

**Handbook for
Drought Contingency Planning
for
Irrigation Districts**

September 2004

**Texas Commission on
Environmental Quality**

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HANDBOOK FOR DROUGHT CONTINGENCY PLANNING FOR IRRIGATION DISTRICTS

1.0 INTRODUCTION

Purpose of this Handbook

The purpose of this handbook is to provide guidance and suggestions to irrigation districts with regard to the preparation of drought contingency plans. More specifically, this handbook provides guidance for meeting the statutory requirements set forth in Senate Bill 1, 75th Texas Legislature, that all irrigation districts are “...to develop drought contingency plans...to be implemented during periods of water shortages and drought.” State law also provides that water conservation and drought contingency plans are to be submitted to the Texas Commission on Environmental Quality (TCEQ) in support of applications for new or amended permits to use surface waters of the state. The Texas Water Development Board (TWDB) also requires most state financial assistance applicants for water-related projects to develop water conservation and drought contingency plans. Given these requirements, the intent of this handbook is to provide a single source of guidance on drought contingency planning that can be used by irrigation water suppliers in meeting the requirements of either the TCEQ or the TWDB.

Some irrigation water suppliers in Texas also provide water on a wholesale basis to public water suppliers, which in turn provide water for domestic and municipal purposes. In such cases, TCEQ rules require that there be consultation and coordination between the wholesale supplier and the wholesale water customer in the development of their respective drought contingency plans. Where applicable, it is advisable for irrigation districts SHOULD also review the TCEQ handbook on drought contingency planning for retail public water suppliers and the handbook on drought contingency planning for wholesale public water suppliers.

In addition to guidance provided by this handbook, the appendices include TCEQ rules for drought contingency planning and a model plan for irrigation districts.

Drought Happens

Recurring drought is a natural part of Texas’ highly variable climate. Unlike other types of weather-related natural disasters, such as floods, droughts typically develop slowly, often almost imperceptively over a period of months or even years. But like floods, drought can have widespread and far-reaching impacts on society, the economy, and the environment. In meteorological terms, drought is simply a prolonged period of below normal rainfall. While droughts cannot be prevented or managed per se, recent statewide droughts in Texas, such as that which occurred during 1996, have underscored the need for better preparation for responding to the impacts of drought. Such preparedness is particularly critical to the effective management of our most precious and essential natural resource - water.

Drought and other uncontrollable circumstances can severely disrupt the normal availability of water and lead to water shortages. A water shortage occurs when there is an imbalance between the supply of water and the demand for water over some period of time. Short-term drought-related water shortages are often the result of both decreased water supply due to below normal rainfall and increased water demand for irrigation, which can speed the depletion of water supplies. The conditions that define a water shortage tend to be specific and unique to each irrigation water supplier. For example, for one irrigation water supplier, hydrologic conditions and water demands may be such that a shortage is considered to exist when available water supplies are at 75 percent of “normal”. For another supplier, a water shortage might not exist until supplies reach 25 percent of normal.

Drought Contingency Planning and Water Conservation

It is common for the public, and for the operators of irrigation water supply systems, to confuse water conservation planning with drought contingency planning. The TCEQ defines a water conservation plan as “*a strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water.*” The emphasis and basic goal of a water conservation plan is to achieve lasting, long-term improvements in water use efficiency. For example, precision land leveling and micro-irrigation technology are intended to achieve long-term permanent reductions in irrigation water use.

By comparison, the TCEQ defines a drought contingency plan as “*a strategy or combination of strategies for temporary supply management and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies.*” For an irrigation district, a drought contingency plan is, in effect, a set of rules and regulations for the equitable allocation of a limited water supply during times of water shortage.

TCEQ Rules for Drought Contingency Planning

In September 2004, the TCEQ adopted new rules. These rules require drought contingency plans to include specific, quantified targets for water use reductions to be achieved during periods of water shortage and drought. The rules additionally specify the minimum elements and submittal requirements for drought contingency plans. The guidelines and suggestions presented in this handbook are intended to help irrigation districts comply with these rules, which are summarized throughout the handbook. The TCEQ rules are provided in Appendix A.

