San Antonio Water System Water Resource Development Program

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The Edwards Aquifer - San Antonio's traditional water supply - is a finite resource. Regional pumping demands already exceed the aquifer's ability to sustain them along with natural springflows, downstream environmental needs and user demands along the Guadalupe River during a drought.

Therefore state law limits the amount of water San Antonio can withdraw from the aquifer. The San Antonio Water System expects its final permit from the Edwards Aquifer Authority to be approximately 135,000 acre-feet per year under drought conditions. This contrasts with the 180,000 acre-feet per year that SAWS actually pumps. Further, SAWS' permit will be reduced to about 120,000 acre-feet in 2008 as part of an overall region-wide reduction in allowable pumping permits.

Even with aggressive conservation to reduce per capita consumption, San Antonio's water supply needs will nearly double by 2050. In addition, San Antonio should have at least a 10-year reserve supply over actual projected demand as protection against a drought.

In 1998, the SAWS Board recommended and City Council adopted a 50-year water supply plan to meet these challenges. This plan was the final product of a long series of planning efforts, involving a succession of broad-based citizen committees over nearly a decade.

In the meantime, the Texas Legislature has also established a "bottom-up" process to develop a new State Water Plan based on a series of regional plans. Local projects will not be funded or permitted by the state unless they are included in the appropriate regional plan. San Antonio's plan is consistent with the plan for the 20-county Region "L" surrounding our city. These plans do not include any large new surface reservoirs.

WATER RESOURCE MANAGEMENT / EDWARDS AQUIFER AUTHORITY

Usage of water from the Edwards Aquifer, including usage by the City of San Antonio, has steadily increased over time. The Edwards Aquifer is the primary source of water for the agricultural economies in the two counties west of San Antonio and is the source of water for the Comal and San Marcos Springs in New Braunfels and San Marcos, respectively, which depend upon springflow for their tourist-based economies. Edwards Aquifer water from these springs provides the habitat for species listed as endangered by the U.S. Fish & Wildlife Service under the Endangered Species Act. Water levels in the Edwards Aquifer are affected by rainfall or lack thereof, water usage regionwide and discharge from the springs. One unique aspect of the Edwards Aquifer is its prolific rechargeability and the historical balance between recharge and discharge in the form of well withdrawals and spring discharges.

The various litigation and regulatory efforts to manage withdrawals from the Edwards Aquifer resulted in passage of the Edwards Aquifer Authority Act in 1993 and its amendment in 1995 to allow its implementation. The Edwards Aquifer Authority began operations on July l, 1996, and implementation of the State Legislation will ultimately result in elimination of uncertainties concerning access to and use of Edwards Aquifer water by the City of San Antonio and all other aquifer users.

The Edwards Aquifer Authority will have geographic jurisdiction over the entire Edwards Aquifer and will manage water usage of the Edwards Aquifer through a well permitting system limiting overall permitted withdraws and requiring water users to implement water usage reduction measures during critical dry periods. The Edwards Aquifer Authority will be responsible for insuring compliance with the Endangered Species Act and obtaining administrative relief form the application of the Act's provisions through an incidental take permit.

Implementation of the legislation and management of the Edwards Aquifer will benefit the City of San Antonio and the San Antonio Water System. The legislation should provide a basis for resolving disputes concerning the application of the Endangered Species Act to the aquifer and will prevent further diminution of usage by existing users such as the City of San Antonio caused by new users and additional demand. The legislation creates permitted rights and hence, a market in the limited resource and an incentive to implement conservation measures region wide. The System believes that implementation of the legislation will also ultimately result in the elimination of litigation threats to existing water usage from the Edwards Aquifer.

WATER RESOURCE LITIGATION

In Sierra Club v. City of San Antonio, et al, (M)-96-CA-097) filed June 10, 1996, in the United States District Court, for the Western District of Texas, the Sierra Club brought suit against the City of San Antonio and its Water System, Bexar Metropolitan Water District and the Department of Defense, including the U.S. Air Force and the U.S. Army. The suit also names as defendants other individuals, corporations and municipal governments as representatives of defendant classes consisting of all municipal, commercial, domestic, industrial, irrigation and livestock pumpers of water in Bexar, Atascosa, Medina, Uvalde, Kinney, Hays and Comal Counties who rely on the Edwards Aquifer as their source of water. The suit alleges that the pumpers are "taking" threatened or endangered species by causing the spring flows at Comal and San Marcos Springs to fall below levels that the U.S. Fish and Wildlife Service has previously determined are necessary to prevent both "take" and "jeopardy" of threatened and endangered species at or immediately downstream of the springs. The plaintiffs in the Sierra Club suit petitioned the court to enter a temporary restraining order and preliminary injunction against aquifer users, including the City of San Antonio. After an evidentiary hearing on August 1, 1996, on August 23, 1996 the District Court entered a preliminary injunction requiring the City to reduce water usage to 1.2 times winter average, to be effective October 1, 1996. On August 26, 1996, the City of San Antonio filed an appeal from and moved to stay the preliminary injunction with the U.S. Fifth

