

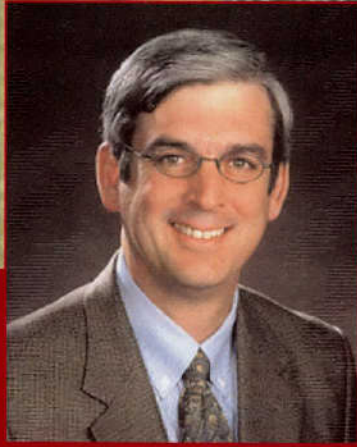
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EDWARDS AQUIFER AUTHORITY GENERAL MANAGER'S REPORT

November 2004

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On October 12, 2004, Doug Miller, Chairman of the Board of The Edwards Aquifer Authority announced the appointment of Robert J. Potts as General Manager. In this position, Mr. Potts will manage all aspects of the Authority operations, including a staff of 60 employees and a \$13.5 million budget. Mr. Pott's joined the Authority on November 1, 2004.

Chairman Doug Miller said, "We are fortunate to have someone of Robert's caliber in this position as we move forward and continue to resolve issues relating to the "cap," complete our habitat conservation plan and work with the legislature to define our role in water quality protection. I'm confident that Robert will provide the excellent leadership needed to complete these important tasks."

"I am very excited to have the privilege to work with the EAA board, staff and the citizens of this region to help manage and sustain this wonderful resource for everyone's benefit," said Robert Potts, Authority General Manager.

Potts comes to the Authority from the Westcave Preserve in Travis County, where he served as Executive Director. Prior to that position, Potts was employed by The Nature Conservancy in various capacities, including Vice President - South Central Division. As Vice President, he was responsible for managing all the Nature Conservancy activities in Mexico, as well as Louisiana, Arkansas, Oklahoma and Texas.

Potts is a 1980 magna cum laude graduate of Baylor University and a 1984 graduate of Columbia University School of Law. He has also completed course work at Texas A&M University towards a Master's degree in renewable natural resources.

Editor: Margaret Garcia
Graphic Design: Ileana R. Aleman

The General Manager's Report is published monthly.

Our Mission:

The Authority is committed to manage, enhance and protect the Edwards Aquifer system.

Notes From the Underground

Geary M. Schindel, P.G., Chief Technical Officer



Valdina Farm Sinkhole - Photo by Kurt Menking

I'm pleased to report that our tracer testing program is in full swing after the Authority's Board of Directors approved the renewal of our contract with George Veni and Associates (GVA) in September. Over the last month, staff has been working with GVA on initiating tracer testing in northern Bexar County planning additional tracer tests for the San Marcos and Comal springs area.

Preliminary results of two tracer tests performed in northern Bexar County have shown rapid groundwater velocities. The first dye injection utilized a sinkhole and the second injection site utilized a cave, both located in the Blanco Road and 1604 area. The preliminary results indicate groundwater velocities from these two sites of approximately 5,000 feet per day. Both dyes were detected in one of the Authority's monitoring wells, located almost 12,000 feet from the furthest injection point. The dye took less than 50 hours to reach the monitoring well passing across three mapped faults and bypassing other monitoring wells and actively pumping wells. The tracing tests show the rapid velocities of groundwater in the recharge zone, convergent groundwater flow occurring along preferential flow paths, and provides important insight into the role that faulting plays in controlling groundwater movement in the recharge zone.

The work has been spearheaded at the Authority by Steve Johnson who has worked closely with GVA to design and carry out the tracer tests. We have also had wonderful support from a number of local land owners as well as Bexar Metropolitan Water District and the Cadillac Water Corporation. Dye has not been detected in any of the public water systems.

Successful tracer testing in northern Bexar County is very difficult because of the presence of a number of public water supplies, relatively few monitoring points, and complicated geology. While the dye used in the tracer testing program is harmless and approved in the use of foods and medicine, we want to limit the amount of dye we use to minimize the possibility of discoloration of a water supply. This also limits our ability to detect the dye so we are very pleased with the results of northern Bexar County tracer tests. These are the first successful tracer tests that have been performed in the recharge zone in northern Bexar County. We hope to build on these results over the coming months.

We will also be building on previous work the Authority and GVA have performed at San Marcos Springs. The next phases of the study will test the groundwater flowpaths across a number of large displacement faults in the San Marcos area and provide valuable insight into the flow mechanics of the aquifer.

The data from the Authority's tracer testing program will be used to help support our conceptual understanding of the aquifer as well as make improvements on our model.

On another note, the Authority will take an active role in the upcoming National Ground Water Association (NGWA) conference to be held in San Antonio in April 2005. The conference is the first annual meeting of the Association of Groundwater Scientists and Engineers, a subdivision of the NGWA. The Authority will be leading a field trip of the Edwards Aquifer for professionals attending the conference.