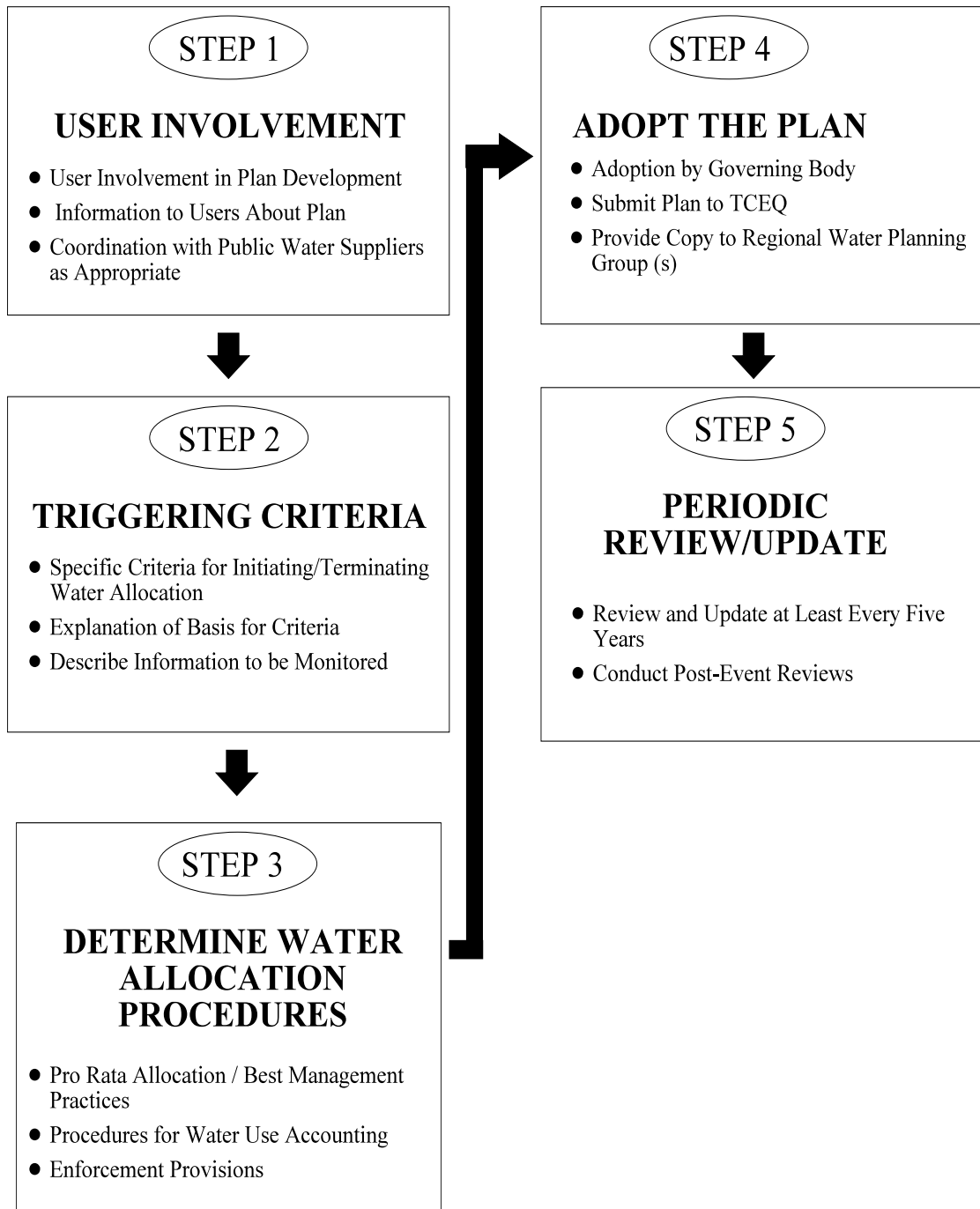
2.0 KEY STEPS IN PREPARING A DROUGHT CONTINGENCY PLAN

At the very outset it should be emphasized that a “good” drought contingency plan is, almost by definition, one that is tailored to the unique conditions and circumstances of each individual water supplier. No two irrigation water suppliers face identical circumstances or conditions with respect to water supply availability, the water demand characteristics of their customers, or the capacity and limitations of their water supply facilities. Even irrigation districts that rely on a common water source will likely have a different risk of shortage due to differences in water rights or the amount

of water actually used by their wholesale customers. However, despite the many differences among irrigation districts, there is a somewhat standard step-wise process that can be followed to develop an effective drought contingency plan and satisfy state requirements. Five basic steps are offered to guide irrigation water suppliers through the process of preparing a drought contingency plan. These are:

- Step 1: Involve irrigation users in the development of the plan.
- Step 2: Assess the water system's vulnerability to drought and define criteria for initiating or terminating water allocation.
- Step 3: Determine water allocation procedures.
- Step 4: Formally adopt the plan in the form of rules and regulations.
- Step 5: Periodically review and update the drought contingency plan to reflect changed conditions and lessons learned during plan implementation.

Drought Contingency Plan Process for an Irrigation Water Supplier



Step 1: User Involvement

The starting point for the development of a drought contingency plan is to provide the users or customers of an irrigation water supplier with an opportunity to participate directly in the planning process. To a large degree, the successful implementation of irrigation water allocation procedures depends upon each user's understanding of the circumstances under which allocation is necessary and their understanding of how allocation is to be implemented. It is therefore important to give irrigation water users a direct say in how the plan is designed and how and under what circumstances it will be implemented.

TCEQ rules require irrigation districts to make provisions to:

- Provide opportunity for water users' input into the preparation of the plan and to remain informed about the plan; and
- Coordinate with the regional water planning groups to ensure consistency with the appropriate approved regional water plans.

Source: Title 30, Texas Administrative Code, Chapter 288, Subchapter B (288.21) (a) (1) (A-B)

An active, on-going effort to inform irrigation water users about water allocation policies and procedures is also important, particularly prior to and during the actual implementation of the allocation procedures. The information provided should include a description of the conditions that will trigger implementation of allocation and a description of what can be expected once allocation is in effect (e.g., response measures/best management practices, enforcement provisions, etc.). In some situations, notably in the Lower Rio Grande Valley, irrigation districts also provide or deliver water to public water suppliers.

TCEQ rules require that there be consultation between irrigation districts and public water suppliers in such situations, to develop drought contingency plans with "... mutually agreeable and appropriate provisions to ensure an uninterrupted supply of water necessary for essential uses relating to public health and safety."

Source: Title 30, Texas Administrative Code, Chapter 288, Subchapter B (288.21) (a) (3)

Step 2: Assess Vulnerability to Drought and Define Triggering Criteria

A key element of a drought contingency plan for an irrigation water supplier is a definition of specific "triggering criteria" for initiating or terminating implementation of water allocation procedures. Triggering criteria have been shown to improve drought response in that decisions about when to implement or terminate water allocation procedures are not made arbitrarily or on

an ad hoc basis. Without such benchmarks, there is an increased risk of under or overreacting to a water shortage, that is, starting allocation too soon or too late.

Triggering criteria are benchmarks or other indicators of water supply shortage, as well as other pertinent considerations. For example, water allocation might go into effect whenever available water supplies reach a predetermined amount. Other considerations, such as the time of the year might also factor in to decisions about when to initiate or terminate water allocation. In some circumstances it may also be appropriate to use multiple parameters for triggering criteria. For example, implementation of a particular drought response stage might occur when two or more supply conditions occurs simultaneously (e.g., low stream flow and low reservoir conditions).

TCEQ rules require the drought contingency plans of irrigation districts to:

- Specify water supply criteria and other considerations for determining when to initiate or terminate water allocation procedures;
- Provide specific, quantified targets for water use reductions to be achieved during water shortage or drought;
- Provide an explanation of the rationale or basis for such triggering criteria;
- Provide a description of the information to be monitored; and
- Specify procedures for the initiation or termination of water allocation policies.

