EDWARDS UNDERGROUND WATER DISTRICT

DROUGHT MANAGEMENT PLAN

Approved by the Board of Directors

August 23, 1988

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LIST OF ABBREVIATIONS, ACRONYMS AND SYMBOLS

Act	Tex. Rev. Civ. Stat. Ann. art. 8280-219, as amended
ac - ft	acre - feet
cfs	cubic feet per second
District	Edwards Underground Water District
DMP	Drought Management Plan
ft msl	feet above Mean Sea Level
gpd	gallons per day
TDS	total dissolved solids
UDMP	User Drought Management Plan
<	Less than
>	Greater than

CHAPTER 1 BACKGROUND

INTRODUCTION

The Edwards Underground Water District (District) was authorized by the Texas Legislature in 1987 to develop, implement and enforce a drought management plan (DMP). The authorization was included in H.B. 1942, which amended the District's enabling act (Tex. Rev. Civ. Stat. Ann. art. 8280-219, as amended) (the "Act"). This Drought Management Plan establishes the framework by which the ground water of the Edwards Aquifer can be managed during a drought. The DMP applies only to water in the Edwards and associated limestone formations within the District. Therefore, it is a special plan for specific times.

GOALS AND PRINCIPLES

The following are the goals and principles of the drought management plan.

GOALS:

- · Protect human health and safety.
- Protect water quality in the Edwards Aquifer.
- · Share the impacts and hardships caused by a drought.
- Minimize disruption of the economy within the District, including the agricultural sector, so that employment and jobs are protected.
- Minimize the length of time Comal Springs will be dry, in order to protect downstream water rights, meet human health and safety and livestock requirements, and preserve regional economic stability.
- Prevent San Marcos Springs from going dry, in order to protect downstream water rights, meet human health and safety and livestock requirements, preserve regional economic stability and maintain the aquatic ecosystem.

PRINCIPLES:

- Provide advance knowledge to the public of how water demands will be reduced during times of drought.
- · Provide for local management and local implementation of demand reduction measures.
- Provide flexibility to change the DMP as new information and alternative or supplemental water sources become available.
- Control the rate of decline in aquifer water levels by monitoring and reducing the volume of water pumped. This may not prevent water levels from going below historic lows.

CHAPTER 2 DROUGHT STAGES AND REQUIRED RESPONSES

INTRODUCTION

The Drought Management Plan (DMP) provides objective standards for determining that drought conditions exist, how long they continue and when a drought has ended. These standards also define increasing stages of drought severity. Drought conditions and stages are defined by hydrologic parameters which will be monitored by the District. Reduction goals and demand reduction measures are also established for each stage of drought severity.

Upon declaration of a drought, users will be required to initiate demand reduction measures to reduce pumping of the aquifer. Minimum demand reduction measures are defined in this document. Additional measures will be identified in User Drought Management Plans (UDMPs) which the users must prepare pursuant to District rules. The combination of this District Drought Management Plan document and the UDMPs constitute the District's complete drought management program.

DETERMINATION OF DROUGHT MANAGEMENT STAGES

There are five defined stages of drought severity and associated demand reduction responses. The hydrologic trigger conditions which define each stage and the reduction goals for each are presented in Table 2-1.

Implementation of demand reduction measures will always begin with the requirements of Stage I - Aquifer Awareness. Each subsequent drought management stage will be declared in progression. When conditions are not as described in Table 2-1, the District will exercise discretion in determining when to declare respective stages.

TRIGGER CONDITIONS

Different trigger condition parameters are used for declaring the various stages of drought severity (Table 2-1):

Stage

II - Aquifer Watch

III - Aquifer Alert

IV - Aquifer Risk

I - Aquifer Awareness

V - Aquifer Emergency

Trigger Conditions

Rainfall, water level and springflow Water level and springflow Water level and springflow Water level and springflow Water quality

RAINFALL

To declare Stage I - Aquifer Awareness, rainfall at Uvalde and San Antonio must be less than the historical average for these locations. The sum of the rainfall at these two locations for the preceding 12 months is compared to the sum of the historical annual average rainfall at these locations. If the rainfall during the preceding 12 months is less than 80% of the historical average, the rainfall trigger condition for declaration of Stage I - Aquifer Awareness is met.

