



UNDERGROUND

Spring 2001

PHASE ONE OF GROUNDWATER REPLENISHMENT SYSTEM APPROVED

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The Groundwater Replenishment System, which is scheduled to be on line in 2005, will produce water for replenishment of Orange County's large groundwater basin, helping to make the area less dependent on water from Northern California and the Colorado River.

AGWA member agency Orange County Water District and the Orange County Sanitation District are partners in this joint venture, which was approved overwhelmingly by both boards of directors. The first phase of the project will cost \$352 million and will help the county meet the future water demands of a rapidly growing region.

"I applaud Metropolitan Water District of Southern California for its many efforts to provide future water reliability for Southern California in the face of cutbacks in the Colorado River and threats to water from Northern California," said Irv Pickler, chair of the Joint Cooperative Committee of the Groundwater Replenishment System. "We want to complement those water reliability efforts in Orange County with this project."

The Groundwater Replenishment System will take highly treated sewer water and, through microfiltration, reverse osmosis and ultraviolet disinfection, produce near distilled-quality water. The water will then be pumped via a 13-mile pipeline to spreading basins where it will blend with Orange County's other sources of water from Northern California, the Colorado River and the Santa Ana River.

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Visit the AGWA website at: www.agwa.org

should any one of our current sources be reduced," said Pickler. "The GWR System also helps 'drought-proof' Orange County, which is critical for a semi-arid region like Southern California."

Phase One of the Groundwater Replenishment System will produce 70,000 acre-feet of water per year, enough to satisfy the annual water needs of 140,000 families. Orange County is expected to grow by nearly 600,000 people by 2020, bringing the districts' service area to 2.8 million, which will require an additional 180,000 acre-feet of water per year. Without the Groundwater Replenishment System, the county would need to purchase more — and more expensive — imported water.

The water will be so pure that it will reverse a growing mineral content problem in the basin caused by filling the groundwater basin with Colorado River water.

As an added benefit, producing water through the GWR System requires half of the energy it takes to pump water to Orange County from Northern California. Phase One of the project will save about 140 million kilowatt hours each year, enough electricity to serve more than 21,000 homes.

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WATERMASTER LOOKS TO SOLVE DISCHARGED WATER ISSUE IN GLENDALE

AGWA member and Los Angeles-area Watermaster Mel Blevins has recommended to the City of Glendale a solution to lower the levels of chromium in its existing water supply while saving a large amount of discharged water that meets all state and federal drinking water standards.

As discussed in the Winter 2001 edition of *Notes from the Underground*, officials from the City of Glendale are concerned over the amount of Chromium 6 in their drinking water supply. Although

the water meets the current state standard of 50 parts per billion (ppb), officials are concerned since it does not meet the proposed tougher limit of 0.2 ppb. The water contains Chromium 6 levels as high as 16 ppb, according to Glendale water services administrator Donald R. Froelich.

Blevins has voiced concern about the large quantity of treated water being discharged. Since the beginning of operations on Sept. 26, 2000, approximately 550 acre-feet per month, or a total of 3,200 acre-feet through March 31, have been discharged into the Los Angeles River.

The City of Glendale sent a letter to the U.S. Environmental Protection Agency (EPA) on March 29, which proposed a solution that would allow the continuing operation of the Glendale Operable Unit at a lower pumping rate while containing and removing contaminants from the groundwater.

In a letter to the City of Glendale dated April 24, however, Blevins recommends that over the next six months the City operate the entire seven wells on a "split schedule." After construction is completed to bring water from the two high chromium wells to the power plant cooling tower and/or the reclaimed water line, operations would continue at the Glendale Operable Unit as recommended by the City. Pumping, treatment and blending would continue at a lower rate until a final solution is reached.

"I believe that the Glendale Operable Unit can be pumped on a reduced basis for a limited period of time without undermining the integrity of the remedy and without further waste to the river," said Blevins. "We believe this proposal presents an alternative that supplies high-quality water to Glendale's customers while minimizing, and ultimately stopping, the wasteful dumping of treated water to the ocean. The Watermaster urges the City to join in an effort to pursue this reasonable compromise with the EPA."

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BUSINESS AND CIVIC LEADERS MEET TO DISCUSS DECLINING GROUNDWATER LEVELS AND POTENTIAL SOLUTIONS

Growing concern for the declining Hemet-San Jacinto groundwater basin and its effect on the region's economy prompted local farmers, business and civic leaders to meet earlier this spring to discuss the crisis and potential solutions.

The meeting, which was held March 5, was sponsored by AGWA member agency Eastern Municipal Water District, Lake Hemet Municipal Water District, the cities of Hemet and San Jacinto, the Hemet-San Jacinto Action Group, Valley Economic Development Corporation and the Hemet-San Jacinto Chamber of Commerce.

"It's no secret that we need to address the groundwater overdraft crisis in this region," said Lake Hemet Municipal Water District General Manager Rob Lindquist. "We rely on the local groundwater supply tremendously, so the issues surrounding the overdraft problems in our region will affect the day-to-day lives of those we serve."

"The fact that we were approached by community leaders to hold this meeting shows that there is a growing sense of urgency emerging within the community," Lindquist said. "Our main objective in meeting is to make sure that the community is aware of the overdraft problems. We also need their input to move forward with finding a long-term solution."

The meeting came roughly six weeks after William Blomquist, a nationally known groundwater policy expert at Indiana's Purdue University, spoke to local business and community leaders about the need to develop solutions to the region's groundwater overdraft problem, which was recently highlighted in a report by Eastern Municipal Water District.

