONAL SUSTAINABLE WATER PROJECT
STEERING COMMITTEE (SC)**

Revised January 8, 2004

**Elephant Butte Irrigation Office
530 South Melendres
Las Cruces, New Mexico**

**Telephone (505) 526-6671
Fax (505) 523-9666
October 23, 2003**

9 A.M.

Welcome

Karl Wood welcomed everyone and chaired the meeting in place of Gary Esslinger who was unable to attend the start of the meeting. Gary arrived in time to present Elephant Butte Irrigation District's (EBID's) canal lining project. A copy of the sign-in sheet is attached as **Exhibit "A"**. Those members attending from the Commission's MAC/SC were as follows:

Dr. Ari Michelsen – Texas A&M
Karl Wood – NMSU-WRRI
Conrad Keyes – PdNWC
A. Tarquin – UTEP

Dan Santantonio – City of Las Cruces
Mike Fahy - EPWU
Gary Esslinger- EBID

I. Review and Approval of Minutes from MAC/SC Meeting on 09/15//03 (MAC/SC).

Karl asked if anyone had comments on the September 15th MAC/SC meeting minutes. No one had comments and the minutes were approved as written.

II. Progress Report by the Paso del Norte Watershed Council (PdNWC) (Nancy Hanks, Watershed Council Coordinator)

Nancy provided an update (**attached as Exhibit "B"**) on the current officers of the Executive Committee (EC). Conrad Keyes and Ed Fierro stepped down as officers of the Executive Committee. The newly elected officers are: Chair: Sue Watts, Assistant Chair: Julie Maitland, Secretary: Valerie Provencio, and Treasurer: Ari Michelsen. Other members of the EC include:

- **Kevin Bixby, SWEC**
- **Christopher Brown, NMSU**
- **Tim Darden, NM Department of Agriculture**
- **Miguel Flores, INIFAP**
- **Alfredo Granados, UACJ**
- **Inga Groff, El Paso League of Women Voters**
- **Ed Hamlyn, UTEP**
- **Brian Hanson, US Fish and Wildlife**
- **Jennifer Atchley Montoya, WWF**
- **Carlos Rincon, Environmental Defense**
- **Dan Santantonio, City of Las Cruces**
- **Zhuping Sheng, TAES**
- **Rosemary Staley, City of El Paso**
- **Jim Stefanov, US IBWC**
- **Marylin Taylor, Community of El Paso**
- **Beatriz Vera, Rio Grande/Rio Bravo Basin Coalition**

The Education/Outreach Committee (EOC) has completed a Spanish version of the PdNWC brochure and is currently working on a second brochure for the general public. In addition, the EOC are exploring the possibility of submitting a grant proposal for the EPA Border 2012 program. The pre-proposals must be post-marked by midnight December 31, 2003.

Nancy announced the American Heritage Rivers Initiative Bi-Annual Meeting which was held in El Paso, Texas November 3 - 4, 2003 at the El Paso Convention and Performance Center. The title of the conference is "**Our Texas Treasure: The Mighty Rio Grande**". Valerie Provencio will speak on "Managing a Trans-Boundary Watershed" as secretary for the Paso del Norte Watershed Council. Nancy has been very supportive by assisting in providing useful information in formatting the presentation. In addition, Beatriz Vera and Rosemary Staley are PdNWSC members also active in this EPA sponsored event.

Nancy attended **Water Festival 2003**, October 22 at Irvin High School in El Paso for elementary school students grades 3-5. The event was presented by WERC: A Consortium for Environmental Education and Technology Development. Nancy conducted a survey a survey in which she tested youngsters on their water knowledge. The results of the survey will be forthcoming.

Conrad attended the URGWOM meeting on October 9, 2003.:

The PdNWC decided not to submit a proposal for funding by the 2004 EPA Watershed Initiative because the Council did not want to use the same proposal it had submitted in 2003, and there was not sufficient time to write a new proposal. The Council plans to

submit a proposal for the 2005 funding cycle.

There were introductions around the table for the benefit of some new attendees. Karl Wood introduced Allen Steele from Wolford College in North Carolina who will be visiting different countries to investigate border water problems for the next nine months. He is starting in Las Cruces and will eventually go to Thailand, Egypt and Pakistan. Ron Lacewell of TAMU was introduced, as well as Mariana Chew of UTEP.