Source: Title 30, Texas Administrative Code, Chapter 288, Subchapter B (288.21) (a) (C-G)

As indicated, the drought contingency plan should also specify the criteria for terminating the water allocation procedures. Typically, as a best management practice, these criteria are based on a lessening of the severity of the conditions that triggered implementation of the allocation procedures or the return to “normal” water supply conditions.

Step 3: Determine Water Allocation Procedures

An irrigation water supplier’s authority to allocate or ration limited water supplies during times of shortage is derived from Section 11.039 of the Texas Water Code, which states:

“If a shortage of water in a water supply results from drought (sic), accident, or other cause, the water to be distributed shall be divided among all customers pro rata, according to the amount each may be entitled to, so that preference is given to no one and everyone suffers alike.”

In Texas, this statutory standard of “pro rata allocation” is typically applied in the form of a best management practice of water allocation based on irrigated acreage, without regard to such variables as soil type, crop type, or irrigation method. The total remaining water supply available for delivery to irrigation users would typically be allocated as an amount of water per irrigated acre. Lacking capabilities to measure (a.k.a. meter) on-farm water deliveries, many irrigation water suppliers allocate water on the basis of the number of “irrigations” the remaining water supply will provide. For example, in the Lower Rio Grande Valley, an “irrigation” is commonly defined as eight (8)

inches of water per irrigated acre, which includes an assumed 25 percent, or two (2) inch, conveyance loss factor. If the total amount of water available to the supplier were equivalent to two (2) acre-feet per irrigated acre, then each user would be allocated three irrigations (24 inches per acre/8 inches per irrigation = 3 irrigations).

More precise volumetric allocation is possible with measurement of on-farm water deliveries. For example, if two (2) acre-feet of water were available for each irrigated acre, then the gross allocation for a 100-acre tract would be 200 acre-feet. Typically, however, the gross allocation would be reduced by some factor (e.g., 25 percent) to account for conveyance losses. In this example, the irrigation user would be entitled to delivery of 150 acre-feet of water as measured at the point of delivery.

In addition to developing a best management practice for water allocation, it is also necessary to specify procedures for water use accounting. In the case of un-metered water use, water use accounting is typically accomplished by maintaining records of the number of “irrigations” performed by each user. As additional water becomes available for allocation, additional “irrigations” are added to each water user’s irrigation account. For metered water deliveries, actual measured use plus the conveyance loss factor is recorded and deducted from the user’s allocation.

Irrigation water supplier drought contingency plans must also include provisions for enforcement of water allocation rules. Irrigation districts created under state law typically enforce their water allocation rules by filing a criminal complaint against violators in a court with jurisdiction over such matters. An irrigation water supplier could also seek relief through civil action in the form of monetary compensation for any damages or an injunction compelling a violator to cease the activities alleged to be in violation of water allocation rules. A model drought contingency plan for irrigation districts is provided in Appendix B.

Step 4: Adopt the Plan

Before the plan development process can be considered complete, each irrigation water supplier’s drought contingency plan must be formally adopted by resolution of its governing body, in most cases by the entity’s board of directors. Upon formal adoption of the drought contingency plan, it is required that such plans be submitted to the TCEQ **by May 1, 2005**. Any new or revised plans are to be submitted to the TCEQ within 90 days of adoption. In addition, a copy of the plan is to be provided to the appropriate regional water planning group(s) for the region(s) within which the water supplier operates. An example of a resolution is provided in Appendix C.

Step 5: Periodic Review and Update

As indicated above, irrigation districts are required to submit a drought contingency plan meeting the requirements of Title 30 Texas Administrative Code, Chapter 288 no later than May 1, 2005, after adoption by the governing body of the irrigation district. After that date, the irrigation districts shall submit the next revision of the plan no later than May 1, 2009, and every five years after that date to coincide with the regional water planning group planning process. Any new or revised plans must also be submitted to the TCEQ within 90 days of adoption. Irrigation districts shall also provide a copy of the plan to the regional water planning group for each region within which the

irrigation district operates.

Irrigation districts are also encouraged to conduct a “post event” review to identify and correct any problems that may have arisen during the actual implementation of the drought contingency plan. Invariably, one can look back on the experience of implementing a drought contingency plan for lessons learned and improve the plan accordingly.

3.0 WHERE TO GO FOR ADDITIONAL ASSISTANCE

Technical Assistance and Plan Submittal

For technical assistance with the preparation of a drought contingency plan contact:

**Texas Commission on Environmental Quality
Resource Protection Team**
P.O. Box 13087 MC 160
Austin, TX 78711-3087
(512) 239-4691
www.tceq.state.tx.us

Note: Drought contingency plans that are required to be submitted to TCEQ should be mailed to the Resource Protection Team at the address indicated above.

Regional Water Planning Groups

As noted previously, once adopted, a copy of each water supplier’s drought contingency plan is to be submitted to the appropriate Regional Water Planning Group(s). The Regional Water Planning Groups were established by the TWDB pursuant to Senate Bill 1 (75th Texas Legislature) and are responsible for the development of regional water management plans. Sixteen (16) regional water planning areas have been established by the TWDB (see Figure 1). For each region, an agency has been selected by the Regional Water Planning Group to act as its agent for administrative purposes. The names, addresses, and telephone numbers of each of these agencies is given below.