"The operational yield of the Canyon and San Jacinto basins is approximately 40,000 acre-feet per year, while the Hemet basin yields an estimated 10,000 acre-feet annually," said Lindquist. "But at this rate of use, our region has a combined overdraft in excess of 10,000 acre-feet per year. Clearly, we must work diligently to reduce and ultimately eliminate this overdraft problem."

Ravi Ravishanker, Eastern Municipal Water District's assistant general manager for resource development and a keynote speaker at the meeting, expressed concern regarding the condition of the basins. "Over the past decade, we have conducted numerous studies to understand the subsurface structure and decline of the basins," said Ravishanker. "But the good news is that we have a great opportunity to work together to secure state grants and other financing assistance for groundwater projects."

Ravishanker added that it is unlikely that more aboveground reservoirs will be added in the near future. "Diamond Valley Lake is probably the last of this type of reservoir that will be built in Southern California for some time," said Ravishanker. "A wise approach for us to consider then will be to look to augment and manage the existing resources."

Ravishanker also added that the development of cooperative groundwater management remains one of the most viable options in dealing with the critical overdraft situation. "What we are trying to establish today is a shared vision of the problem we face," he said.

"Once we agree on the challenges that are before us, we can successfully come up with a plan. If we don't do something to conserve groundwater, our dependence on imported water will increase and rates will inevitably increase as much as six- to seven-fold."

A meeting is soon expected for establishing a groundwater management structure. The dialogue will focus on representing the interests of all stakeholders in the process such as the region's water pumpers, the cities of Hemet and San Jacinto, as well as business and water agencies in the region.

"Declining groundwater levels affect local businesses and the overall economy of the region," said Bob Duistermars, chairman of the board of the Hemet-San Jacinto Valley Chamber of Commerce. "Obviously, our region's \$64 million agricultural industry will be hampered if we don't address the problem. Fortunately, these educational meetings help us take another step in involving the entire community in the development of a solution."

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AGWA CONJUNCTIVE USE REPORT NOW AVAILABLE

Prepared for the Association of Ground Water Agencies by the Water Education Foundation and Montgomery Watson, the AGWA Conjunctive Use Report is an excellent primer on conjunctive use – the practice of storing water underground in wet years to use in dry years. The spiral-bound booklet profiles the conjunctive use potential of 85 groundwater basins in Southern California. The full-color report includes 18 three-D rendered, 11-by-17-inch maps of the basins that include location description, cross-sections of basin structure, current total for stored water, safe yield and available storage. It is available for \$30. Visit www.agwa.org to purchase it online.

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AGWA SEEKS INFORMATION ON CONJUNCTIVE USE PROGRAMS

AGWA's primary goal for 2001 is to focus on the development of conjunctive use programs statewide. To further that goal, AGWA is asking that anyone who is aware of research or other information on such programs, either planned or already implemented, please contact us.

Conjunctive use is the integration of surface and groundwater resources for the optimal use of those resources. Typically it involves the conservation of surface water for recharge into groundwater basins in times of surplus and subsequent

withdrawal in times of shortage.

If you or someone you know has additional information on conjunctive use programs, please contact:

Charles E. Bryant, General Manager
Hi-Desert Water District
6955 Old Woman Springs Rd.
Yucca Valley, CA 92284
(760) 365-8333

You may also send an email to agwa@agwa.org.

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CONSTRUCTION PROJECTS RIGHT ON TARGET FOR EMERGENCY GROUNDWATER RECOVERY

Projects are moving at a fast and furious pace as part of AGWA member agency Kern County Water Agency's (KCWA) 2001 Emergency Groundwater Recovery Program.

According to Jon Parnell, KCWA's manager of the Cross Valley Canal (CVC), improvements to the CVC's First Pool and pumping plant forebay were completed to allow for a higher water surface elevation, which was needed to reverse-flow pumped groundwater back to the California Aqueduct.

Construction of an interconnection canal from the CVC to the Kern Water Bank Canal was completed Feb. 28 under a joint construction program between KCWA and the Kern Water Bank Authority. Twelve wells were activated Feb. 28 to fill Pool One of the CVC and the new canal in order to deliver water to the California Aqueduct via the Kern Water Bank Canal beginning March 1.

A portion of the project is funded by KCWA's \$23 million Proposition 13 bond money.

Dewatering the CVC from the aqueduct to the Main Canal provides a rare opportunity to raise the liner on that portion of the CVC. Work on plans and specifications for this construction

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project were scheduled for completion this spring with construction beginning in early summer.

KCWA also completed construction on 11 new wells on the Pioneer Project and six wells on the Berrenda Mesa Banking Project. The wells are plumbed to the CVC and the City of Bakersfield's Kern River Canal. The new Pioneer wells plumbed into the CVC are now operational and the new wells plumbed into the Kern River Canal should be ready this spring. Power lines are also under construction to serve those wells.

An underground pipeline connection from the Kern River Canal to the Kern Water Bank canal is another project under construction and is expected to complete this spring. The 108-inch diameter, reinforced concrete pipe will minimize losses when conveying water between the two canals. This pipeline will enable delivery of water from the Kern River Canal to the Aqueduct via the Kern Water Bank Canal instead of the Buena Vista Aquatic Lakes.

A lease agreement with Bolthouse Farms to farm portions of the Pioneer property enabled eight Bolthouse wells to be plumbed into the CVC and River Canal for this year's emergency program. This gave KCWA access to some 13,000 acre-feet of additional recovery capacity. Temporary pipelines will be used to convey the water. Cost for that project is estimated at \$101,700, with \$67,000 coming from Proposition 13 funds for the permanent portions of the improvements. The Pioneer Project participants will pay the balance of the project cost.