AQUIFER WATER LEVELS

The elevation of water level in the aquifer is a key parameter in determining the drought severity for each of the first four stages. The values used to determine each stage, both when entering successively more restrictive management stages and when easing restrictions as conditions improve, are based on the 10-day moving averages of the elevations of Well AY-68-37-203 (J-17) in San Antonio and Well YP-69-50-302 in Uvalde.

TRIGGER CONDITIONS				RESPONSE (1)								
RAINFALL (in) (2)	RAINFALL (in) (2)WATER LEVELS (3)(ft msl) Uvalde (4)Uvalde (4)Bexar (5)		SPRINGFLOW San Marcos	SPRINGFLOW(cfs)(6) San Marcos Comal		EAST Stage Reduction Goal				WEST Reduction Goal		
						Mun	Ind/Mi	sc Irrig		Mun	Ind/N	lisc Irrig
<80% of historic average	>870	<644 <628 <612	110 80 50	160 70 0(9)	I-Awareness II-Watch III-Alert	10% 15% 25%	(7) (7) (7)	(8) (8) (8)	None None None	None None None	None None None	e None None None
	<870	<644 <628 <612	110 80 50	160 70 0(9)	I-Awareness II-Watch III-Alert	10% 15% 25%	(7) (7) (7)	(8) (8) (8)	I-Awareness I-Awareness I-Awareness	10% 10% 10%	(7) (7) (7)	(8) (8) (8)
	<840	<644	110	160	II-Watch	15%	(7)	(8)	II-Watch	15%	(7)	(8)
	<829	<628	80	70	III-Alert	25%	(7)	(8)	III-Alert	25%	(7)	(8)
	<811	<612	50	0(9)	IV-Risk	30%	(7)	Reduce pumpage to 2 ac-ft/ acre/yr	IV-Risk	30%	(7)	Reduce pumpage to 2 ac-ft/ acre/yr
	(10)	(10)			V-Emergency	(11)	(11)	(11)	V-Emergency	(11)	(11)	(11)

TRIGGER CONDITIONS AND RESPONSE GOALS

(1) Stages are defined for areas east and west of the Bexar/Medina county line.

(2) The sum of the Uvalde and San Antonio rainfall for the last 12 months. Uvalde rainfall is measured at the National Weather Service gage (41-9268-6) located at the Texas A&M Research Experiment Station in Uvalde. San Antonio rainfall is measured at the National Weather Service gage (41-945-7) located at the San Antonio International Airport.
 (3) Water levels are calculated as 10-day moving averages.

(4) Well YP-69-50-302.

(5) Well AY-68-37-203 (J-17).

(6) San Marcos and Comal springflows as correlated to Well AY-68-37-203 (J-17).

(7) Industrial, commercial and military users will be encouraged to meet the reduction goals in Table 2-2 and to consider reuse, recycling and alternative or supplemental water supply sources. They will be required to comply with the landscape irrigation, golf course, swimming pool, aesthetics and other outdoor use restrictions.

(8) The District anticipates that irrigation pumpage will be reduced because of lowered pump efficiencies, and voluntary cessation or reduction in volume pumped due to increased energy costs. The District has chosen, therefore, not to quantify the reduction until Stage IV-Aquifer Risk is declared. The District will monitor reported irrigation pumpage to evaluate whether reductions actually occur before Aquifer Risk limits are imposed.

(9) Comal Springs ceases to flow when the water level in Bexar County (J-17) is approximately 620 feet.

(10) Unacceptable deterioration of water quality.

(11) Specific reduction goals will be established by the District based on measures needed to protect human health and safety and livestock watering.

NOTE: The District will exercise discretion in determining stages when conditions are not as described.

WATER QUALITY

A specific water level cannot be identified at this time as an appropriate trigger for Stage V - Aquifer Emergency. The following approach will be used to determine if Aquifer Emergency demand reduction measures should be implemented.