The Authority will also be a sponsor for another conference entitled "Hydrogeology and Engineering Geology of Sinkholes and Karst" which will be held in San Antonio in October 2005. We will be chairing a special session on the Edwards Aquifer as well as leading a field trip. This is the premier conference on karst, held every two years. 2005 will be the first time this conference has been held in San Antonio. The conference was last held in Huntsville, Alabama.



October Board Meeting

by Margaret Garcia, Program Manager – Public Affairs

At their regular monthly meeting held Tuesday, October 12, 2004, Authority directors received a report from Chairman Gary Middleton, South Central Texas Water Advisory Committee (SCTWAC), on the 2004 Edwards Aquifer Authority Effectiveness Report. The 2004 report covered: 1) effectiveness measures addressed in the 2002 report, 2) accomplishments of the Authority, 3) key issues for SCTWAC, and 4) establishment of effectiveness measurements for the 2006 report. SCTWAC, established by the Texas Legislature in the Authority's enabling legislation, was created to interact with the Authority on issues related to downstream water rights. One of their responsibilities is to submit an effectiveness report on the Authority to the legislature by October 10, of each even numbered year.

In other business, Authority directors approved eight initial regular permits representing approximately 676 acre-feet of Edwards groundwater. Five of these permits were for applicants who had previously filed protests on their proposed permits. After further review of the applicants' files, all parties agreed the applicants provided additional documentation to substantiate their claims for more Edwards groundwater than originally proposed by staff. The board also denied two permit applications. To date, the Authority has issued 802 Initial Regular Permit applications representing, 532,615 acre-feet of Edwards Aquifer groundwater withdrawal rights, and denied 201 permit applications. Approximately 85 permit applications remain pending final action.

Authority directors also approved the staff evaluation of 1,100 acres of land located on the Edwards Aquifer Recharge Zone and Contributing Zone and instructed the General Manager to negotiate a conservation easement on approximately a 630-acre portion of the Reeh Ranch land acquisition in an amount not to exceed \$500,000. In addition, Authority directors instructed staff to evaluate another land acquisition opportunity presented by The Nature Conservancy of Texas for approximately 158 acres of land on the Edwards Aquifer Recharge Zone in western Comal County. Staff will evaluate this opportunity and report their findings to the Research & Technology Committee of the board for consideration.



Initial Regular Permits

by Steven D. Walthour, Program Development

In October, the Authority directors granted three groundwater withdrawal permits representing approximately 137.031 acre-feet of Edwards Aquifer groundwater withdrawal rights and denied two permit applications. The board also approved agreed final orders and permits for five applicants representing approximately 539.322 acre-feet of Edwards groundwater.

To date, the Authority has issued final decisions on 1013 Initial Regular Permit applications representing approximately 93% of all applications filed with the Authority. The Authority has granted 810 permits representing a total of 533,292 acre-feet of Edwards Aquifer permitted groundwater withdrawal rights and denied 203 permit applications. Approximately 79 permit applications remain, representing approximately 38,925 acre-feet of proposed Edwards's groundwater withdrawal rights.

For information regarding this program, contact Robert Burns, Permits Coordinator.

Edwards Aquifer Optimization Program Update

by John Hoyt, Program Manager –
Aquifer Science

The basic description and purpose of the Edwards Aquifer Optimization Program (EAOP) is repeated in the following paragraph to provide background information for new readers and to provide a reference for the regular reader. Subsequent paragraphs provide information relevant to the specific report month.

The Edwards Aquifer Authority (the Authority) has undertaken the Edwards Aquifer Optimization Program (EAOP), a comprehensive program for the study and management of the Edwards Aquifer. The EAOP includes a series of seventeen interrelated, mission-directed biologic and hydrogeologic research studies known as the Optimization Technical Studies, OTS. The OTS are designed to evaluate potential technical options for increasing the amount of water stored in the Edwards Aquifer and identify various methods for optimizing the amount of water available for withdrawal. Data and information obtained from the OTS will provide aquifer managers with the tools necessary to make scientifically-sound decisions to benefit aquifer users and preserve the environment supported by the aquifer, including the Comal and San Marcos Springs and downstream aquatic habitats.

In October, Authority directors voted to approve one OTS-related item, the Phase II scope of work and budget for a project titled: "Analysis of Recharge and Recirculation (R&R)." R&R is the concept of an integrated and coordinated approach to water management that combines groundwater and surface water sources and storage units. Todd Engineers of Emeryville, California is performing the analysis as part of a four-phase project. Phase I included six tasks conducted to define R&R alternatives and was completed in September 2004. The Phase I report can be viewed on the Authority's website at www.edwardsaquifer.org. Phase II, will consist of modeling numerous recharge scenarios to determine scenarios that have the maximum benefit on aquifer water levels and springflows.