Panhandle Region (A)

Panhandle Groundwater Conservation
District No.3
P.O. Box 637
White Deer, TX 79097
(806) 883-2501

Region B

City of Wichita Falls
2111 Avondale
Wichita Falls, TX 76308
(940) 767-0683

Region C

North Texas Municipal Water District
P.O. Box 2408
Wylie, TX 75098
(972) 442-5405

North East Texas Region (D)

City of Kilgore
P.O. Box 990
Kilgore, TX 75663
(903) 984-5081

Far West Texas Region (E)

P. O. Box 668
Alpine, TX 79831
(915) 364-2244

Brazos Region (G)

Brazos River Authority
300 East 26th Street, Suite 116
Bryan, TX 77803
(979) 361-4106

East Texas Region (I)

8740 FM 226
Nacogdoches, TX 75961
(936) 569-1284

Lower Colorado Region (K)

Aqua Water Supply Corporation
P.O. Drawer P
Bastrop, TX 78602
(512) 303-3943

Rio Grande Region (M)

800 Chase Bank Tower
P.O. Box 4828
McAllen, TX 78503-4842
(956) 682-4553

Llano Estacado Region (O)

P. O. Box 2426
Lubbock, TX 79408
(806) 765-8851

Upper Colorado Region (F)

Colorado River Municipal Water District
P.O. Box 869
Big Spring, TX 79721-0869
(915) 267-6341

Houston Region (H)

San Jacinto River Authority
P.O. Box 329
Conroe, TX 77305-0329
(936) 588-1111

Plateau Region (J)

700 Main Street
Kerrville, TX 78028
(830) 792-2216

South Central Texas Region (L)

San Antonio River Authority
334 Royal Oaks
San Antonio, TX 78209
(210) 828-1368

Coastal Bend Region (N)

South Texas Water Authority
P. O. Box 1701
Kingsville, TX 78364
(361) 692-0337, ext 12

Lavaca Region (P)

115 W. Main
Edna, TX 77957
(361) 782-5229

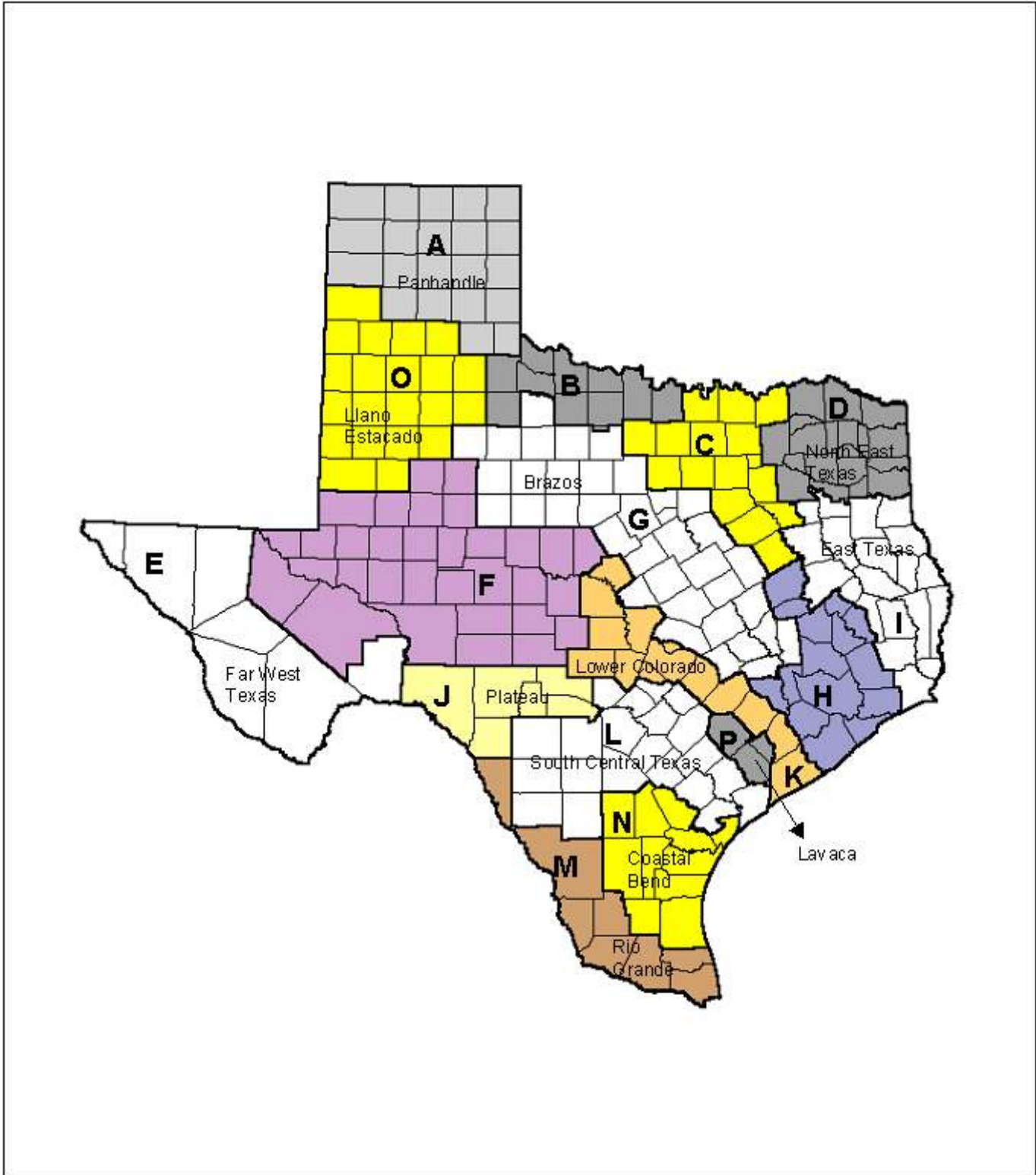


Figure 1: Regional Water Planning Areas – Texas Water Development Board
 (the 16 regions are identified by the letters A-P; 12 regions have names designated)

APPENDIX A

TCEQ Rules for Drought Contingency Plans

SUBCHAPTER B: DROUGHT CONTINGENCY PLANS
§§288.20 - 288.22

STATUTORY AUTHORITY

The amendments are adopted under TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under the provisions of the TWC or other laws of this state; and TWC, §11.1272, which provides the commission with the authority to require wholesale and retail public water suppliers and irrigation districts to develop drought contingency plans; and Texas Government Code, §2001.006, which authorizes state agencies to adopt rules or take other administrative action that the agency deems necessary to implement legislation.