- As aquifer water levels approach historical lows, wells along and near the salinewater (bad water) line will be monitored for conductivity more frequently. This increased monitoring program will begin when the flow at Comal Springs falls below 50 cubic feet per second (cfs).
- 2. The District will declare a Stage V Aquifer Emergency Warning when the concentration of total dissolved solids (TDS) or conductivity in any public water supply well increases to 30% above the historical average and exceeds previous maximum concentrations. An Aquifer Emergency Warning does not signify that unacceptable deterioration of water quality has actually occurred, and it does not institute further demand reduction measures. The purpose of the Warning is to initiate further detailed analyses to determine whether significant changes in water quality are occurring in the aquifer and, if so, appropriate responses to those changes.
- The District will verify that the quality changes observed in the impacted public water supply well are a result of decreased water levels.
- 4. The District will review data from the monitor wells along the salinewater line and other public water supply wells to determine if other wells are exhibiting increased TDS concentrations which correlate to decreasing water levels.
- 5. If the analyses described in steps 3 and 4 above indicate that changes in water quality attributable to the decline in aquifer water level are occurring, the District will identify an appropriate response and a schedule for implementation. The response will be based on the rate, nature and extent of the observed quality changes. The response may range from providing alternative water supplies to implementing Stage V Aquifer Emergency demand reduction measures. If an Aquifer Emergency is declared, the District will identify additional demand reduction measures to protect human health and safety and livestock watering. These measures may include a maximum per capita allotment for utilities, and reduction or cessation of industrial output and agricultural irrigation. In the most critical situation, only uses necessary for human health and safety and livestock needs may be permitted.

WATER USERS' RESPONSES

Upon declaration of each drought management stage, water users will be expected to reduce the volume of water they use. Two mechanisms define the amount and type of reductions required. The first mechanism is the reduction goal established for each stage. The goals define percentage reductions in the base usage which are to be achieved. The second mechanism is the requirement that each user implement specific minimum demand reduction measures. Users will develop their own management plans, UDMPs, which describe how each of the two mechanisms will be implemented within their respective service areas or operations.

A procedure is provided whereby users may seek variances from any DMP requirement. The variance procedure is discussed in Chapter 3.

REDUCTION GOALS

Reduction goals of 10%, 15%, 25% and 30% have been established for the first four drought management stages. These goals are not cumulative; i.e. the total reduction to be achieved for Stage IV - Aquifer Risk is 30%. Water purveyors with more than 35 connections are required to achieve these reductions. They are goals for all other users. Industrial, commercial and military users should also develop UDMPs which achieve the reduction goals.

The District anticipates that irrigation pumpage will be reduced voluntarily during the first three drought management stages. These reductions will result from the combined impacts of lower

pump efficiency and the higher cost of energy requirements as water levels decline. Specific volume reduction requirements for irrigation users therefore begin in Stage IV - Aquifer Risk. Once Aquifer Risk is declared, irrigation use is limited to two acre-feet per year for each acre currently or historically irrigated. The limitation is in effect for each succeeding 12-month period or until a more or less restrictive drought management stage is declared.

TARGET PUMPAGE VOLUME

The reduction goal percentage will be applied to the volume pumped by each user in 1984 to determine a target pumpage volume for that user. The target pumpage volume is the total amount which can be used during any successive 12-month period unless either a more restrictive or a less restrictive drought management stage is declared. The target pumpage volume may be prorated over the coming year by the user in accordance with the user's requirements.

If no pumpage data are available for 1984, or the user did not exist in 1984, then the user shall calculate the average annual use per connection for similar users in the area. The target pumpage volume will be this per connection average, minus the reduction goal for the applicable stage.

MINIMUM DEMAND REDUCTION MEASURES

Demand reduction measures for defined categories of users for each drought management stage are set forth in Table 2-2. These measures are the minimum requirements and must be implemented by users in each category.

USER DROUGHT MANAGEMENT PLANS

The District's complete drought management program is a combination of this DMP document and the UDMPs. Water purveyors serving more than 35 connections and individual private well owners who use more than 50,000 gallons per day (primarily industrial and commercial users) will be required to prepare, adopt, and implement UDMPs consistent with this DMP. All UDMPs must be submitted to the District by August 1, 1989 and approved by the District. Irrigation users will not be required to submit UDMPs.