(continue on next page)



Edwards Aquifer Optimization Program Update (continue)

by John Hoyt, Program Manager – Aquifer Science

In addition to the OTS-related item discussed above, the following OTS studies are currently underway or have been completed:

Biologic Studies

- Texas wild-rice reproduction (**completed**)
- Comprehensive and Critical Period Monitoring Program to Evaluate the Effects of Variable Flow on Biological Resources in the Comal and San Marcos Springs Ecosystems
- Cagle's Map Turtle instream flow and habitat requirements (**completed**)

Flowpath/Modeling Studies

- Edwards Aquifer computer model development - MODFLOW
- Estimation of hydraulic parameters for the Edwards Aquifer management model - MODFLOW (**completed**)
- Development of management modules for the Edwards Aquifer MODFLOW model
- Synoptic water level measurement events and well surveying to support the Edwards Aquifer MODFLOW model
- Karst aquifer modeling research (AWWARF study)
- Edwards Aquifer freshwater/saline water interface studies
- North Medina County Flow Path Study - Hydrologic budget analysis of Medina Lake and Diversion Lake
- North Medina County Flow Path Study - Helicopter electromagnetic survey in the vicinity of Seco Sinkhole (**completed**)
- North Bexar County Flow Path Study - Analysis of structural controls on the Edwards and Trinity Aquifers interface in the Camp Bullis Quadrangle and surrounding area (**completed**)
- North Bexar County Flow Path Study - Analysis of structural controls on the Edwards and Trinity Aquifers interface in the Helotes Quadrangle
- North Bexar County Flow Path Study - Helicopter electromagnetic survey in the vicinity of Camp Bullis
- Tracer testing of aquifer flowpaths at Comal and San Marcos springs and northern Bexar County.
- Investigation of groundwater systems in Uvalde County
- Leona Formation geophysical survey (**completed**)
- Development of updated methods for calculating recharge to the Edwards Aquifer (pilot models for the Blanco and Nueces river basins, recharge area, **completed**)
- Statistical Analysis of Hydrologic Data (**completed**)
- Edwards Aquifer fracture/conduit study (**completed**)

Recharge Enhancement Studies

- Range management - paired watershed study at Honey Creek and Government Canyon State Natural areas
- Range management - augmenting aquifer recharge through brush management
- Analysis of recharge and recirculation (Phase I completed)
- Evaluation of augmentation methodologies in support of in-situ refugia at Comal and San Marcos springs (completed)

If you have questions regarding the studies listed above, please call John Hoyt, P.G., Program Manager – Aquifer Science.