§288.20. Drought Contingency Plans for Municipal Uses by Public Water Suppliers.

(a) A drought contingency plan for a retail public water supplier, where applicable, must include the following minimum elements.

(1) Minimum requirements. Drought contingency plans must include the following minimum elements.

(A) Preparation of the plan shall include provisions to actively inform the public and affirmatively provide opportunity for public input. Such acts may include, but are not limited to, having a public meeting at a time and location convenient to the public and providing written notice to the public concerning the proposed plan and meeting.

(B) Provisions shall be made for a program of continuing public education and information regarding the drought contingency plan.

(C) The drought contingency plan must document coordination with the regional water planning groups for the service area of the retail public water supplier to ensure consistency with the appropriate approved regional water plans.

(D) The drought contingency plan must include a description of the information to be monitored by the water supplier, and specific criteria for the initiation and termination of drought response stages, accompanied by an explanation of the rationale or basis for such triggering criteria.

(E) The drought contingency plan must include drought or emergency response stages providing for the implementation of measures in response to at least the following situations:

(i) reduction in available water supply up to a repeat of the drought of record;

(ii) water production or distribution system limitations;

(iii) supply source contamination; or

(iv) system outage due to the failure or damage of major water system components (e.g., pumps).

(F) The drought contingency plan must include specific, quantified targets for water use reductions to be achieved during periods of water shortage and drought. The entity preparing the plan shall establish the targets. The goals established by the entity under this subparagraph are not enforceable.

(G) The drought contingency plan must include the specific water supply or water demand management measures to be implemented during each stage of the plan including, but not limited to, the following:

(i) curtailment of non-essential water uses; and

(ii) utilization of alternative water sources and/or alternative delivery mechanisms with the prior approval of the executive director as appropriate (e.g., interconnection with another water system, temporary use of a non-municipal water supply, use of reclaimed water for non-potable purposes, etc.).

(H) The drought contingency plan must include the procedures to be followed for the initiation or termination of each drought response stage, including procedures for notification of the public.

(I) The drought contingency plan must include procedures for granting variances to the plan.

(J) The drought contingency plan must include procedures for the enforcement of mandatory water use restrictions, including specification of penalties (e.g., fines, water rate surcharges, discontinuation of service) for violations of such restrictions.

(2) Privately-owned water utilities. Privately-owned water utilities shall prepare a drought contingency plan in accordance with this section and incorporate such plan into their tariff.

(3) Wholesale water customers. Any water supplier that receives all or a portion of its water supply from another water supplier shall consult with that supplier and shall include in the drought contingency plan appropriate provisions for responding to reductions in that water supply.

(b) A wholesale or retail water supplier shall notify the executive director within five business days of the implementation of any mandatory provisions of the drought contingency plan.

(c) The retail public water supplier shall review and update, as appropriate, the drought contingency plan, at least every five years, based on new or updated information, such as the adoption or revision of the regional water plan.

§288.21. Drought Contingency Plans for Irrigation Use.

(a) A drought contingency plan for an irrigation use, where applicable, must include the following minimum elements.

(1) Minimum requirements. Drought contingency plans for irrigation water suppliers must include policies and procedures for the equitable and efficient allocation of water on a pro rata basis during times of shortage in accordance with Texas Water Code, §11.039. Such plans shall include the following elements as a minimum.

(A) Preparation of the plan shall include provisions to actively inform and to affirmatively provide opportunity for users of water from the irrigation system to provide input into the preparation of the plan and to remain informed of the plan. Such acts may include, but are not limited to, having a public meeting at a time and location convenient to the water users and providing written notice to the water users concerning the proposed plan and meeting.

(B) The drought contingency plan must document coordination with the regional water planning groups to ensure consistency with the appropriate approved regional water plans.

(C) The drought contingency plan must include water supply criteria and other considerations for determining when to initiate or terminate water allocation procedures, accompanied by an explanation of the rationale or basis for such triggering criteria.

(D) The drought contingency plan must include specific, quantified targets for water use reductions to be achieved during periods of water shortage and drought. The entity preparing the plan shall establish the targets. The goals established by the entity under this subparagraph are not enforceable.

(E) The drought contingency plan must include methods for determining the allocation of irrigation supplies to individual users.

(F) The drought contingency plan must include a description of the information to be monitored by the water supplier and the procedures to be followed for the initiation or termination of water allocation policies.

(G) The drought contingency plan must include procedures for use accounting during the implementation of water allocation policies.

(H) The drought contingency plan must include policies and procedures, if any, for the transfer of water allocations among individual users within the water supply system or to users outside the water supply system.

(I) The drought contingency plan must include procedures for the enforcement of water allocation policies, including specification of penalties for violations of such policies and for wasteful or excessive use of water.

(2) Wholesale water customers. Any irrigation water supplier that receives all or a portion of its water supply from another water supplier shall consult with that supplier and shall include in the drought contingency plan, appropriate provisions for responding to reductions in that water

supply.

(3) Protection of public water supplies. Any irrigation water supplier that also provides or delivers water to a public water supplier(s) shall consult with that public water supplier(s) and shall include in the plan, mutually agreeable and appropriate provisions to ensure an uninterrupted supply of water necessary for essential uses relating to public health and safety. Nothing in this provision shall be construed as requiring the irrigation water supplier to transfer irrigation water supplies to non-irrigation use on a compulsory basis or without just compensation.

(b) Irrigation water users shall review and update, as appropriate, the drought contingency plan, at least every five years, based on new or updated information, such as adoption or revision of the regional water plan.

§288.22. Drought Contingency Plans for Wholesale Water Suppliers.

(a) A drought contingency plan for a wholesale water supplier must include the following minimum elements.