Upon receiving notification from the District that drought response measures are required, users will be required to initiate action according to their approved UDMPs. They will also be required to enforce use restrictions in their respective service areas or operations.

Required UDMP Content

UDMPs developed by water purveyors shall include the following:

- Those demand reduction measures in Table 2-2 which apply to any category of user served by the purveyor.
- Additional demand reduction measures developed by the purveyor which, when combined with the required measures in Table 2-2, will achieve the reduction goals of this plan.
- Financial measures which will encourage compliance with the DMP and maintain financial stability of the purveyor during a drought.
- Provision for the ordinances, regulations or contractual requirements necessary for the purveyor to enforce the DMP and the UDMP.
- Provisions for reporting water pumpage.

REDUCTION GOALS AND DEMAND REDUCTION MEASURES

Stage	Reduction Stage Goal Essential		Water Utility	Household	Commercial	Industrial
I-Awareness	10%	Fire fighting and medical uses - no restrictions. Voluntary reduction in hydrant flushing and sewer line flushing.	Voluntary system conservation. Voluntary reduction in pressure to 60 psi at point of service. Notify appropriate fire fighting agencies.	Voluntary reduction of use by 10% (includes reduction which may be obtained in other categories).	Voluntary reduction of use by 10% (includes reduction which may be obtained in other cate- gories).	Voluntary reduction of use by 10% (includes reduction which may be obtained in other cate- gories).
II-Watch	15%	Fire fighting and medical uses - no restrictions. Hydrant flushing and sewer line flushing - only on emergency basis.	Same as I-Awareness.	Reduce use by 15% (includes reduction achieved in land- scape irrigation, swimming pool, aesthetics and other outdoor categories).	Voluntary reduction of use by 15% (includes reduction achieved by mandatory compliance with landscape irrigation, golf course, swimming pool, aesthetics and other outdoor categories).	Voluntary reduction of use by 15% (includes reduction achieved by mandatory compliance with landscape irrigation, golf course, swimming pool, aesthetics and other outdoor categories).
Ⅲ-Alert	25%	Same as II-Watch.	Same as I-Awareness.	Reduce use by 25% (includes reduction achieved in land- scape irrigation, swimming pool, aestnetics and other outdoor categories).	Voluntary reduction of use by 25% (includes reduction achieved by mandatory compliance with landscape irrigation, golf course, swimming pool, aesthetics and other outdoor categories).	Voluntary reduction of use by 25% (includes reduction achieved by mandatory compliance with landscape irrigation, golf course, swimming pool, aesthetics and other outdoor categories).
IV-Risk	30%	Same as II-Watch.	Same as I-Awareness.	Reduce use by 30% (includes reduction duction achieved in landscape irrigation, swimming pool, aesthetics and other outdoor categories).	Voluntary reduction of use by 30% (includes reduction achieved by mandatory compliance with landscape irrigation, golf course, swimming pool, aesthetics and other outdoor categories).	Voluntary reduction of use by 30% (includes reduction achieved by mandatory compliance with landscape irrigation, golf course, swimming pool, aesthetics and other outdoor categories).

V-Emergency

Market and the specific statement of the second

Additional measures as determined by the District to protect human health and safety and livestock watering.

REDUCTION GOALS AND DEMAND REDUCTION MEASURES (Continued)