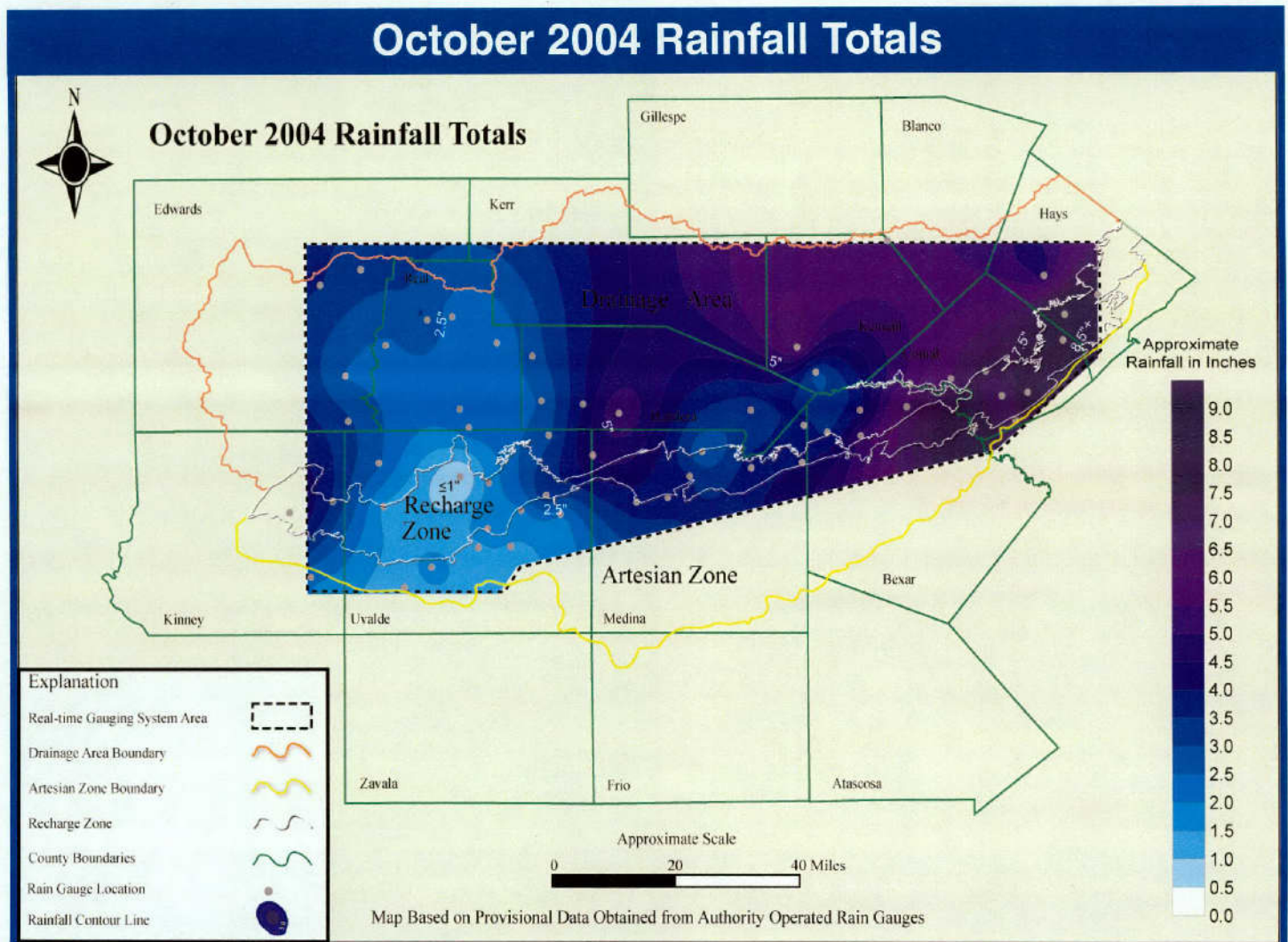
Real-time Precipitation Gauging System

by Earl Parker, Program Manager – Investigations and Monitoring

The Authority operates 58 "real-time" precipitation gauges that transmit data to the Authority office every 6 minutes. The rain gauges are generally located over the Edwards Aquifer Recharge Zone and Drainage Area. Acquired data is used in aquifer recharge calculations, precipitation enhancement program evaluations, and a variety of research projects.

The October 2004 rainfall totals map, as recorded by the real-time gauging system, indicated generally heavy regional precipitation was recorded over the gauging system area. In a change from recent months, rainfall measurements were above normal as recorded at the official National Weather Service stations at Hondo, San Antonio, New Braunfels and San Marcos; only in Uvalde County was rainfall measured below normal for October. Average rainfall this month measured at 3.7 inches (as compared to 2.2 inches in September) with the highest measurement of 9.2 inches recorded in southwestern Hays County. Rainfall totals exceeding 5 inches were recorded over large portions of the Edwards Aquifer Recharge Zone in northeastern Bexar, Comal and Hays counties. Rainfall measurements of less than 2 inches were recorded over large parts of Uvalde County with rainfall measured at less than 1-inch recorded at two gauging stations in the north-central portion of the county. None of the recording stations measured zero rainfall this month.

If you have questions regarding the Authority's real-time precipitation gauging system, please contact Earl Parker, Program Manager – Investigations and Monitoring.



Groundwater Withdrawal Transfers

by Rick Illgner, Program Manager – Groundwater Management Strategies

In October, Authority staff processed 18 partial sales and lease transfers representing 4,424.558 acre-feet in Edwards Aquifer groundwater withdrawal rights. Since the inception of the transfer program, Authority staff has processed 1,113 partial sales and lease transfers representing 206,267.843 acre-feet of groundwater withdrawal rights. Of the 1,113 partial sale and lease transfers completed, only 801 are currently active representing 145,219.916 acre-feet. Active transfers include 116 sub-leased transfers representing 27,156.952 acre-feet. In addition, Authority staff processed eight changes of ownership or miscellaneous transfers representing 264.278 acre-feet of Edwards Aquifer groundwater.

Transfer forms are located at the Authority's main office located at 1615 N. St. Mary's Street. For more information on the Authority's transfer program contact Naomi Esquivel, Program Associate.

October 2004 Transfer Table Summary

Transfer Description	Number of Transfers	Acre-Feet
October (10/1/04 - 10/31/04) Transfers (Partial Sales, Leases, Sub-leases, and Re-sales)	18	4,424.55
October (10/1/04 - 10/31/04) 100% Change of Ownership (Sale of Place of Use) or Miscellaneous Transfers	8	264.278
Total Number of Transfers (Partial Sales, Leases, and Sub-leases, and Re-sales) Completed as of 10/31/04	1,113	206,267.843
Total Number of Active Transfers (Partial Sales, Leases, Sub-leases, and Re-sales) as of 10/31/04	801	145,219.916
Total Number of Active Sub-leased Transfers as of 10/31/04	116	27,156.952
Total Number of Active Re-sale Transfers as of 10/31/04	126	4,547.692

Transfer forms are located at the Authority's main office located at 1615 N. St. Mary's Street. For more information, contact Naomi Esquivel, Program Associate.