KCWA is also working with Buena Vista Water Storage District and Henry Miller Water District to install pumps in a combination turn-out/turn-in from the Outlet Canal to the California Aqueduct. This turn-out is located just north of the Buena-Vista recreation area in the Buena Vista Outlet Canal and has the capacity to pump 160 cubic feet per second of combined water from the city's spreading grounds, Pioneer Project, Olcese wells and Kern River water to the aqueduct.

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DEFINITIVE TERMS FOR CADIZ PROGRAM APPROVED

AGWA affiliate Cadiz Inc. has reported that on April 11, the Board of Directors of Metropolitan Water District of Southern California approved definitive economic terms and responsibilities for the Cadiz Groundwater Storage & Dry-Year Supply Program.

"By voting to approve the definitive economic terms, the Metropolitan Board has taken a significant step toward ensuring a reliable supply of water for its member agencies," said Keith Brackpool, chief executive officer of Cadiz Inc.

A summary of the definitive terms, as now approved by the boards of both Metropolitan and Cadiz, was included in the company's Form 8-K filed on March 14. The approved definitive terms reflect refinements to the basic principles and terms for the Cadiz Program approved in July 1998. These refinements were adopted in the course of extensive negotiations between the company and the Special Oversight Committee of Metropolitan directors, charged with negotiating the definitive terms.

With the receipt of board approval, the definitive terms will serve as the basis for a final agreement to be executed between Metropolitan and Cadiz. Execution of this final agreement will be contingent upon and subject to completion of the environmental review process for the Cadiz program.

In addition, Metropolitan and the U.S. Bureau of Land Management (BLM), in cooperation with the U.S. Geological Survey and the National Park Service, are now compiling the Final Environmental Impact Report/Environmental Impact Statement for the Cadiz program, which will be brought to Metropolitan and the BLM for appropriate final actions.

The Cadiz Groundwater Storage & Dry-Year Supply Program, a public/private partnership between Cadiz and Metropolitan, will assist Metropolitan in maximizing the efficiency of its Colorado River Aqueduct and providing a reli-

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able, high-quality water supply to the 17 million Southern Californians it serves. The Cadiz Program is cited as a key component in California's official plan to reduce its draw on the Colorado River. The 50-year partnership will store surplus Colorado River water supplies—up to one million acre-feet at any one time—beneath Cadiz's agricultural landholdings in the eastern Mojave Desert. During dry years, the stored Colorado River water and indigenous groundwater will be extracted, in accordance with the terms and conditions of a comprehensive Groundwater Monitoring and Management Plan, and returned for use within Metropolitan's service area.

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BLUE PLANET FOUNDATION HOSTS 2001 CHILDREN'S WATER EDUCATION FESTIVAL

Blue Planet Foundation and AGWA member agency Orange County Water District (OCWD), together with Disneyland Resort, Metropolitan Water District of Southern California and OCWD's Groundwater Guardian Team, presented the nation's largest children's water education festival on May 1 and 2, at Hidden Valley Park in Irvine, Calif.

Entering a milestone year – five years of educating Orange County's youth about water – the festival is a fun, environmental education program designed to teach elementary school children (grades 3 and 4) about the interdependence of water, soil, plants, trees, animals and humans. This year, an all-time-high of 6,000 students and teachers from 26 Orange County cities attended the two-day festival.

During the two-day festival themed, "Got Water?," students and teachers participated in more than 50 interactive, hands-on educational demonstrations. Together with some of the area's leading environmentalists, students explored the water cycle and

discovered that water is a finite, irreplaceable resource. They also learned about sources of water pollution and how they can conserve water.

"For four years in a row, the Disneyland Resort has worked with Orange County Water District to teach children about water. It's a powerful example that proves what can happen when government and industry work together for a common goal," said "T" Irby, senior vice-president of facilities, engineering and construction for the Disneyland Resort. "Not only are we a sponsor of the Festival, we are also a beneficiary. Watching these kids learn about water energizes and inspires us to continue making a difference in our environment."

To sponsor, donate activity supplies or present an activity at the 2002 event, contact the Blue Planet Foundation at (714) 378-3362.

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CHINO BASIN WATERMASTER LEADS FORMATION OF ENERGY EMERGENCY COALITION

AGWA member agency Chino Basin Watermaster, along with the Inland Empire Utilities Agency and the Milk Producers Council, has formed an Energy Emergency Coalition to present the region's energy saving and energy generation projects to Governor Davis and other appropriate officials from the State of California for funding.

Many of these projects will provide other benefits to the State of California and the region, in addition to saving or generating energy. For more information on the Coalition and its future goals and accomplishments, stay tuned to *Notes from the Underground*.

Water Drops....

- The U.S. Environmental Protection Agency (EPA) will now accept public comments on its April 18 proposal to delay the effective date for

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the arsenic drinking water standard until Feb. 22, 2002. The delay until 2002 allows time to complete the reassessment process and to afford the public a full opportunity to provide further input, according to EPA officials.

- The Senate Agriculture and Water Committee is considering two bills that would regulate growth in line with water: SB 610, authored by Sen. Jim Costa (D-Fresno) and SB 221 by Sen. Sheila Kuehl (D-Los Angeles). The bills are intended to plug loopholes in Costa's SB 901, passed in 1995, which sought to link water supply and growth.
- Several western water organizations, including the Association of California Water Agencies, the WaterReuse Association and the Western Association of Arid States, have released a statement voicing their disappointment in the continued reductions of the Bureau of Reclamation's 2002 budget. In a prepared statement, the organizations said, "We believe the budget cuts could leave the Bureau without adequate resources to carry out a water supply mission that is more complex and vital than ever before."