(1) Preparation of the plan shall include provisions to actively inform the public and to affirmatively provide opportunity for user input in the preparation of the plan and for informing wholesale customers about the plan. Such acts may include, but are not limited to, having a public meeting at a time and location convenient to the public and providing written notice to the public concerning the proposed plan and meeting.

(2) The drought contingency plan must document coordination with the regional water planning groups for the service area of the wholesale public water supplier to ensure consistency with the appropriate approved regional water plans.

(3) The drought contingency plan must include a description of the information to be monitored by the water supplier and specific criteria for the initiation and termination of drought response stages, accompanied by an explanation of the rationale or basis for such triggering criteria.

(4) The drought contingency plan must include a minimum of three drought or emergency response stages providing for the implementation of measures in response to water supply conditions during a repeat of the drought-of-record.

(5) The drought contingency plan must include the procedures to be followed for the initiation or termination of drought response stages, including procedures for notification of wholesale customers regarding the initiation or termination of drought response stages.

(6) The drought contingency plan must include specific, quantified targets for water use reductions to be achieved during periods of water shortage and drought. The entity preparing the plan shall establish the targets. The goals established by the entity under this paragraph are not enforceable.

(7) The drought contingency plan must include the specific water supply or water demand

management measures to be implemented during each stage of the plan including, but not limited to, the following:

- (A) pro rata curtailment of water deliveries to or diversions by wholesale water customers as provided in Texas Water Code, §11.039; and
 - (B) utilization of alternative water sources with the prior approval of the executive director as appropriate (e.g., interconnection with another water system, temporary use of a non-municipal water supply, use of reclaimed water for non-potable purposes, etc.).
- (8) The drought contingency plan must include a provision in every wholesale water contract entered into or renewed after adoption of the plan, including contract extensions, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code, §11.039.
- (9) The drought contingency plan must include procedures for granting variances to the plan.
- (10) The drought contingency plan must include procedures for the enforcement of any mandatory water use restrictions including specification of penalties (e.g., liquidated damages, water rate surcharges, discontinuation of service) for violations of such restrictions.
- (b) The wholesale public water supplier shall notify the executive director within five business days of the implementation of any mandatory provisions of the drought contingency plan.
- (c) The wholesale public water supplier shall review and update, as appropriate, the drought contingency plan, at least every five years, based on new or updated information, such as adoption or revision of the regional water plan.

SUBCHAPTER C: REQUIRED SUBMITTALS
§288.30

STATUTORY AUTHORITY

The amendment is adopted under TWC, §5.103, which provides the commission with the authority to adopt any rules necessary to carry out its powers and duties under the provisions of the TWC or other laws of this state; and TWC, §11.1271, which provides the commission with the authority to require applicants for a new or amended water right to adopt conservation measures; and TWC, §11.1272, which provides the commission with the authority to require wholesale and retail public water suppliers and irrigation districts to develop drought contingency plans; and Texas Government Code, §2001.006, which authorizes state agencies to adopt rules or take other administrative action that the agency deems necessary to implement legislation.

§288.30. Required Submittals.

In addition to the water conservation and drought contingency plans required to be submitted with an application under §295.9 of this title (relating to Water Conservation and Drought Contingency Plans), water conservation and drought contingency plans are required as follows.

(1) Water conservation plans for municipal, industrial, and other non-irrigation uses. The holder of an existing permit, certified filing, or certificate of adjudication for the appropriation of surface water in the amount of 1,000 acre-feet a year or more for municipal, industrial, and other non-irrigation uses shall develop, submit, and implement a water conservation plan meeting the requirements of Subchapter A of this chapter (relating to Water Conservation Plans). The water conservation plan must be submitted to the executive director not later than May 1, 2005. Thereafter, the next revision of the water conservation plan for municipal, industrial, and other non-irrigation uses must be submitted not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive director within 90 days of adoption. The revised plans must include implementation reports. The requirement for a water conservation plan under this section must not result in the need for an amendment to an existing permit, certified filing, or certificate of adjudication.

(2) Implementation report for municipal, industrial, and other non-irrigation uses. The implementation report must include:

(A) the list of dates and descriptions of the conservation measures implemented;

(B) data about whether or not targets in the plans are being met;

(C) the actual amount of water saved; and

(D) if the targets are not being met, an explanation as to why any of the targets are not being met, including any progress on that particular target.

(3) Water conservation plans for irrigation uses. The holder of an existing permit, certified filing, or certificate of adjudication for the appropriation of surface water in the amount of

10,000 acre-feet a year or more for irrigation uses shall develop, submit, and implement a water conservation plan meeting the requirements of Subchapter A of this chapter. The water conservation plan must be submitted to the executive director not later than May 1, 2005. Thereafter, the next revision of the water conservation plan for irrigation uses must be submitted not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive director within 90 days of adoption. The revised plans must include implementation reports. The requirement for a water conservation plan under this section must not result in the need for an amendment to an existing permit, certified filing, or certificate of adjudication.

(4) Implementation report for irrigation uses. The implementation report must include:

- (A) the list of dates and descriptions of the conservation measures implemented;
- (B) data about whether or not targets in the plans are being met;
- (C) the actual amount of water saved; and
- (D) if the targets are not being met, an explanation as to why any of the targets are not being met, including any progress on that particular target.

(5) Drought contingency plans for retail public water suppliers. Retail public water suppliers shall submit a drought contingency plan meeting the requirements of Subchapter B of this chapter (relating to Drought Contingency Plans) to the executive director after adoption by its governing body. The retail public water system shall provide a copy of the plan to the regional water planning group for each region within which the water system operates. These drought contingency plans must be submitted as follows.

(A) For retail public water suppliers providing water service to 3,300 or more connections, the drought contingency plan must be submitted to the executive director not later than May 1, 2005. Thereafter, the retail public water suppliers providing water service to 3,300 or more connections shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any revised plans must be submitted to the executive director within 90 days of adoption by the community water system. Any new retail public water suppliers providing water service to 3,300 or more connections shall prepare and adopt a drought contingency plan within 180 days of commencement of operation, and submit the plan to the executive director within 90 days of adoption.