Stage	Military	Landscape Irrigation Existing Installation	Landscape Irrigation New Installation	Golf Course
I-Awareness	Voluntary reduction of use by 10% (includes reduction which may be obtained in other categories).	Voluntary reduction of irrigation to once every 5 days, and only then between the hours of 8:00 p.m. and 8:00 a.m. Irrigation is permitted at anytime with hand-held hose, bucket of 5 gallons or less, or drip irrigation system.	Voluntary reduction of irri- gation of new installation to between the hours of 8:00 p.m. and 8:00 a.m. Irrigation is permitted at anytime with hand-held hose, bucket of 5 gallons or less, or drip irrigation system.	Voluntary reduction of irrigation to once every 5 days, and only then between the hours of 8:00 p.m. and 8:00 a.m.
∏-Watch	Voluntary reduction of use by 15% (includes reduction achieved by mandatory compli- ance with landscape irrigation, golf course, swimming pool, aesthetics and other outdoor categories).	Irrigation using individual sprink- ler or sprinkler systems is prohib- ited except on a designated day once every 5 days, and only then between the hours of 8:00 p.m. and 8:00 a.m. Irrigation is permitted at anytime with hand-held hose, bucket of 5 gallons or less, or drip irrigation system. Use of treated wastewater or reused water is exempt.	Irrigation of new installation is prohibited except as pro- vided by a permit.	Irrigation limited to once every 5 days, and only then between the hours of 8:00 p.m. and 8:00 a.m. Use of treated wastewater or reused water is exempt.
Ⅲ-Alert	Voluntary reduction of use by 25% (includes reduction achieved by mandatory compli- ance with landscape irrigation, golf course, swimming pool, aesthetics and other outdoor categories).	Landscape irrigation prohibited except with hand-held hose, bucket of 5 gallons or less, or drip irrigation system. Use of treated wastewater or reused water is exempt.	Irrigation of new installation prohibited.	Irrigation of golf course greens and tees limited to once every 5 days, and only then between the hours of 8:00 p.m. and 8:00 a.m. Use of treated wastewater or reused water is exempt.
IV-Risk	Voluntary reduction of use by 30% (includes reduction achieved by mandatory compli- ance with landscape irrigation, golf course, swimming pool, aesthetics and other outdoor categories).	Landscape irrigation prohibited, except with treated waste- water or reused water.	Same as III-Alert.	Irrigation is prohibited, except with wastewater or reused water.

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V-Emergency Additional measures as determined by the District to protect human health and safety and livestock watering.

REDUCTION GOALS AND DEMAND REDUCTION MEASURES (Continued)

Stage	Power Production	Irrigated Agriculture	Livestock	Swimming Pool, Hot Tub, etc.	Aesthetics (fountains, waterfalls, etc.)	Other Outdoor Uses	Vegetable Gardens
I-Awareness	Voluntary reduction.	Voluntary reduction.	Voluntary reduction.	Filling permitted for new and existing facilities. Draining only permitted onto pervious surfaces. Makeup permitted for existing facilities.	Outside and inside - voluntary reduction.	Allowing water to runoff into a gutter, ditch or drain, or fail- ing to repair a controllable leak is prohibited. These actions are defined as "waste". Voluntary reduction in street, driveway, sidewalk, patio or other paved area washing. Washing personal vehicles - voluntary reduction to assigned irrigation days with hand- held hose (with automatic shut-off nozzle) or bucket.	Voluntary request to limit irrigation to between the hours of 8:00 p.m. and 8:00 a.m.
∏-Watch	Same as I-Aware- ness.	Same as I-Aware- ness.	Same as I-Aware- ness.	Same as I-Awareness.	Outside and inside - prohibited, except with reused or re- cycled water.	Waste prohibited. Washing of streets, driveways, sidewalks, patios, or other paved areas prohibited, except washing for immediate public health and safety. Washing personal vehicles - limited to assigned irrigation day with hand- held hose (with automatic shut-off nozzle) or bucket.	Irrigation using indi- vidual sprinklers or sprinkler systems is prohibited, except be- tween the hours of 8:00 p.m. and 8:00 a.m. Irrigation is permitted at anytime with hand-held hose, bucket of 5 gallons or less, or drip irrigation system.
III-Alert	Same as I- Aware- ness.	Same as I- Aware- ness.	Same as I- Aware- ness.	Filling permitted for exist- ing facilities, not permitted for new. Draining and makeup - same as I-Awareness.	Same as II-Watch.	Same as II-Watch.	Same as II-Watch.
IV-Risk	Same as I- Aware- ness.	Irrigation limited to average per irrigated acre of 2 ac-ft/yr.	Same as I- Aware- ness.	Filling prohibited. Draining and makeup same as I-Awareness.	Outside and inside - prohibited.	Waste prohibited. Street, driveway, sidewalk, patio and paved area washing - same as II-Watch. Washing personal and commercial vehicles prohibited, except for immediate public health and safety. Commercial facilities for vehicle washing prohibited.	Irrigation limited to between the hours of 8:00 p.m. and 8:00 a.m. with hand-held hose, bucket of 5 gallons o less, or drip irrigation system.