III. Regional Water Plan for the Lower Rio Grande Water Users Organization (LRGWUO)(Mary Wells, Terracon)

Mary Wells provided a power point presentation (**attached as Exhibit “C”**) on the Lower Rio Grande Water Users Organization’s (LRGWUO’S) Regional Water Plan for the Lower Rio Grande Region of New Mexico. She explained the plan is to analyze the surface and groundwater supply, demographic analysis, population projections to 2040, current water demand, projected water demand, and strategies for future management of the Planning Region's water. Mary cited the plan as important because it is a management tool and will be updated every five years.

This region would include the area within Dona Ana County, excluding portions of the Tularosa and Mimbres Basins within the County. The study area also includes the portion of Sierra County within the boundaries of the Elephant Butte Irrigation District and the portion of the Hueco Bolson within Doña Ana County. The strategy is to offer education and awareness training, present potential water conservation ordinances, landscape ordinances and to adopt a rate structure to aid in regional water plan conservation.

This plan was initiated in part because in 1987 the Federal Court ruled that it was unconstitutional for New Mexico to completely prohibit out of state transfer of groundwater.

Mary presented schematics representing the hydrology and hydrogeology of the area. Basins evaluated included the Rincon, Mesilla, Hueco and the Jornada del Muerto. The plan assumes no new water resources or importation with the possible exception of some import water from Nutt-Hockett (the Village of Hatch has Nutt-Hockett water rights).

Gary Esslinger and Karl Wood also pointed out the grant proposal endorsed by Senator Bingaman which would include development of a new, comprehensive ground water model of the planning area including the Mesilla Bolson and possibly the Hueco Bolson. Such a model would draw upon the prior modeling efforts and experiences of, Professor Tom Maddock, John Shomaker and the City of Las Cruces, and possibly El Paso.

The plan is located on their web page: www.lrgwuo-waterplan.com.

IV. Update on the Year-End Rio Grande Project Water Supply (Wayne Treers, BuRec)

Wayne Treers provided handouts of his presentation of the current water supply and allocation forecast (**attached as Exhibit “D”**). Following are some major highlights from his presentation.

Mr. Treers gave details on the total precipitation charts. He explained that our water year was over as of October 1st, so the precipitation figures shown on the charts are for the water year that ended October 1st. Overall, this year’s precipitation figures were an improvement over last year’s. Both the Upper Rio Grande Basin and Rio Chama Basin ended up at close to 80% of average as compared to less than 50% last year. The Sangre de Cristo Mountain Range Basin averaged 91% of normal vs. 59% last year and the Jemez River Basin averaged 94% of normal as compared to 46% last year.

Wayne then discussed the Historical Runoff Graph from San Marcial. Runoff at San Marcial this year was just over 59,000 AF from March through July. Mr. Treers emphasized the importance of these figures, citing that 70% of the annual flow into the reservoir comes in during the March through July period. The last eight years has exhibited below normal runoff during this time period. This year the reservoir had only 10% of the average flow at San Marcial. He explained that that we are still in a severe drought which extends up to Southern Colorado. This year’s runoff is the fifth lowest on record since 1896.

Mr. Treers reviewed the Reservoir Operations Plan. The low point for storage in Elephant Butte Reservoir was 147,000 AF recorded in September of this year. This was 135,000 AF less than the low point last year. The Rio Grande Project is now becoming totally dependent on inflows to meet next year’s demands. Mr. Treers pointed out that the total Project release this year was 365,000 AF, which was the lowest release since 1978. Also, he stated that even if the NRCS were to predict 100% of average runoff at San Marcial next year, he estimates that actual flow into Elephant Butte would be only 73% of average. The reason for this has to do with the relinquishment of credits and storage of flows by New Mexico. Mr. Treers added that Elephant Butte set a pan evaporation rate record of 20 inches in July and Caballo set a record of 13.73 inches in August. Wayne predicted more evaporation rate records for October because of the unusually warm weather this month. On October 22, Elephant Butte storage was 161,000 AF and Caballo storage was 8,000AF.