Circuit Court of Appeals. The Fifth Circuit Court granted the stay request on September 10, 1996 and, after oral argument and briefing, reversed the District Court decision and vacated the injunction. The Sierra Club's, request for rehearing and rehearing *en banc* was denied on June 20, 1997. The club's petition for *writ of certiorari* to the U.S. Supreme Court was denied. Although there are currently no judicially imposed limits on San Antonio's ability to pump from the Edwards Aquifer, the matter remains pending before the District Court, subject to the Fifth Circuit's decision implying that Burford abstention should apply.

While this litigation has been expensive and time consuming, the System has been successful to date in defending against any efforts to have Edwards Aquifer water usage regulated by the Federal District Court to protect the endangered species.

LONG-RANGE WATER RESOURCE PLANNING AND DEVELOPMENT:

In 1996, the San Antonio City Council appointed a 34 member citizens committee to develop strategic policies and goals for water resource management. The Citizens Committee on Water Policy report "A Framework for Progress: Recommended Water Policy Strategy for the San Antonio Area" was unanimously accepted by City Council, becoming the foundation for the System "Water Resources Plan." On November 5, 1998, the City Council accepted the Water Resources Action Plan "Securing Our Water Future Together" as the first comprehensive water resources plan for the City. The Water Plan establishes programs for immediate implementation as well as a process for developing long-term water resources. In 1999 the Citizens Advisory Panel began the evaluation process for various projects using the criteria established in the "Framework Report." This plan lays out the framework of many diverse programs to meet the Systems projected needs.

<u>Conservation Program</u> The System has an aggressive water conservation program which aims to reduce pumping to 140 gallons per person per day over the next five to ten years. This will be accomplished through a variety of means including consumer education, rebates for water-efficient technologies, system improvements to prevent water loss and other measures. . Per capita water consumption for System customers dropped to 143 gallons per day per person (in year 2002). The System has a unique commercial conservation program as well as a strong residential program that includes:

- *Leak detection and repair* – SAWS has four full time crews, which inspect the distribution system for leaks and damage.
- *Watering Restrictions* – The City of San Antonio permits lawn watering only between 8:00 p.m. and 10:00 a.m. all year around.
- *Conservation rate structure* – SAWS drinking water rate structure is a four block inclining rate which means that the more water used on a monthly basis the higher the cost per 1000 gallons. Additionally, there is a standard rate and a higher seasonal for the months of July through October when demand peaks.
- *Education Program* – SAWS Water Resource Education Division offers a variety of programs and activities on an on-going basis to better accommodate the varied needs of San Antonio residents.

- *Adul*t – professional training for the construction and industry trades permitted under the NPDES program, teacher workshops, neighborhood associations, Master Gardeners, and various community events.
- *Youth* – K-12 curriculum, Watershed Festival, Scout Merit Badge programs, Student Water Environmental Council, and Community Learning Centers.
- *Special Projects* – initiated outdoor nature centers/classrooms at Mission San Jose, Government Canyon, and Stone Oak.

Purchase/Lease of Additional Edwards Rights**.** SAWS will acquire approximately 50,000 acre-feet of additional Edwards Aquifer pumping rights (42,500 acre-feet under drought conditions) by purchase or lease of water rights from irrigators and other permit holders in the region. To date, SAWS has acquired about 52,000 acre-feet, including 20,000 acre-feet in permanent acquisitions and 32,00 acre-feet under lease. SAWS will work to convert leased water rights into permanent acquisitions as the market further develops. However, SAWS is committed not to acquire so much water from this source that it would undermine the agricultural economy of the region.

Recycled Water Program The recycled water program is now in the fourth year of active construction and has completed Phase I. Construction efforts have been concentrated on completion of two major branches of the system serving the eastern and western portions of the city. The System is designed to deliver up to 35,000 acre feet per year of reclaimed water for non-potable water uses for those currently using Edwards Aquifer water. Over 69% of the water has been allocated to customers who will use recycled water for industrial processes, cooling towers, and irrigation.

Oliver Ranch/BSR Projects The System also has contracted for delivery of approximately 6,200 af/yr of non-Edwards water from the Cow Creek aquifer from two properties located in northern Bexar County. Delivery of water from these projects began in February 2002.