V-Emergency Additional measures as determined by the District to protect human health and safety and livestock watering.

UDMPs developed by industrial, commercial and military users shall include the following:

- Those demand reduction measures in Table 2-2 which apply to landscape irrigation, golf course, swimming pool, aesthetics and other outdoor uses, and any other water practice which is not essential to the user's primary function or activity.
- Additional demand reduction measures developed by the user which, when combined with the required measures in Table 2-2, will contribute toward achieving the reduction goals of this plan.
- Provisions for reporting water pumpage.

UDMP Implementation

For Stage I - Aquifer Awareness, the reduction goal of 10% generally can be met by all users by voluntary compliance with restrictions achieved through increased public awareness. <u>Water waste</u>, <u>however</u>, <u>will be prohibited</u>. Waste is defined as any use which allows water to run off into a gutter, ditch or drain, or the failure to repair a controllable leak.

Beginning with Stage II - Aquifer Watch, mandatory compliance will be required to achieve the reduction goals. Water purveyors should consider technical assistance programs to industrial customers which encourage reuse and recycling technology, alternative and/or supplemental water supply sources, and adjustments in water rates to offset lost revenues and to encourage customer compliance with demand reduction measures. Industrial users are encouraged to consider reuse and recycling technology and alternative and/or supplemental water supply sources.

During Stage III - Aquifer Alert, water purveyors may need to establish allocations for customers, enact penalties for exceeding the allocations and place flow restrictors on meters of customers who repeatedly exceed their allocations. During Stage IV - Aquifer Risk, the allocations may need to be reduced and greater penalties imposed. Again, the specific measures, allocations, rates, penalties and other appropriate actions will be determined by the water purveyors. During Stage III - Aquifer Alert and Stage IV - Aquifer Risk, industrial users must consider reuse and recycling opportunities and alternative or supplemental water supply sources.

REPORTING

Users will report volumes pumped from the aquifer during both drought and nondrought conditions. The frequency of reporting will increase upon declaration of Stage I - Aquifer Awareness and continue at the increased frequency until drought conditions cease to exist. Larger users will report more frequently than smaller users. Metering will be required of major users. The reporting frequency requirements for each category of user are set forth in Table 2-3.

REQUIRED FREQUENCY OF PUMPAGE REPORTING

Reporting F	requency
NONDROUGHT CONDITIONS	DURING DROUGHT
Monthly	Weekly
Monthly	Weekly
Monthly	Weekly
Annual	Monthly
Annual	Monthly
	Reporting F NONDROUGHT CONDITIONS Monthly Monthly Monthly Annual Annual

CHAPTER 3 DISTRICT ACTIVITIES

After adoption of this Drought Management Plan, the District will adopt rules to implement it. The District will also review and approve User Drought Management Plans (UDMPs), and review and approve variances from the requirements of the District DMP. It will monitor the hydrologic parameters used as trigger conditions, notify news media and users of water resource conditions and appropriate drought management responses, enforce the DMP, and review and revise the plan as described below.

RULES

The District will begin the procedure to adopt rules for implementing the DMP on June 1, 1989. The District will conduct public hearings to receive comments on the proposed rules. The District is authorized by the Act to enforce rules beginning June 1, 1989.

UDMP SUBMITTAL AND ACCEPTANCE

The District's complete drought management program will be the combination of this District DMP document and the UDMPs of the users. After adoption of the District's rules, the District will notify each user of the requirement to submit a UDMP by August 1, 1989.

The District will review each UDMP and determine if it complies with the District's rules. If a plan meets or exceeds the requirements in the rules, then the District will approve the UDMP as a component of the overall plan. If the District disapproves a UDMP, then the user will have the right to appeal the District's decision to the Texas Water Commission.