AGWA Meeting Happenings...

Feb. 20, 2000

- Mr. Mark Mackowski of the Upper Los Angeles River Area Watermaster gave a presentation regarding Standard Urban Stormwater Mitigation Plan (SUSMP).
- Mr. Roy Martinez of the American Water Works Association Research Foundation (AWWARF) gave an overview of AWWARF's programs.
- Director Palmer reported that the Salinity Management Coalition formed a task force to work with the local Regional Water Quality Control Boards on salinity issues. On a motion by Director Palmer, seconded by Director Neufeld, and unanimously carried, AGWA agreed to sponsor the Salinity Summit at a cost of \$2,500.
- On a motion by Director Neufeld, seconded by Director Brady, and unanimously carried,

AGWA agreed to join the National Water Research Institute (NWRI) in a research program regarding oxygenated fuels.

- Director Blevins reported on issues relating to the discovery of Chromium 6 in the Upper Los Angeles River Area (ULARA) Watershed.
- Director Palmer reported that MWD's rate structure process is moving forward slowly, and added that the target implementation date is July 1, 2002.
- Director Blevins reported that the latest newsletter is available on AGWA's website.
- Director Blevins reported that plans for the Conjunctive Use Conference are going well. He handed out copies of the brochure advertising the conference.
- Chairman Bill Mills reported that he would coordinate regular legislative updates for AGWA.
- Mr. David De Jesus reported that MWD General Manager Ron Gastelum would be addressing a conference at University of La Verne on March 21, 2001.
- Mr. Frank Forbes reported that Mr. Clayton Record, of Eastern Municipal Water District, recently passed away. Chairman Mills stated that AGWA would send its condolences to Mr. Record's family.
- Director Palmer suggested that AGWA consider changing its meeting schedule from monthly to bi-monthly, and requested that this item be placed on the next agenda for discussion.

March 19, 2001

- Ms. Wendy Phillips of the Los Angeles Regional Water Quality Control Board (LARWQCB) gave a presentation on storm water requirements enacted by the LARWQCB.
- Director Palmer reported that the Salinity Management Coalition is moving ahead with its plans for the Salinity Summit on May 31, 2001, which will be held at Loyola Marymount College.

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- Director Palmer also reported that the Santa Ana Watershed Project Authority (SAWPA) has expressed concern about the effectiveness of the Salinity Management Coalition, and added that SAWPA may offer to provide staff support. He then stated that the next meeting of the Coalition is scheduled for March 28, 2001 at Irvine Ranch Water District.
- Chairman Bill Mills reported that AGWA had a presentation from the American Water Works Association Research Foundation (AWWARF) at its last meeting, in order to learn more about AWWARF's groundwater subscription program. Following discussion, AGWA directed its AWWARF Research Committee to work further on this issue by reviewing the total contribution AGWA's members pay to AWWARF and investigating potential research programs.
- Chairman Mills inquired about the 2001 Committee Assignments, and following discussion, the Committee assignments were revised.
- Chairman Mills reported that he received a suggestion that AGWA change from monthly to bi-monthly meetings. Following discussion, it was agreed that AGWA would maintain its current monthly meeting schedule, and it was further noted that the Chairman would cancel meetings if warranted.
- Chairman Mills reported that the federal water quality standard for radon is being reviewed further by EPA. He noted that the water industry is supporting a single standard for both air and water.
- Director Blevins provided an update on the discussions in Glendale and Burbank regarding Chromium 6.
- Director Palmer reported that MWD is moving ahead with the implementation of the new rate structure by July 2002. He also reported that there was a workshop on March 16 regarding the power issue and the impact on MWD and its member agencies.
- Director Palmer also stated that the water industry is working with ACWA to encourage

the Public Utilities Commission to exempt water utilities from the rolling blackouts.

- Director Blevins reported that the Conjunctive Use Conference is scheduled for April 11-12 at the Ontario Convention Center, and he encouraged AGWA's members to sign up for the conference.
- Director Blevins reported that the Groundwater Management Committee oversaw the compilation and completion of the Conjunctive Use Guide and added that the group is now working on a report that includes the data that was collected in order to publish the Guide.
- Chairman Mills reported on pending legislation AB 847 (Ackerman) regarding the use of recycled water for injection into aquifers. He suggested that AGWA should consider supporting this legislation, and he then requested that this item be placed on the next agenda for action.
- Director Neufeld reported that he attended a hearing in Sacramento last week regarding California's energy crisis and noted that we need to work on local conservation programs to preserve our current resources, in addition to developing new resources. The Chairman requested that the energy issue be placed on the next agenda for update and discussion purposes.

April 16, 2001

- On a motion by Director Neufeld, seconded by Director Palmer, and unanimously carried, AGWA authorized Chairman Mills to send a letter to Mr. Dennis Dickerson, of LARWQCB, expressing AGWA's concerns about the potential impact of SUSMP on groundwater basins.
- Director Palmer reported that the Salinity Management Coalition (SMC) is considering a proposal to expand its activities in order to further promote the importance of salinity control measures. Director Palmer reported that the SMC is concerned about raising the necessary funds, and further stated that SAWPA is revising the proposal.