Mr. Treers next reviewed the 2003 Operational Status chart showing the current, highest and lowest storage contents this year for both Elephant Butte and Caballo Reservoirs. Elephant Butte storage has increase by about 14,000 AF since the low point in September. Caballo Reservoir has gained about 3,000 AF since the low point. Mr. Treers discussed the end of month storage chart for Elephant Butte Reservoir. This year the reservoir will be at its lowest storage level since 1978. If the expected runoff for next year is accurate, next year could see the lowest levels since 1972. Mr. Treers next presented the 2003 Water Operations Summary showing inflows, outflow, and diversion for the project. He noted the decrease in diversions for the City of El Paso and the Hudspeth County Conservation and Reclamation District, as well as the very low flows at Ft. Quitman.

Wayne reviewed the 2003 Rio Grande Project Allocation chart. It was based on actual storage figures at Caballo and Elephant Butte Reservoirs as of August 15th. The final allocation was established on August 15, 2003 and equaled 317,495 AF which is 34.1% of a full supply. The Rio Grande Water Operation Summary tracks the river efficiencies (total releases divided by total diversions) on a monthly basis. The average efficiency for the year was 89.7%. In a full supply year, the Project can experience 110 to ~115% efficiency as a result of return flows offsetting seepage and evaporation losses.

The National Weather Service issued the 90 day forecast which shows the temperature outlook as above normal in November and the precipitation outlook for November 2003 through January 2004 as normal for now. November through January shows below normal precipitation in Arizona, which may affect our snow pack early on. The US seasonal drought outlook map displays an ongoing drought, although it has changed slightly since last month.

Review of the credit water accounting shows about 33,000 AF available now from Colorado and about 105,000 AF from New Mexico. Next year the Engineer Advisors for the Rio Grande Compact Commission will meet in late February in Santa Fe to determine how much Colorado and New Mexico went over or under their scheduled deliveries for the year based on the compact. At this time these numbers will be adjusted based on over or under-deliveries for the year. New Mexico has under-delivered due to the monsoons not arriving this year. Colorado appears to be under-delivering as well.

The Bureau's Year 2004 Projections of the Rio Grande Project Operations included a total of five runs at various percentages of average runoff. Wayne explained that they tried to come up with an actual flow into Elephant Butte that will provide a full supply for next year. At this point it appears that 93% of normal flow will provide a full supply for 2004. These will also be a benefit from the credit water relinquishment in 2004. Wayne added that meetings will be held at Elephant Butte at the end of the month to discuss these predictions with the local residents. Ari Michelsen advised that a new "Drought Watch" release is available and provided copies to the attendees (**attached as "Exhibit E"**).

V. Grant Financing for Lining EBID's Canal/Piping Raw Supply (Gary Esslinger, EBID)

Gary provided a power point presentation (**Exhibit F**) on the EBID's pipe installation in place of unlined earthen laterals. He described the project as consisting of 20 Laterals with 15.0 Miles of Pipeline, in the Arrey System, Leasburg System and the Mesilla System using a 48" UltraFlo Pipe. The project is expected to have a 3-year construction schedule.

Several problems areas were selected for this project due to high seepage rates, high maintenance as a result of weed growth, and frequent ditch breaks. They also would like to increase the flow to 35-40 CFS in some locations. EBID is designing for as minimal environmental impacts as possible. The project will eventually benefit EBID due to water savings, reduced maintenance, environmental enhancements and public safety (from drowning or accidents in the open canals).

BECC/NADBANK funded \$4,000,000 (47.82%) for the construction of the project. EBID will provide a balance of 4.3 million dollars in terms of local, “in-kind” design and construction service (52.18%).

The design is 97% finished. Vendors will send their invoices directly to NADBANK. EBID is expecting to achieve an annual water savings of 10,000 AFY through this project.

VI. Desalination Concentrator Research at the EPWU/Fort Bliss Desalination Pilot Plant (Tony Tarquin, UTEP)

Dr. Tarquin provided a power point presentation (**Exhibit G**) on a pilot of an alternative to the problem of brine disposal for the EPWU/Fort Bliss Joint Desalination Facilities Project (JDF). He explained the nature and chemical composition of concentrates and offered an alternative to the evaporation method and the deep well injection method by suggesting a method of waste brine treatment, that involves extreme concentration of the brine component for eventual disposal, and possible reuse of the permeate water as blendable supply. The Bureau of Reclamation, UTEP and EPWU each donated funding for this research project.