VARIANCES

The District will institute a mechanism whereby variances can be obtained to this plan. Any user seeking a variance will file the appropriate request or include the variance request in its UDMP in accordance with procedures established by the District. The user will be required to identify the requirement(s) for which the variance(s) is sought, to justify the variance and to identify the demand reduction measures which will be implemented. A variance request must be justified by a unique economic or financial hardship which is not experienced by other similar users. The user will also provide the District with information and data supporting the request.

The District will evaluate each variance request on the merits described in the application. In evaluating a request, the District will consider factors such as the user's water use efficiency, demonstrated health and safety concerns, and economic and financial factors. The District may conduct a public hearing on variance requests, and it will approve or disapprove each request in accordance with procedures established by the District. The approval will specify the period of time that the variance will be in effect. The user will receive written notification of the District's action. A user may appeal any variance disapproval to the Texas Water Commission.

MONITORING

The District will monitor the hydrologic parameters used as trigger conditions. Data will be collected and analyzed as frequently as necessary to provide advance information about trends.

The District will be responsible for monitoring aquifer pumpage. The District will develop postcard-type reporting forms and distribute the forms to those users required to report pumpage. Additional forms will be available at convenient locations throughout the District.

To assist those users who do not have meters to measure pumpage, the District will develop a program to purchase and distribute flow meters. The District will have the authority to inspect, test, calibrate and repair any meter the District has purchased.

NOTIFICATION

During nondrought times, the District will take the following actions:

- Issue monthly statements to the news media on water level measurements and water quality conditions at key locations.
- Make regular public appearances to explain ongoing water conservation activities, the current status of water resource conditions and drought management activities.
- Conduct periodic meetings with news media throughout the District on a general and individual basis to assure that they have the knowledge and understanding required for reporting. This will include discussions of both trigger conditions and drought management stages.

When conditions indicate that the region is beginning to experience a drought, the District will inform all users of the water resource conditions.

Upon declaration of and during a drought, the District will, at a minimum, take the following actions:

- Inform water users by publishing a notice in a newspaper of general circulation in each county
 of the water resource conditions and the appropriate drought management stage.
- Take measures necessary to assure understanding of District findings and required responses.
- Inform the appropriate state and federal agencies of the actions being taken.

ENFORCEMENT

If a user does not submit a UDMP, the District may seek enforcement by appropriate remedy in a court of competent jurisdiction.

Users will be required to enforce requirements of their UDMPs within their respective service areas or operations. If the District observes violations of use restrictions, or if analysis of pumping data reveals that reduction goals are not being met, indicating that user enforcement is not taking place, then the District will take measures necessary to achieve compliance. This may include meetings with the user before the District seeks enforcement by appropriate judicial remedy.

The District will maintain a telephone hotline during a declared drought to provide public information and to receive reports about program violations.

DMP REVIEW AND REVISION PROCESS

The DMP will be reviewed and revised as necessary within two years of approval. Other reviews and revisions will take place as needed to incorporate data from ongoing studies, conservation plans, conversions to surface water and implementation experience. In particular, progress in implementing local water conservation programs will be reviewed. If an analysis indicates that reasonable progress is not being achieved in meeting program goals, then Table A-1 in Appendix A, or as such Table may be amended, will supersede Table 2-1.