Well Registration

by Rick Illgner, Program Manager – Groundwater Management Strategies

Since July, the Authority has encouraged voluntary water well registration by holding editorial board meetings with the region's newspapers, placing ads in regional publications and local newspapers, and through timely news releases.

In September, in addition to the ongoing public information campaign, the Authority conducted a mass mailing to persons in Medina County. Using Geographical Information (GIS) system data and Medina County tax appraisal rolls, properties likely to contain Edwards water wells were identified. On September 15, the Authority mailed 1,642 letters to property owners in Medina County. As of November 1, the Authority received 800 responses for a mailing response rate of 49 %. Medina County property owners, receiving a letter, were asked to register an existing well or record that no well exists on the property. Of the total responses received, 189 wells were registered and 611 property owners recorded that they did not own an Edwards well.

As of November 1, 323, wells have been registered since the inception of the well registration program. A mail out in Bexar County will be conducted the week of December 6, 2004.

In addition, the Authority has elected to temporarily waive the registration fee and has streamlined the registration process in order to facilitate volunteer registration. Voluntary registrants can register over the telephone by simply calling the toll-free number, 1-888-363-6037. A bilingual operator will be available 24 hours per day, seven days a week to assist them. If they prefer, they may register online by accessing the Authority's web page at www.edwardsaquifer.org. As an added bonus, the first 500 registrants will receive a voucher good for a free water analysis; a bacteria test for their well water.

Well Construction

by Rick Illgner, Program Manager – Groundwater Management Strategies

In September, seeding activity over the EAA target area was very quiet due to high-pressure over the target area. Most of the seeding activity occurred in the latter half of the month when an upper level ridge shifted to the east and allowed more weather systems to push into the area. Around mid-month, Tropical Storm Ivan pushed onshore in southwest Louisiana. Subsidence associated with the storm moved into the target area, suppressing convection. During the last 10 days of the month, a more active pattern affected the area, with seeding missions on the 22nd, 23rd and 24th as tropical moisture streamed over the area. In all, four seeding events were logged for the month. A total of 32 flares were burned over (Bandera - 6; Bexar - 2; Medina - 6; Uvalde - 18).

To date our contractors have completed 34 seeding missions, burned 277 flares and distributed 12,126 grams of Silver Iodine over Bandera, Bexar, Medina and Uvalde counties this season. The season ended on October 31, 2004.

Precipitation Enhancement Program

by Rick Illgner, Program Manager – Groundwater Management Strategies

In September, seeding activity over the EAA target area was very quiet due to high-pressure over the target area. Most of the seeding activity occurred in the latter half of the month when an upper level ridge shifted to the east and allowed more weather systems to push into the area. Around mid-month, Tropical Storm Ivan pushed onshore in southwest Louisiana. Subsidence associated with the storm moved into the target area, suppressing convection. During the last 10 days of the month, a more active pattern affected the area, with seeding missions on the 22nd, 23rd and 24th as tropical moisture streamed over the area. In all, four seeding events were logged for the month. A total of 32 flares were burned over (Bandera - 6; Bexar - 2; Medina - 6; Uvalde - 18).

To date our contractors have completed 34 seeding missions, burned 277 flares and distributed 12,126 grams of Silver Iodine over Bandera, Bexar, Medina and Uvalde counties this season. The season ended on October 31, 2004.

Aquifer Management Fees

by Brock Curry, Program Manager – Administration

On January 13, staff issued 294 non-agricultural aquifer management fee invoices based on authorized use for 2004. These invoices were based on an aquifer management fee rate of \$29.00 per acre-foot. As of October 31, the Authority has collected \$7,764,169 or 82% of the budgeted amount. Aquifer management fees totaling \$25,000 from 25 pumpers are considered delinquent.

Aquifer management fees for 2003 agricultural use were due January 31. As set forth in the Edwards Aquifer Authority Act, the aquifer management fee rate for agricultural users is \$2.00 per acre-foot. As of October 31, the Authority has received reports from 660 agricultural users totaling 82,996 acre-feet of groundwater used in 2003. To date, the Authority has collected \$175,122 in aquifer management fee revenue or 87% of the amount budgeted.

If you have questions regarding the aquifer management fees, please call Brock Curry, Program Manager – Administration.