Western Canyon. The Western Canyon project represents a partnership between the System, the San Antonio River Authority (SARA), Guadalupe-Blanco River Authority (GBRA), and Bexar Metropolitan Water District (Bexar Met) for the delivery of Canyon Lake water. The System will receive approximately 3,000 acre feet per year for service to Northern Bexar County. Water from this project will be firm during times of drought and is expected to be delivered in mid 2004. This project serves as a model for the negotiation of a larger water purchase from the GBRA for the System and Bexar County.

Aquifer Storage and Recovery Program (ASR). Land for the ASR has been acquired and the project concept is being finalized. The project is expected to yield approximately 22,000 af/yr by storing Edwards aquifer rights for use during peak summer months. It is anticipated that the site will produce up to the same volume of groundwater for a few years while the ASR prototypical wells are operated. Delivery is scheduled for December 2003. Design and construction of the pipeline, treatment plant, well field, pump station, and system integration are underway. The project is currently on schedule.

Lower Guadalupe Diversion Project SAWS and San Antonio River Authority (SARA) has entered into a contract with Guadalupe Blanco River Authority for delivery of approximately 94,500 acre feet of water per year from the lower stretch of Guadalupe and San Antonio Rivers. The contract provides for delivery of water for 50 years as well as a 7-year study period to determine the feasibility of the project. The diversion for the project is located below the confluence of the Guadalupe and San Antonio Rivers. This supply will meet not only customers within the SAWS service area but will also be available to other potential customers along the pipeline route.

Simsboro Project On December 30, 1998, contracts for the acquisition of up to 90,000 acre feet per year of water rights were executed with the Aluminum Company of America and the City Public Service Board of San Antonio, Texas. The feasibility of the delivery options under this contract is under study. Groundwater availability studies conclude that 55,000 af/yr is sustainable from this project. This project has been included in regional and state water plans.

Lower Colorado River Authority Project (LCRA)/(SAWS) Project - An Agreement with the Lower Colorado River Authority (LCRA) and SAWS was signed in early 2001. This project is scheduled to develop up to 330,000 acre feet of additional supply within the Colorado River basin. Of that total approximately 150,000 acre feet of surface water from the lower Colorado River Basin will be transported to the SAWS distribution system. Legislation was introduced and signed by the Governor (HB 1629) to authorize LCRA to sell water outside their statutory boundary to the System. Both the System and LCRA will work through the public participation process to gather and include input from citizens and develop the necessary studies to determine the feasibility of the project over the next 7 years.

Edwards Aquifer Optimization (AO). Edwards Aquifer Optimization is a comprehensive plan that identifies and evaluates technical options to increase available water in the aquifer and to use the aquifers storage capacity more efficiently. The Edwards Aquifer Authority is the lead organization in this project, with the System assisting in the funding and technical guidance. The AO Program will evaluate a number of alternatives that have been proposed to maintain or increase available water in the aquifer. The goal of the program is to determine the feasibility of these alternatives, test them in a pilot project phase, and recommend the implementation of one or more that are found to be favorable. Another goal of the program is to determine through sound science whether the pumpage cap, currently 450,000 acre-ft./year, should be lowered to 400,000 acre-ft./yr. in 2008, as is legislated by SB 1477. SB 1477 states that the reduction in the pumpage cap may be revised if some of these technical options determined through scientific research prove feasible. The AO studies are planned for completion in time to answer this question by 2007.

SB-1 Regional Planning Process. The System is participating in the implementation of SB-1, a major water law reform bill to develop a statewide water plan. The bill made significant changes to Texas water marketing, water transfers, and reuse. It requires that new water supply projects be selected and approved through a regional planning process.

The final plan was published in January 2001 for inclusion in the statewide plan. All of SAWS major water resource projects are included in the regional plan (Region L) submitted to the Texas Water Development Board.

The System has been designated as one of the initial members of the planning group for the South Central Regional Water Planning Area (Region L). This region covers the Edwards Aquifer Region, the Upper Nueces River Basin and the San Antonio and Guadalupe River Basins. The planning group is developing a regional water plan, which will identify the 50 year water demands for the region, and determine the strategies to best meet those demands.

PROGRAM FUNDING:

On October 19, 2000, the City Council approved the establishment of the Water Supply Fee as an integral part of the water rates and as the funding mechanism for the development of water resources. Because of the long term requirement in the development of water resources, the City Council approved a five year plan giving the Board of Trustees the ability to increase rates over the next five years. This water supply fee is structured to be a dynamic long term funding mechanism to fund both the short term and long term development of water supply projects. This funding mechanism will ensure that the citizens of San Antonio will have an ample water supply to meet the future needs of its citizens.