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- Chairman Mills reported that staff at Orange County Water District is reviewing potential groundwater research projects in Southern California for AGWA's consideration. He also stated that he was contacted by Mr. Roy Martinez of AWWARF regarding AGWA's interest in other research programs.
- Director Blevins discussed the continuing problems with Chromium 6 in the San Fernando Basin, and he further noted that ULARA Watermaster sent a letter to the City of Glendale addressing its concerns about the waste of treated groundwater to the Los Angeles River.
- Chairman Mills reported that the EPA recently took action to delay implementation of the arsenic standard in order to allow time for additional scientific review.
- Director Neufeld reported that Chino Basin Watermaster formed an Emergency Energy Group to address energy concerns facing the water industry.
- Following discussion, on a motion by Director Hansen, seconded by Director Blevins, and unanimously carried, AGWA authorized Chairman Mills to send a letter to various state agencies regarding AGWA's position on the pending energy crisis and its support for the use of backup generators during periods of low energy supplies.
- Director Palmer reported that MWD is continuing the implementation of its new rate structure. He noted that draft language for the contractual supplies is available for review. He also stated that the Cadiz groundwater storage project proposal is moving ahead, and added that the environmental review of the project is ongoing. He next reported that MWD's Board approved nine conjunctive use projects, which will utilize \$45 million in Proposition 13 funding.
- Director Blevins reported that he plans to participate in OCWD's annual Children's Water Education Festival on May 1, 2001.
- Director Blevins reported that the Conjunctive Use Conference held on April 11-12, 2001 at the Ontario Convention Center went well, and added that there were approximately 180 people in attendance.
- Following discussion, during which AGWA's members expressed a preference for working with a California-based organization, and on a motion by Chairman Mills, seconded by Director Neufeld, and unanimously carried, AGWA agreed to coordinate its next conference with the Water Education Foundation. Director Blevins then offered to chair the Program Committee for next year's conference.
- Director Blevins reported that he is working with Chris Petersen, of Montgomery Watson, on reviewing the data collected for the conjunctive use report. He then suggested that AGWA develop a new report providing additional details about the groundwater basins and groundwater management in Southern California. Chairman Mills requested that this item be placed on the next agenda for additional discussion.
- Chairman Mills reported on pending legislation AB 847 (Ackerman) regarding the use of recycled water for injection into aquifers. He stated that, following discussions with ACWA's legislative staff about potential concerns with the legislation, the bill will become a two-year bill and amended to include language to provide protection against the impact of public health goals.
- The following legislative proposals were also reviewed: AB 599 (Liu); SB 538 (Costa); and SB 627 (Costa).
- Chairman Mills directed that the following items be placed on the next agenda for discussion and action: 1) Public Education Program and 2) Contract with Greenleaf Communications for quarterly newsletter.

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"The fact that we were approached by community leaders to hold this meeting shows that there is a growing sense of urgency emerging within the community," Lindquist said. "Our main objective in meeting is to make sure that the community is aware of the overdraft problems. We also need their input to move forward with finding a long-term solution."

The meeting came roughly six weeks after William Blomquist, a nationally known groundwater policy expert at Indiana's Purdue University, spoke to local business and community leaders about the need to develop solutions to the region's groundwater overdraft problem, which was recently highlighted in a report by Eastern Municipal Water District.

"The operational yield of the Canyon and San Jacinto basins is approximately 40,000 acre-feet per year, while the Hemet basin yields an estimated 10,000 acre-feet annually," said Lindquist. "But at this rate of use, our region has a combined overdraft in excess of 10,000 acre-feet per year. Clearly, we must work diligently to reduce and ultimately eliminate this overdraft problem."

Ravi Ravishanker, Eastern Municipal Water District's assistant general manager for resource development and a keynote speaker at the meeting, expressed concern regarding the condition of the basins. "Over the past decade, we have conducted numerous studies to understand the subsurface structure and decline of the basins," said Ravishanker. "But the good news is that we have a great opportunity to work together to secure state grants and other financing assistance for groundwater projects."

Ravishanker added that it is unlikely that more aboveground reservoirs will be added in the near future. "Diamond Valley Lake is probably the last of this type of reservoir that will be built in Southern California for some time," said Ravishanker. "A wise approach for us to consider then will be to look to augment and manage the existing resources."

Ravishanker also added that the development of cooperative groundwater management remains one of the most viable options in dealing with the critical overdraft situation. "What we are trying to establish today is a shared vision of the problem we face," he said.

"Once we agree on the challenges that are before us, we can successfully come up with a plan. If we don't do something to conserve groundwater, our dependence on imported water will increase and rates will inevitably increase as much as six- to seven-fold."

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A meeting is soon expected for establishing a groundwater management structure. The dialogue will focus on representing the interests of all stakeholders in the process such as the region's water pumpers, the cities of Hemet and San Jacinto, as well as business and water agencies in the region.

"Declining groundwater levels affect local businesses and the overall economy of the region," said Bob Duistermars, chairman of the board of the Hemet-San Jacinto Valley Chamber of Commerce. "Obviously, our region's \$64 million agricultural industry will be hampered if we don't address the problem. Fortunately, these educational meetings help us take another step in involving the entire community in the development of a solution."

AGWA CONJUNCTIVE USE REPORT NOW AVAILABLE

Prepared for the Association of Ground Water Agencies by the Water Education Foundation and Montgomery Watson, the AGWA Conjunctive Use Report is an excellent primer on conjunctive use – the practice of storing water underground in wet years to use in dry years. The spiral-bound booklet profiles the conjunctive use potential of 85 groundwater basins in Southern California. The full-color report includes 18 three-D rendered, 11-by-17-inch maps of the basins that include location description, cross-sections of basin structure, current total for stored water, safe yield and available storage. It is available for \$30. Visit www.agwa.org to purchase it online.