Monthly Water Level & Springflow Report

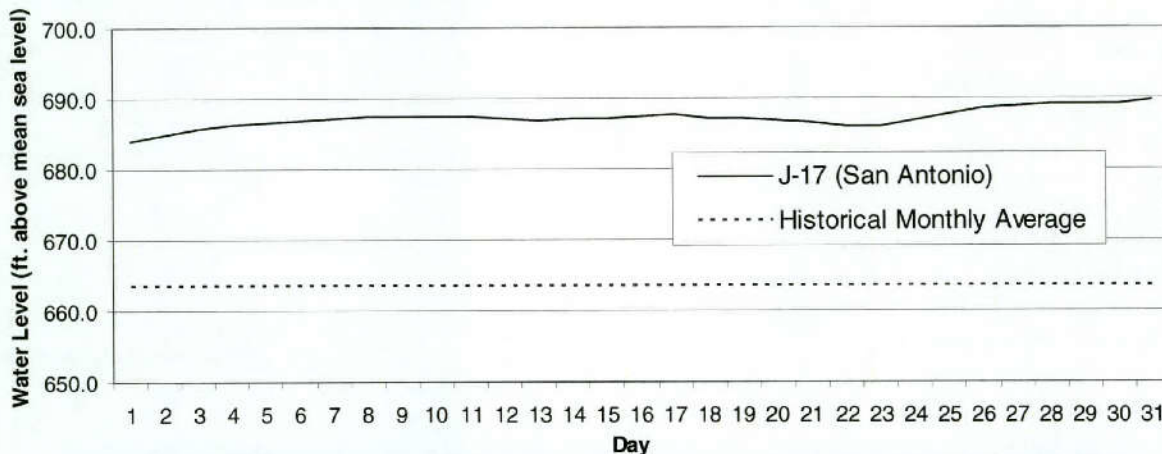
Aquifer levels can be viewed on the Authority's web site at www.edwardsaquifer.org

J-17 (San Antonio) Index Well – October 2004

The J-17 index well level average in October 2004 was 687.2' above mean sea level (msl) - up 2.5 feet from last month's average of 684.7' msl. The October 2004 high was 689.6' (October 31) and the low was 683.9' (October 1), a range of 5.7 feet.

The October 2004 average is 23.8 feet above the J-17 historical monthly average for October of 663.4' msl.

J-17 (San Antonio) Index Well - October 2004



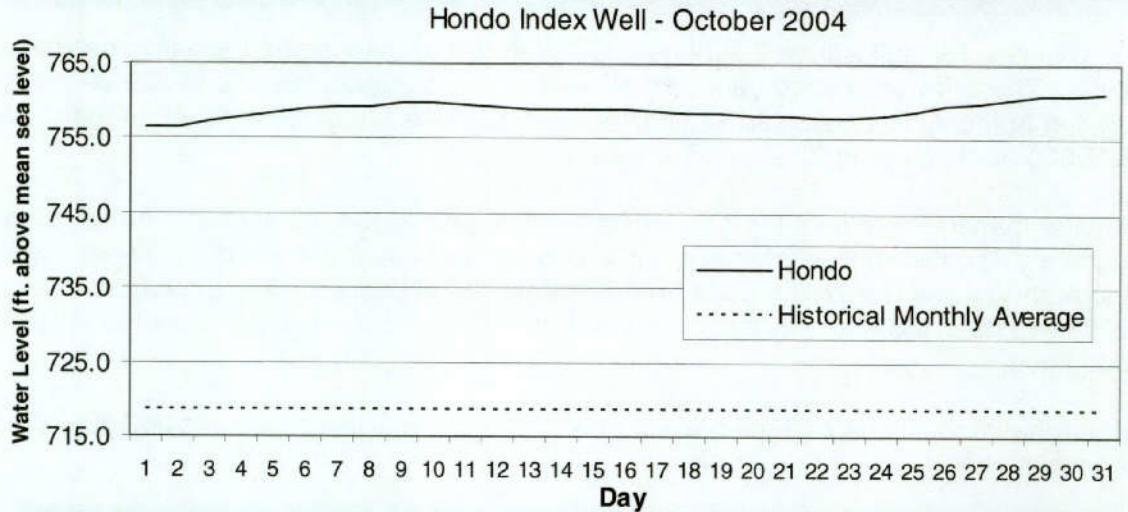
J-17 (San Antonio) Index Well – Combined Historic Record for Two Wells: 1932-2003

	October 2004	October 2003	Historical Record	
Maximum	689.6	684.2	June 14, 1992	703.3
Minimum	683.9	682.5	August 17, 1956	612.5
Average	687.2	683.4	October (1932-2003)	663.4

Hondo Index Well – October 2004

The Hondo index well level average in October 2004 was 758.9' above mean sea level (msl) - up 1.1 feet from last month's average of 757.8' msl. The October 2004 high was 761.2' (October 31) and the low was 756.5' (October 1), a range of 4.7 feet.

The October 2004 average is 40.3 feet above the Hondo Well historical monthly average for October of 718.6' msl.