(B) For all the retail public water suppliers, the drought contingency plan must be prepared and adopted not later than May 1, 2005 and must be available for inspection by the executive director upon request. Thereafter, the retail public water suppliers shall prepare and adopt the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any new retail public water supplier providing water service to less than 3,300 connections shall prepare and adopt a drought contingency plan within 180 days of commencement of operation, and shall make the plan available for inspection by the executive director upon request.

(6) Drought contingency plans for wholesale public water suppliers. Wholesale public water

suppliers shall submit a drought contingency plan meeting the requirements of Subchapter B of this chapter to the executive director not later than May 1, 2005, after adoption of the drought contingency plan by the governing body of the water supplier. Thereafter, the wholesale public water suppliers shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any new or revised plans must be submitted to the executive director within 90 days of adoption by the governing body of the wholesale public water supplier. Wholesale public water suppliers shall also provide a copy of the drought contingency plan to the regional water planning group for each region within which the wholesale water supplier operates.

(7) Drought contingency plans for irrigation districts. Irrigation districts shall submit a drought contingency plan meeting the requirements of Subchapter B of this chapter to the executive director not later than May 1, 2005, after adoption by the governing body of the irrigation district. Thereafter, the irrigation districts shall submit the next revision of the plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. Any new or revised plans must be submitted to the executive director within 90 days of adoption by the governing body of the irrigation district. Irrigation districts shall also provide a copy of the plan to the regional water planning group for each region within which the irrigation district operates.

(8) Other submissions. A water conservation plan or drought contingency plan required to be submitted with an application in accordance with §295.9 of this title must also be subject to review and approval by the commission.

(9) Existing permits. The holder of an existing permit, certified filing, or certificate of adjudication shall not be subject to enforcement actions nor shall the permit, certified filing, or certificate of adjudication be subject to cancellation, either in part or in whole, based on the nonattainment of goals contained within a water conservation plan submitted with an application in accordance with §295.9 of this title or by the holder of an existing permit, certified filing, or certificate of adjudication in accordance with the requirements of this section.

APPENDIX B

Model Drought Contingency Plan for Irrigation Districts

DROUGHT CONTINGENCY PLAN

for

(name of irrigation district)

(date)

Section I: Declaration of Policy, Purpose, and Intent

The Board of Directors of the _____ (name of irrigation district) deems it to be in the interest of the District to adopt Rules and Regulations governing the equitable and efficient allocation of limited water supplies during times of shortage. These Rules and Regulations constitute the District's drought contingency plan required under Section 11.1272, Texas Water Code, *Vernon's Texas Codes Annotated*, and associated administrative rules of the Texas Commission on Environmental Quality (Title 30, Texas Administrative Code, Chapter 288).

Section II: User Involvement

Opportunity for users of water from the _____ (name of irrigation district) was provided by means of _____ (describe methods used to inform water users about the preparation of the plan and opportunities for input; for example, scheduling and providing notice of a public meeting to accept user input on the plan).

Section III: User Education

The _____ (name of irrigation district) will periodically provide water users with information about the Plan, including information about the conditions under which water allocation is to be initiated or terminated and the district's policies and procedures for water allocation. This information will be provided by means of _____ (e.g. describe methods to be used to provide water users with information about the Plan; for example, by providing copies of the Plan and by posting water allocation rules and regulations on the district's public bulletin board).

Section IV: Authorization

The _____ (e.g., general manager) is hereby authorized and directed to implement the applicable provision of the Plan upon determination by the Board that such implementation is necessary to ensure the equitable and efficient allocation of limited water supplies during times of shortage.

Section V: Application

The provisions fo the Plan shall apply to all persons utilizing water provided by the _____ (name of irrigation district). The term "person" as used in the Plan includes individuals, corporations, partnerships, associations, and all other legal entities.

Section VI: Initiation of Water Allocation

The _____ (designated official) shall monitor water supply conditions on a _____ (e.g. weekly, monthly) basis and shall make recommendations to the Board regarding irrigation of water allocation. Upon approval of the Board, water allocation will become effective when _____ (describe the criteria and the basis for the criteria):

Below are examples of the types of triggering criteria that might be used; singly or in combination, in an irrigation district's drought contingency plan:

Example 1: Water in storage in the _____ (name of reservoir) is equal to or less than _____ (acre-feet and/or percentage of storage capacity).

Example 2: Combined storage in the _____ (name or reservoirs) reservoir system is equal to or less than _____ (acre-feet and/or percentage of storage capacity).

Example 3: Flows as measured by the U.S. Geological Survey gage on the _____ (name of reservoir) near _____, Texas reaches _____ cubic feet per second (cfs).

Example 4: The storage balance in the district's irrigation water rights account reaches _____ acre-feet.

Example 5: The storage balance in the district's irrigation water rights account reaches an amount equivalent to _____ (number) irrigations for each flat rate acre in which all flat rate assessments are paid and current.

Example 6: The _____ (name of entity supplying water to the irrigation district) notifies the district that water deliveries will be limited to _____ acre-foot per year (i.e. a level below that required for unrestricted irrigation).

Section VII: Termination of Water Allocation

The district's water allocation policies will remain in effect until the conditions defined in Section IV of the Plan no longer exist and the Board deems that the need to allocate water no longer exists.

Section VIII: Notice

Notice of the initiation of water allocation will be given by notice posted on the District's public bulletin board and by mail to each _____ (e.g. landowner, holders of active irrigation accounts, etc.).

Section IX: Water Allocation

- (a) In identifying **specific, quantified targets** for water allocation to be achieved during periods of water shortages and drought, each irrigation user shall be allocated _____ irrigations or _____ acre-feet of water each flat rate acre on which all taxes, fees, and charges have been paid. The water allotment in each irrigation account will be expressed in acre-feet of water.