AGWA SEEKS INFORMATION ON CONJUNCTIVE USE PROGRAMS

AGWA's primary goal for 2001 is to focus on the development of conjunctive use programs statewide. To further that goal, AGWA is asking that anyone who is aware of research or other information on such programs, either planned or already implemented, please contact us.

Conjunctive use is the integration of surface and groundwater resources for the optimal use of those resources. Typically it involves the conservation of surface water for recharge into groundwater basins in times of surplus and subsequent withdrawal in times of shortage.

If you or someone you know has additional information on conjunctive use programs, please contact:

Charles E. Bryant, General Manager

Hi-Desert Water District

6955 Old Woman Springs Rd.

Yucca Valley, CA 92284

(760) 365-8333

You may also send an email to agwa@agwa.org.

CONSTRUCTION PROJECTS RIGHT ON TARGET FOR EMERGENCY GROUNDWATER RECOVERY

Projects are moving at a fast and furious pace as part of AGWA member agency Kern County Water Agency's (KCWA) 2001 Emergency Groundwater Recovery Program.

According to Jon Parnell, KCWA's manager of the Cross Valley Canal (CVC), improvements to the CVC's First Pool and pumping plant forebay were completed to allow for a higher water surface elevation, which was needed to reverse-flow pumped groundwater back to the California Aqueduct.

Construction of an interconnection canal from the CVC to the Kern Water Bank Canal was completed Feb. 28 under a joint construction program between KCWA and the Kern Water Bank Authority. Twelve wells were activated Feb. 28 to fill Pool One of the CVC and the new canal in order to deliver water to the California Aqueduct via the Kern Water Bank Canal beginning March 1.

A portion of the project is funded by KCWA's \$23 million Proposition 13 bond money.

Dewatering the CVC from the aqueduct to the Main Canal provides a rare opportunity to raise the liner on that portion of the CVC. Work on plans and specifications for this construction project were scheduled for completion this spring with construction beginning in early summer.

KCWA also completed construction on 11 new wells on the Pioneer Project and six wells on the Berrenda Mesa Banking Project. The wells are plumbed to the CVC and the City of Bakersfield's Kern River Canal. The new Pioneer wells plumbed into the CVC are now operational and the new wells plumbed into the Kern River Canal should be ready this spring. Power lines are also under construction to serve those wells.

An underground pipeline connection from the Kern River Canal to the Kern Water Bank canal is another project under construction and is expected to complete this spring. The 108-inch diameter, reinforced concrete pipe will minimize losses when conveying water between the two canals. This pipeline will enable delivery of water from the Kern River Canal to the Aqueduct via the Kern Water Bank Canal instead of the Buena Vista Aquatic Lakes.

A lease agreement with Bolthouse Farms to farm portions of the Pioneer property enabled eight Bolthouse wells to be plumbed into the CVC and River Canal for this year's emergency program. This gave KCWA access to some 13,000 acre-feet of additional recovery capacity. Temporary pipelines will be used to convey the water. Cost for that project is estimated at \$101,700, with \$67,000 coming from Proposition 13 funds for the permanent portions of the improvements. The Pioneer Project participants will pay the balance of the project cost.

KCWA is also working with Buena Vista Water Storage District and Henry Miller Water District to install pumps in a combination turn-out/turn-in from the Outlet Canal to the California Aqueduct. This turn-out is located just north of the Buena-Vista recreation area in the Buena Vista Outlet Canal and has the capacity to pump 160 cubic feet per second of combined water from the city's spreading grounds, Pioneer Project, Olcese wells and Kern River water to the aqueduct.

DEFINITIVE TERMS FOR CADIZ PROGRAM APPROVED

AGWA affiliate Cadiz Inc. has reported that on April 11, the Board of Directors of Metropolitan Water District of Southern California approved definitive economic terms and responsibilities for the Cadiz Groundwater Storage & Dry-Year Supply Program.

"By voting to approve the definitive economic terms, the Metropolitan Board has taken a significant step toward ensuring a reliable supply of water for its member agencies," said Keith Brackpool, chief executive officer of Cadiz Inc.

A summary of the definitive terms, as now approved by the boards of both Metropolitan and Cadiz, was included in the company's Form 8-K filed on March 14. The approved definitive terms reflect refinements to the basic principles and terms for the Cadiz Program approved in July 1998. These refinements were adopted in the course of extensive negotiations between the company and the Special Oversight Committee of Metropolitan directors, charged with negotiating the definitive terms.

With the receipt of board approval, the definitive terms will serve as the basis for a final agreement to be executed between Metropolitan and Cadiz. Execution of this final agreement will be contingent upon and subject to completion of the environmental review process for the Cadiz program.

In addition, Metropolitan and the U.S. Bureau of Land Management (BLM), in cooperation with the U.S. Geological Survey and the National Park Service, are now compiling the Final Environmental Impact Report/Environmental Impact Statement for the Cadiz program, which will be brought to Metropolitan and the BLM for appropriate final actions.

The Cadiz Groundwater Storage & Dry-Year Supply Program, a public/private partnership between Cadiz and Metropolitan, will assist Metropolitan in maximizing the efficiency of its Colorado River Aqueduct and providing a reliable, high-quality water supply to the 17 million Southern Californians it serves. The Cadiz Program is cited as a key component in California's official plan to reduce its draw on the Colorado River. The 50-year partnership will store surplus Colorado River water supplies—up to one million acre-feet at any one time—beneath Cadiz's agricultural landholdings in the eastern Mojave Desert. During dry years, the stored Colorado River water and indigenous groundwater will be extracted, in accordance with the terms and conditions of a comprehensive Groundwater Monitoring and Management Plan, and returned for use within Metropolitan's service area.