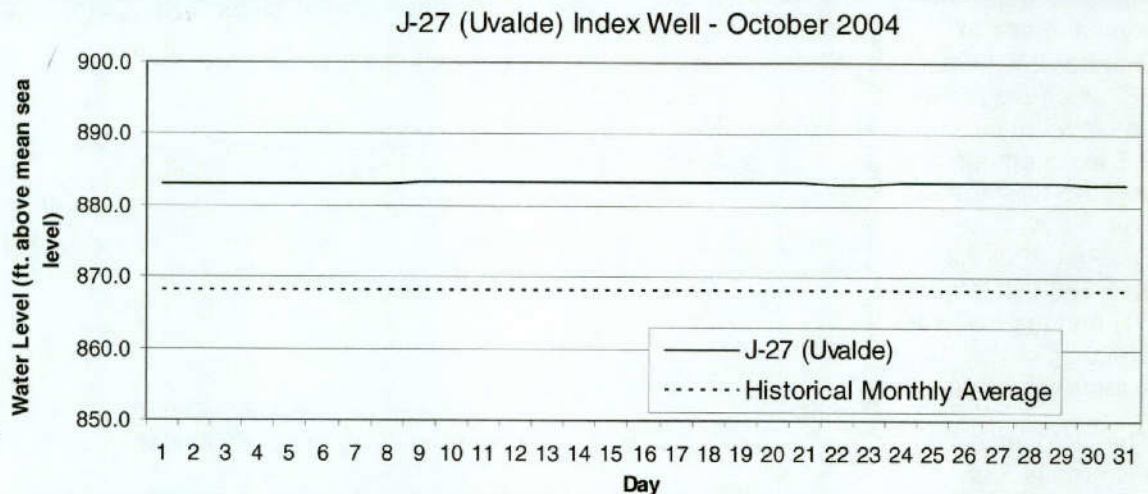


Hondo Index Well – Historic Record: 1986-2003				
	October 2004	October 2003	Historical Record	
Maximum	761.2	742.8	June 14, 1992	779.0
Minimum	756.5	741.4	June 29, 1990	651.0
Average	758.9	742.2	October (1986-2003)	718.6

J-27 (Uvalde) Index Well – October 2004

The J-27 index well level average in October 2004 was 883.2' above mean sea level (msl) - up 0.3 foot from last month's average of 882.9' msl. The October 2004 high was 883.2' (last occurring on October 31) and the low was 883.1' (last occurring on October 4), a range of 0.1 feet.

The October 2004 average is 15.2 feet above the J-27 historical monthly average for October of 868.0' msl.

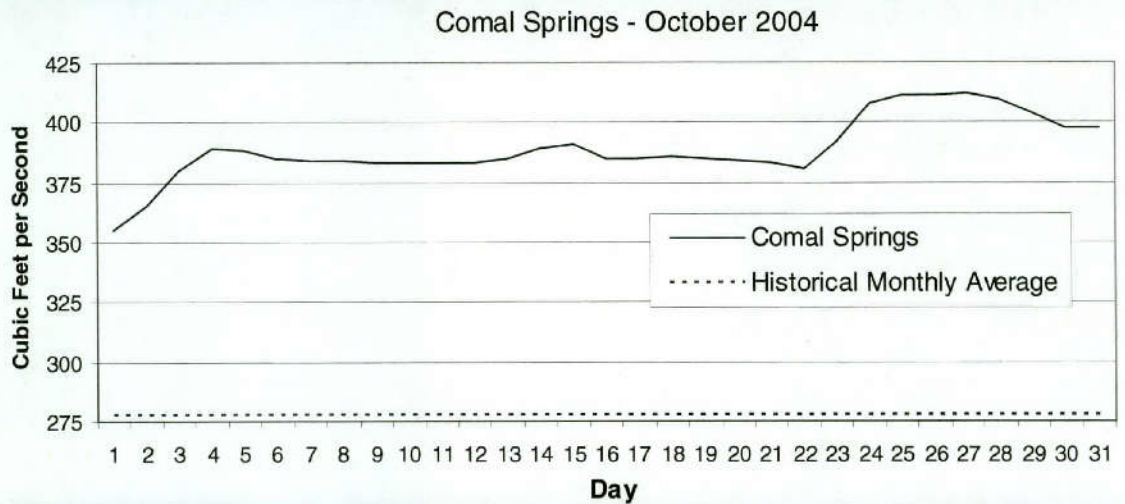


J-27 (Uvalde) Index Well – Historic Record: 1940-2003				
	October 2004	October 2003	Historical Record	
Maximum	883.2	879.9	June 15, 1987	889.0
Minimum	883.1	878.4	April 13, 1957	811.0
Average	883.2	879.7	October (1940-2003)	868.0

Comal Springs – October 2004

Comal springflow averaged 389 cubic feet per second (cfs) in October 2004 - up 28 cfs from last month's average of 361 cfs. Comal springflow ranged from a maximum of 412 cfs (October 27) to a minimum of 355 cfs (October 1), a range of 57 cfs.