APPENDIX A

TABLE A-1 TRIGGER CONDITIONS AND RESPONSE GOALS WITHOUT WATER CONSERVATION PROGRAM

TABLE A-1

TRIGGER CONDITIONS AND RESPONSE GOALS WITHOUT WATER CONSERVATION PROGRAM

TRIGGER CONDITIONS				RESPONSE (1)								
RAINFALL (in) (2)	WATER LEVEL Uvalde (4)	.S (3)(ft msl) Bexar (5)	SPRINGFLOW(cfs)(6) San Marcos Comal		Stage	EAST Stage Reduction Goal		Stage	WEST Reduction Goal		Goal	
						Mun	Ind/Mis	c Irrig		Mun	Ind/M	isc Irrig
<80% of historic average	>870	<660 <644 <628	150 110 80	250 160 70	I-Awareness II-Watch III-Alert	10% 25% 40%	(7) (7) (7)	(8) (8) (8)	None None	None None None	None None None	None None None
	<870	<660 <644 <628	150 110 80	250 160 70	I-Awareness II-Watch III-Alert	10% 25% 40%	(7) (7) (7)	(8) (8) (8)	I-Awareness I-Awareness I-Awareness	10% 10% 10%	(7) (7) (7)	(8) (8) (8)
	<840	<644	110	160	II-Watch	25%	(7)	(8)	II-Watch	25%	(7)	(8)
	<829	<628	80	70	III-Alert	40%	(7)	(8)	III-Alert	40%	(7)	(8)
	<811	<612	50	0(9)	IV-Risk	60%	(7) 1	Reduce pumpage to 2 ac-ft/ acre/yr	IV-Risk	60%	(7)	Reduce pumpage to 2 ac-ft/ acre/yr
	(10)	(10)			V-Emergency	(11)	(11)	(11)	V-Emergency	(11)	(11)	(11)

(1)Stages are defined for areas east and west of the Bexar/Medina county line.

(2) The sum of the Uvalde and San Antonio rainfall for the last 12 months. Uvalde rainfall is measured at the National Weather Service gage (41-9268-6) located at the Texas A&M Research Experiment Station in Uvalde. San Antonio rainfall is measured at the National Weather Service gage (41-945-7) located at the San Antonio International Airport. Water levels are calculated as 10-day moving averages.

(3)Well YP-69-50-302.

(4)

(5) Well AY-68-37-203 (J-17).

(6) San Marcos and Comal springflows as correlated to Well AY-68-37-203 (J-17).

Industrial, commercial and military users will be encouraged to meet the reduction goals in Table 2-2 and to consider reuse, recycling and alternative or supplemental water supply (7) sources. They will be required to comply with the landscape irrigation, golf course, swimming pool, aesthetics and other outdoor use restrictions.

The District anticipates that irrigation pumpage will be reduced because of lowered pump efficiencies, and voluntary cessation or reduction in volume pumped due to increased energy (8) costs. The District has chosen, therefore, not to quantify the reduction until Stage IV-Aquifer Risk is declared. The District will monitor reported irrigation pumpage to evaluate whether reductions actually occur before Aquifer Risk limits are imposed.

Comal Springs ceases to flow when the water level in Bexar County (J-17) is approximately 620 feet. (9)

(10)Unacceptable deterioration of water quality.

Specific reduction goals will be established by the District based on measures needed to protect human health and safety and livestock watering. (11)

NOTE: The District will exercise discretion in determining stages when conditions are not as described.

APPENDIX B

GLOSSARY

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connection - a user obtaining water from an organized distribution system.

demand reduction measures - specific actions which will be taken to reduce the demand on the aquifer during droughts.

downstream water rights - the right to use State water downstream from the Edwards Aquifer.

drought - a period of shortage of precipitation of seasonal or longer duration.

industrial users - water users who pump more than 50,000 gpd and where the water is an integral part of the production process in addition to drinking and sanitary water uses; industrial users use water for such process specific purposes as cooling, boiler feed, cleaning and washing, pollution control, and extraction and separation of desirable materials from by-products and waste materials. Some industrial users incorporate water into the final product such as in the production of food and beverage products.

irrigated agriculture users - water users irrigating more than 25 acres.

livestock - cattle, sheep, goats, hogs, poultry, horses, and game, domestic, zoo and Sea World animals.

medical uses - includes hospitals, nursing homes, emergency centers, and outpatient surgical centers; excludes doctors offices and medical office centers.

miscellaneous users - water users, other than municipal, industrial and irrigated agriculture users, who pump more than 50,000 gpd.

municipal users - water purveyors with more than 35 connections.

salinewater line (bad water line) - the salinity front in the Edwards Aquifer which separates the fresh water from the salinewater where the aquifer is confined; the concentration of total dissolved solids along this front is 1000 milligrams per liter.

trigger conditions - monitored hydrologic parameters which determine when drought conditions are present and response actions are necessary.

water waste - allowing water to runoff into a gutter, ditch or drain, or failing to repair a controllable leak.