BLUE PLANET FOUNDATION HOSTS 2001 CHILDREN'S WATER EDUCATION FESTIVAL

Blue Planet Foundation and AGWA member agency Orange County Water District (OCWD), together with Disneyland Resort, Metropolitan Water District of Southern California and OCWD's Groundwater Guardian Team, presented the nation's largest children's water education festival on May 1 and 2, at Hidden Valley Park in Irvine, Calif.

Entering a milestone year – five years of educating Orange County's youth about water – the festival is a fun, environmental education program designed to teach elementary school children (grades 3 and 4) about the interdependence of water, soil, plants, trees, animals and humans. This year, an all-time-high of 6,000 students and teachers from 26 Orange County cities attended the two-day festival.

During the two-day festival themed, "Got Water?," students and teachers participated in more than 50 interactive, hands-on educational demonstrations. Together with some of the area's leading environmentalists, students explored the water cycle and discovered that water is a finite, irreplaceable resource. They also learned about sources of water pollution and how they can conserve water.

"For four years in a row, the Disneyland Resort has worked with Orange County Water District to teach children about water. It's a powerful example that proves what can happen when government and industry work together for a common goal," said "T" Irby, senior vice-president of facilities, engineering and construction for the Disneyland Resort. "Not only are we a sponsor of the Festival, we are also a beneficiary. Watching these kids learn about water energizes and inspires us to continue making a difference in our environment."

To sponsor, donate activity supplies or present an activity at the 2002 event, contact the Blue Planet Foundation at (714) 378-3362.

CHINO BASIN WATERMASTER LEADS FORMATION OF ENERGY EMERGENCY COALITION

AGWA member agency Chino Basin Watermaster, along with the Inland Empire Utilities Agency and the Milk Producers Council, has formed an Energy Emergency Coalition to present the region's energy saving and energy generation projects to Governor Davis and other appropriate officials from the State of California for funding.

Many of these projects will provide other benefits to the State of California and the region, in addition to saving or generating energy. For more information on the Coalition and its future goals and accomplishments, stay tuned to *Notes from the Underground*.

Water Drops...

- The U.S. Environmental Protection Agency (EPA) will now accept public comments on its April 18 proposal to delay the effective date for the arsenic drinking water standard until Feb. 22, 2002. The delay until 2002 allows time to complete the reassessment process and to afford the public a full opportunity to provide further input, according to EPA officials.
- The Senate Agriculture and Water Committee is considering two bills that would regulate growth in line with water: SB 610, authored by Sen. Jim Costa (D-Fresno) and SB 221 by Sen. Sheila Kuehl (D-Los Angeles). The bills are intended to plug loopholes in Costa's SB 901, passed in 1995, which sought to link water supply and growth.
- Several western water organizations, including the Association of California Water Agencies, the WaterReuse Association and the Western Association of Arid States, have released a statement voicing their disappointment in the continued reductions of the Bureau of Reclamation's 2002 budget. In a prepared statement, the organizations said, "We believe the budget cuts could leave the Bureau without adequate resources to carry out a water supply mission that is more complex and vital than ever before."

AGWA Meeting Happenings...

Feb. 20, 2000

- Mr. Mark Mackowski of the Upper Los Angeles River Area Watermaster gave a presentation regarding Standard Urban Stormwater Mitigation Plan (SUSMP).
- Mr. Roy Martinez of the American Water Works Association Research Foundation (AWWARF) gave an overview of AWWARF's programs.
- Director Palmer reported that the Salinity Management Coalition formed a task force to work with the local Regional Water Quality Control Boards on salinity issues. On a motion by Director Palmer, seconded by Director Neufeld, and unanimously carried, AGWA agreed to sponsor the Salinity Summit at a cost of \$2,500.
- On a motion by Director Neufeld, seconded by Director Brady, and unanimously carried, AGWA agreed to join the National Water Research Institute (NWRI) in a research program regarding oxygenated fuels.
- Director Blevins reported on issues relating to the discovery of Chromium 6 in the Upper Los Angeles River Area (ULARA) Watershed.

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- Director Palmer reported that MWD's rate structure process is moving forward slowly, and added that the target implementation date is July 1, 2002.
- Director Blevins reported that the latest newsletter is available on AGWA's website.
- Director Blevins reported that plans for the Conjunctive Use Conference are going well. He handed out copies of the brochure advertising the conference.
- Chairman Bill Mills reported that he would coordinate regular legislative updates for AGWA.
- Mr. David De Jesus reported that MWD General Manager Ron Gastelum would be addressing a conference at University of La Verne on March 21, 2001.
- Mr. Frank Forbes reported that Mr. Clayton Record, of Eastern Municipal Water District, recently passed away. Chairman Mills stated that AGWA would send its condolences to Mr. Record's family.
- Director Palmer suggested that AGWA consider changing its meeting schedule from monthly to bi-monthly, and requested that this item be placed on the next agenda for discussion.