The October 2004 average was 111.5 cfs above the historical monthly average of 277.5 cfs.



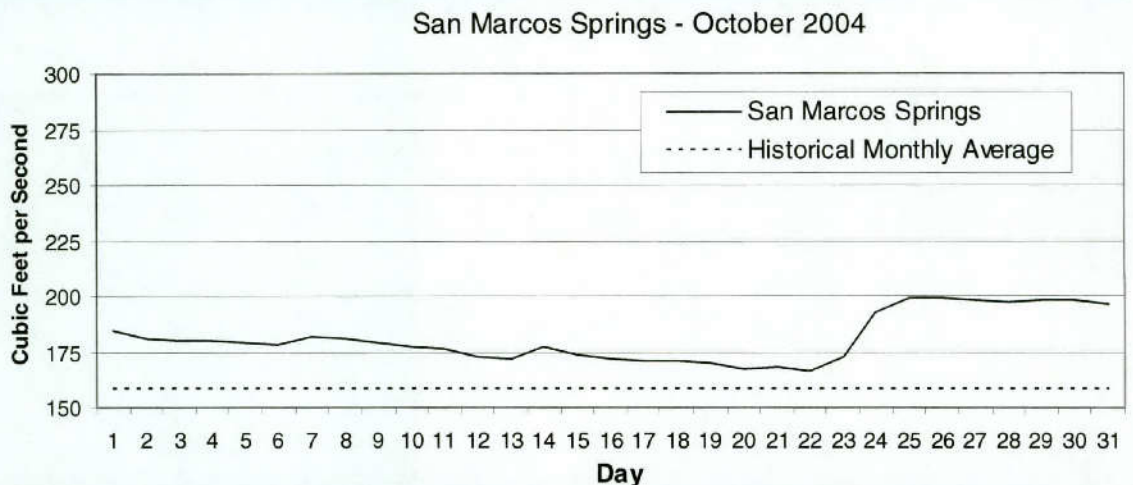
Comal Springs Historic Record: 1927-2003

	October 2004	October 2003	Historical Record	
Maximum	412	401	October 14, 1973	534.0
Minimum	355	367	August 8, 1956	0.0
Average	389	379	October (1927-2003)	277.5

San Marcos Springs – October 2004

San Marcos springflow averaged 181 cfs in October 2004 - down 21 cfs from last month's average of 202 cfs. San Marcos springflow ranged from a maximum of 199 cfs (October 26) to a minimum of 166 cfs (October 22), a range of 33.0 cfs.

The October 2004 average was 23.1 cfs above the historical monthly average of 157.9 cfs.



San Marcos Springs Historic Record: 1956-2003

	October 2004	October 2003	Historical Record	
Maximum	199	196	March 12, 1992	451.0
Minimum	166	176	August 15, 1956	46.0
Average	181	188	October (1956-2003)	157.9



**EDWARDS AQUIFER
AUTHORITY**

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BE AQUIFER AWARE

CALENDAR OF EVENTS FOR NOVEMBER & DECEMBER

NOVEMBER

Tues. 11/9	3 PM	Board Meeting, Edwards Aquifer Authority, Conference Center, 1615 N. St. Mary's Street., San Antonio, TX
Tues. 11/11		EAA Offices Closed, Veteran's Day Holiday
Tues. 11/16	6 PM	Draft Habitat Conservation Plan Public Hearing, Uvalde Civic Center, 300 E. Main Street, Uvalde, TX
Wed. 11/17	6 PM	Draft Habitat Conservation Plan Public Hearing, Edwards Aquifer Authority, 1615 N. St. Mary's Street, San Antonio, TX
Tues. 11/30	11 AM 1 PM 2 PM	Aquifer Management Planning Committee Legislative Committee Permits Committee

DECEMBER

Wed. 12/1	11 AM 2 PM	Finance/Administrative Committee R&T Committee
Mon. 12/6	12 PM	Executive Committee
	6 PM	Proposed Rules Public Hearing, San Marcos Activity Center, 501 E. Hopkins, San Marcos, TX
Wed. 12/8	6 PM	Proposed Rules Public Hearing, Edwards Aquifer Authority, 1615 N. St. Mary's Street., San Antonio, TX
Mon. 12/13	6 PM	Proposed Rules Public Hearing, Hondo Community Center, 1014 18th Street, Hondo, TX
Tues. 12/14	3 PM	Board Meeting, Edwards Aquifer Authority, Conference Center, 1615 N. St. Mary's Street, San Antonio, TX
Fri. 12/24		EAA Offices Closed, Christmas Holiday
Fri. 12/31		EAA Offices Closed, New Year's Eve Holiday

Authority meeting times & dates are subject to change.

Visit our website at www.edwardsaquifer.org for up-to-the minute information on meeting times and dates.