Dr. Tarquin explained how the membrane process was originally supposed to work using nanofiltration and the Reverse Osmosis (RO) membranes. However on the first day, nanofiltration and RO only achieved a 75% recovery rate and the RO pressure went from 400 psi to 900 psi overnight due to membrane fouling by silica. Next they began lime softening studies with a high degree of urgency. Several different methods were tested and the final conclusion was that the successful process will likely involve lime softening to remove silica followed by two passes through RO membranes. Dr. Tarquin recommended using lime-softening for the reasons below:

- Lime softening is very effective for treating silica-saturated membrane concentrates
- Total treatment costs are \$800-900 per acre-ft, with product water costs at \$400-500 per acre-ft (\$1.35/1000 gal)
- Lime-softening appears to be best option at this time

From Dr. Tarquin’s perspective, the membrane fouling problem due to silica can be solved using this approach and recommends that El Paso Water Utilities employ this method.

VII. Update on EPWU’s Hosting of the Commission’s Web Page (Valerie Provencio, EPWU)

Valerie Provencio provided an update to the Commission on the MAC’s new web page. She announced that the new web page is housed at EPWU and Robert Guillen, Web Site Developer, is now responsible for posting the MAC Minutes, exhibits and agenda. He can be reached at rguillen@epwu.org. Valerie requested that a tracker be added to see how many people actually visit the website.

VIII. Other Business: Update on the Multi-State Salinity Coalition (MSSC)

Mike Fahy provided an update on the Multi-State Salinity Coalition (MSSC). Mike visited the Scottsdale, Arizona Water Campus for the quarterly meeting of the MSSC on October 20, 2003. Several federal funding proposals have been prepared to address salinity control and desalination. A sampling of those proposals mentioned include those authored by the Bureau of Reclamation, Senator Domenici's office, portions of an energy bill, SB-1211 and HB 2828.

Mike announced the upcoming 2003 National Salinity Management and Desalination Summit which will be held in Las Vegas, Nevada on December 8-9. Mike was invited to provide a presentation on the impacts of agricultural drains on EPWU's source water.

Topics on the annual summit program include descriptions of the various salinity management and desalination coalitions, high salinity source waters, and managing salinity at the source. The second day of the summit will cover seawater desalination and brackish groundwater desalination. Mr. Archuleta of EPWU will speak about El Paso's brackish ground water desalination (JDF) program. Other topics include concentrate disposal, a legislative update and the roles of various funding agencies.

Other topics covered at the October 20 meeting in Scottsdale included the need to formalize the coalition; to form some kind of organizational structure, consider establishing a newsletter, possibly reimburse staff members, and form a central point of communication. Mr. Fahy was asked to participate on the committee to research and suggest methods to accomplish these items.

Kevin Price from the Bureau of Reclamation discussed the current status of the desalination roadmap. The national academies are reviewing the road map and it is due for publication in December. The American Water Works Association Research Foundation (AWWARF) will be managing a project to determine the future direction of the roadmap.

The next MSSC meeting will be at the PSB in late January, 2004. The email addresses of all the MAC members have been forwarded on to the MSSC.

Ari asked if there were dues required to be a member of the MSSC. Mike replied that at this point, there are no dues for membership.

Ari announced there will be a Water Resource Seminar at TX A&M on October 28th.

Suggested topics for the next meeting include:

- **Review and approval of the PdNWC proposal to EPA for the Watershed Initiative**
- **A report by EPWU on the Annual Salinity Management and Desalination Summit**
- **A report by the New Mexico State Engineers Office on the Lower Rio Grande area Adjudication**
- **Regular update by the PdNWC**
- **The Round Two proposal from NMSU/TAMU for the PdNWC/GIS Coordinated Database Program**

XI. Schedule Next Meeting/Location

The next meeting is tentatively scheduled for December 18th, 2003 at 9 am EPWU. The meeting of October 23 was adjourned at 11:35 am.