March 19, 2001

- Ms. Wendy Phillips of the Los Angeles Regional Water Quality Control Board (LARWQCB) gave a presentation on storm water requirements enacted by the LARWQCB.
- Director Palmer reported that the Salinity Management Coalition is moving ahead with its plans for the Salinity Summit on May 31, 2001, which will be held at Loyola Marymount College.
- Director Palmer also reported that the Santa Ana Watershed Project Authority (SAWPA) has expressed concern about the effectiveness of the Salinity Management Coalition, and added that SAWPA may offer to provide staff support. He then stated that the next meeting of the Coalition is scheduled for March 28, 2001 at Irvine Ranch Water District.
- Chairman Bill Mills reported that AGWA had a presentation from the American Water Works Association Research Foundation (AWWARF) at its last meeting, in order to learn more about AWWARF's groundwater subscription program. Following discussion, AGWA directed its AWWARF Research Committee to work further on this issue by reviewing the total contribution AGWA's members pay to AWWARF and investigating potential research programs.
- Chairman Mills inquired about the 2001 Committee Assignments, and following discussion, the Committee assignments were revised.
- Chairman Mills reported that he received a suggestion that AGWA change from monthly to bi-monthly meetings. Following discussion, it was agreed that AGWA would maintain its current monthly meeting schedule, and it was further noted that the Chairman would cancel meetings if warranted.
- Chairman Mills reported that the federal water quality standard for radon is being reviewed further by EPA. He noted that the water industry is supporting a single standard for both air and water.
- Director Blevins provided an update on the discussions in Glendale and Burbank regarding Chromium 6.
- Director Palmer reported that MWD is moving ahead with the implementation of the new rate structure by July 2002. He also reported that there was a workshop on March 16 regarding the power issue and the impact on MWD and its member agencies.
- Director Palmer also stated that the water industry is working with ACWA to encourage the Public

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Utilities Commission to exempt water utilities from the rolling blackouts.

- Director Blevins reported that the Conjunctive Use Conference is scheduled for April 11-12 at the Ontario Convention Center, and he encouraged AGWA's members to sign up for the conference.
- Director Blevins reported that the Groundwater Management Committee oversaw the compilation and completion of the Conjunctive Use Guide and added that the group is now working on a report that includes the data that was collected in order to publish the Guide.
- Chairman Mills reported on pending legislation AB 847 (Ackerman) regarding the use of recycled water for injection into aquifers. He suggested that AGWA should consider supporting this legislation, and he then requested that this item be placed on the next agenda for action.
- Director Neufeld reported that he attended a hearing in Sacramento last week regarding California's energy crisis and noted that we need to work on local conservation programs to preserve our current resources, in addition to developing new resources. The Chairman requested that the energy issue be placed on the next agenda for update and discussion purposes.

April 16, 2001

- On a motion by Director Neufeld, seconded by Director Palmer, and unanimously carried, AGWA authorized Chairman Mills to send a letter to Mr. Dennis Dickerson, of LARWQCB, expressing AGWA's concerns about the potential impact of SUSMP on groundwater basins.
- Director Palmer reported that the Salinity Management Coalition (SMC) is considering a proposal to expand its activities in order to further promote the importance of salinity control measures. Director Palmer reported that the SMC is concerned about raising the necessary funds, and further stated that SAWPA is revising the proposal.
- Chairman Mills reported that staff at Orange County Water District is reviewing potential groundwater research projects in Southern California for AGWA's consideration. He also stated that he was contacted by Mr. Roy Martinez of AWWARF regarding AGWA's interest in other research programs.
- Director Blevins discussed the continuing problems with Chromium 6 in the San Fernando Basin, and he further noted that ULARA Watermaster sent a letter to the City of Glendale addressing its concerns about the waste of treated groundwater to the Los Angeles River.
- Chairman Mills reported that the EPA recently took action to delay implementation of the arsenic standard in order to allow time for additional scientific review.
- Director Neufeld reported that Chino Basin Watermaster formed an Emergency Energy Group to address energy concerns facing the water industry.
- Following discussion, on a motion by Director Hansen, seconded by Director Blevins, and unanimously carried, AGWA authorized Chairman Mills to send a letter to various state agencies regarding AGWA's position on the pending energy crisis and its support for the use of backup generators during periods of low energy supplies.
- Director Palmer reported that MWD is continuing the implementation of its new rate structure. He noted that draft language for the contractual supplies is available for review. He also stated that the Cadiz groundwater storage project proposal is moving ahead, and added that the environmental review of the project is ongoing. He next reported that MWD's Board approved nine conjunctive use projects, which will utilize \$45 million in Proposition 13 funding.
- Director Blevins reported that he plans to participate in OCWD's annual Children's Water Education

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Festival on May 1, 2001.

- Director Blevins reported that the Conjunctive Use Conference held on April 11-12, 2001 at the Ontario Convention Center went well, and added that there were approximately 180 people in attendance.
- Following discussion, during which AGWA's members expressed a preference for working with a California-based organization, and on a motion by Chairman Mills, seconded by Director Neufeld, and unanimously carried, AGWA agreed to coordinate its next conference with the Water Education Foundation. Director Blevins then offered to chair the Program Committee for next year's conference.
- Director Blevins reported that he is working with Chris Petersen, of Montgomery Watson, on reviewing the data collected for the conjunctive use report. He then suggested that AGWA develop a new report providing additional details about the groundwater basins and groundwater management in Southern California. Chairman Mills requested that this item be placed on the next agenda for additional discussion.
- Chairman Mills reported on pending legislation AB 847 (Ackerman) regarding the use of recycled water for injection into aquifers. He stated that, following discussions with ACWA's legislative staff about potential concerns with the legislation, the bill will become a two-year bill and amended to include language to provide protection against the impact of public health goals.
- The following legislative proposals were also reviewed: AB 599 (Liu); SB 538 (Costa); and SB 627 (Costa).
- Chairman Mills directed that the following items be placed on the next agenda for discussion and action: 1) Public Education Program and 2) Contract with Greenlief Communications for quarterly newsletter.