Include explanation of water allocation procedure. For example, in the Lower Rio Grande Valley, an “irrigation” is typically considered to be equivalent to eight (8) inches of water per irrigation acre; consisting of six (6) inches of water per acre applied plus two (2) inches of water lost in transporting the water from the river to the land. Thus, three irrigations would be equal to 24 inches of water per acre or an allocation of 2.0 acre-feet of water measured at the diversion from the river.

- (b) As additional water supplies become available to the District in an amount reasonably sufficient for allocation to the District’s irrigation users, the additional water made available to the District will be equally distributed, on a pro rata basis, to those irrigation users having _____.

Example 1: An account balance of less than _____ irrigations for each flat rate acre (i.e. ____ acre-feet).

Example 2: An account balance of less than _____ acre-feet of water for each flat rate acre.

Example 3: An account balance of less than _____ acre-feet of water.

- (c) The amount of water charged against a user’s water allocation will be ____ (e.g. eight inches) per irrigation, or one allocation unit, unless water deliveries to the land are metered. Metered water deliveries will be charges based on actual measured use. In order to maintain parity in charging use against a water allocation between non-metered and metered deliveries, a loss factor of ____ percent of the water delivered in a metered situation will be added to the measured use and will be charged against the users water allocation. Any metered use, with the loss factor applied, that is less than eight (8) inches per acre shall be credited back to the allocation unit and will be available to the user. It shall be a violation of the Rules and Regulations for a water user to use water in excess of the amount of water contained in the users irrigation account.
- (d) Acreage in an irrigation account that has not been irrigated for any reason within the last two (2) consecutive years will be considered inactive and will not be allocated water. Any landowner whose land has not been irrigated within the last two (2) consecutive years, may, upon application to the District expressing intent to irrigate the land, receive future allocations. However, irrigation water allocated shall be applied only upon the acreage to which it was allocated and such water allotment cannot be transferred until there have been two consecutive years of use.

Section X: Transfers of Allotments

- (a) A water allocation in an active irrigation account may be transferred within the boundaries of the District from one irrigation account to another. The transfer of water can only be made by the landowner’s agent who is authorized in writing to act on behalf of the landowner in the transfer of all or part of the water allocation from the described land of the landowner covered by the irrigation account.
- (b) A water allocation may not be transferred to land owned by a landowner outside the District boundaries.

or

A water allocation may be transferred to land outside the District’s boundaries by paying the current water charge as if the water was actually delivered by the District to the land covered by an irrigation account. The amount of water allowed to be transferred shall be stated in terms of acre-feet and deducted from the landowner’s current allocation balance in the irrigation account. Transfers of water outside the District shall not affect the allocation of water under Section VII of these Rules and Regulations.

- (c) Water from outside the District may not be transferred by a landowner for use within the District.

or

Water from outside the District may be transferred by a landowner for use within the District. The District will divert and deliver the water on the same basis as District water is delivered, except that a ___ percent conveyance loss will be charged against the amount of water transferred for use in the District as the water is delivered.

Section XI: Penalties

Any person who willfully opens, closes, changes or interferes with any headgate or uses water in violation of these Rules and Regulations, shall be considered in violation of Section 11.0083, Texas Water Code, *Vernon’s Texas Codes Annotated*, which provides for punishment by fine of not less than \$10.00 nor more than \$200.00 or by confinement in the county jail for not more than thirty (30) days, or both, for each violation, and these penalties provided by the laws of the State and may be enforced by complaints filed in the appropriate court jurisdiction in _____ County, all in accordance with Section 11.083; and in addition, the District may pursue a civil remedy in the way of damages and/or injunction against the violation of any of the foregoing Rules and Regulations.

Section XII: Severability

It is hereby declared to be the intention of the Board of Directors of the _____ (name of irrigation district) that the sections, paragraphs, sentences, clauses, and phrases of this Plan shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this Plan, since the same would not have been enacted by the Board without the incorporation into this Plan of any such unconstitutional phrase, clause, sentence, paragraph, or section.

Section XIII: Authority

The foregoing rules and regulations are adopted pursuant to and in accordance with Sections 11.039, 11.083, 11.1272; Section 49.004; and Section 58.127-130 of the Texas Water Code, *Vernon's Texas Codes Annotated*.

Section XIV: Effective Date of Plan

The effective date of this Rule shall be five (5) days following the date of Publication hereof and ignorance of the Rules and Regulations is not a defense for a prosecution for enforcement of the violation of the Rules and Regulations.

APPENDIX C

Example Resolution Adopting a Drought Contingency Plan

**EXAMPLE RESOLUTION FOR ADOPTION OF A
DROUGHT CONTINGENCY PLAN**

RESOLUTION NO. _____

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE _____ (name of water supplier) ADOPTING A DROUGHT CONTINGENCY PLAN.

WHEREAS, the Board recognizes that the amount of water available to the _____ (name of water supplier) and its water utility customers is limited and subject to depletion during periods of extended drought;

WHEREAS, the Board recognizes that natural limitations due to drought conditions and other acts of God cannot guarantee an uninterrupted water supply for all purposes;

WHEREAS, Section 11.1272 of the Texas Water Code and applicable rules of the Texas Commission on Environmental Quality require all public water supply systems in Texas to prepare a drought contingency plan; and

WHEREAS, as authorized under law, and in the best interests of the customers of the _____ (name of water supply system), the Board deems it expedient and necessary to establish certain rules and policies for the orderly and efficient management of limited water supplies during drought and other water supply emergencies;

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE _____ (name of water supplier):

SECTION 1. That the Drought Contingency Plan attached hereto as Exhibit AA® and made part hereof for all purposes be, and the same is hereby, adopted as the official policy of the _____ (name of water supplier).

SECTION 2. That the _____ (e.g., general manager) is hereby directed to implement, administer, and enforce the Drought Contingency Plan.

SECTION 3. That this resolution shall take effect immediately upon its passage.

DULY PASSED BY THE BOARD OF DIRECTORS OF THE _____, ON THIS __ day of _____, 20__.

President, Board of Directors

ATTESTED TO:

Secretary, Board of Directors