

CHAPTER 7
DROUGHT RESPONSE
INFORMATION, ACTIVITIES, AND
RECOMMENDATIONS

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7 REGIONAL DROUGHT RESPONSE, INFORMATION, ACTIVITIES, AND RECOMMENDATIONS

Drought is a frequent and inevitable factor in the climate of Texas. Therefore, it is vital to plan for the effect that droughts will have on the use, allocation and conservation of water in the State. Through the regional water planning process, requirements for drought management planning are found in Title 31 of the Texas Administrative Code (TAC), Part 10, Chapter 357, Subchapter D. Texas Statute reference §357.42 includes requirements regarding drought response information, activities, and recommendations. This chapter examines these specific requirements and identifies drought impacts within the Region.

7.1 DROUGHTS OF RECORD IN FAR WEST TEXAS

The severity of the recent drought significantly impacted the lives of water users, providers and water managers who were hard-pressed to find solutions to critical supply and demand issues. The severity of the impacts varied, but the overriding sense of urgency to create workable strategies and solutions was acknowledged and acted upon Statewide. Therefore, it is critical in this planning cycle to continue to address the impact that drought has had and will have on the future use, allocation and conservation of water in Far West Texas.

There are different types of drought that have been defined in various ways; however, these definitions fall into four primary categories: meteorological, agricultural, hydrological and socioeconomic drought. In the most general sense, drought is a deficiency of precipitation over an extended period, resulting in a water shortage for some activity, group or environmental purpose. The State Drought Preparedness Plan provides more specific and detailed definitions. and is located at the following link:

<http://www.txdps.state.tx.us/dem/CouncilsCommittees/droughtCouncil/droughtPrepPlan.pdf>.

Meteorological drought is quantified by how dry it is (for example, a rain deficit) compared to normal conditions as well as the duration of the dry period. This is typically a region-specific metric, since factors affecting meteorological drought can vary so much in different regions.

Agricultural drought looks at the effects of meteorological drought in terms of agricultural impacts. For example, evapotranspiration, soil moisture and plant stress are measures of agricultural drought, which account for vulnerability of crops through the various growth stages.

Hydrological drought is measured in terms of effects on surface and subsurface waters, such as reservoir stage and capacity, stream flow or groundwater levels in wells. Hydrological drought is usually defined on a river-basin or watershed scale. Hydrological droughts typically lag behind meteorological and agricultural droughts because it takes more time for the evidence of basin-wide impacts to manifest.

Socioeconomic drought occurs when the demand for an economic product (such as hydroelectric power) exceeds supply due to a weather-related deficit. Typically, demand for a product increases with population growth and per capita consumptions. Supply increases due to efficiency technology and the construction of new water projects. If both are increasing, the rate of change between supply and demand is the key. However, when demand exceeds supply, vulnerability is magnified by water shortages during drought.

Several climatological drought indicators have been formulated to quantify drought. The Palmer Drought Severity Index (PDSI) was developed in 1965 and is currently used by many federal and state agencies. The PDSI is a soil moisture index that works best in relatively large regions with uniform topography that don't experience extreme climate shifts. PDSI values can lag oncoming drought by several months. The TWDB uses the PDSI to monitor State drought conditions, which has values ranging between -6.0 (driest) to 6.0 (wettest). "Extreme drought" conditions have a PDSI between -6.0 and -4.0, and "severe drought" conditions have a PDSI between -3.99 and -3.0. An accumulated area graph of the weekly PDSI categories for the Trans-Pecos region is included as Figure 7-1.

Since 2000, the Trans-Pecos region experienced recurring extreme drought conditions in 2000 through 2004, 2006 through 2008, in 2013 and in 2018. The Trans-Pecos region experienced the longest sustained periods of extreme drought between January 2011 and September 2012.

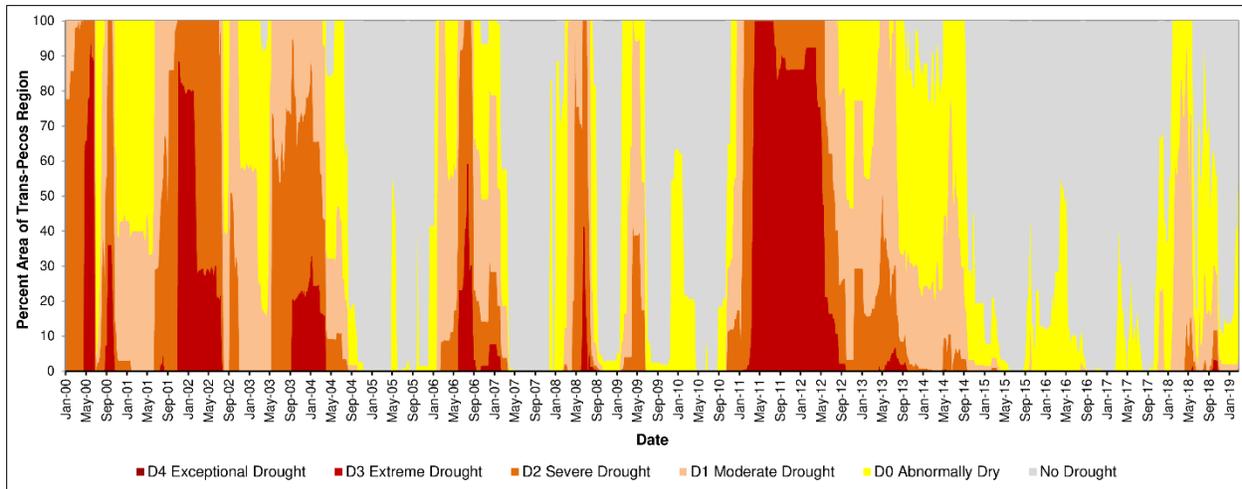


Figure 7-1. Drought in the Texas Trans-Pecos Region, 2000-2018

Source: U.S. Drought Monitor

Far West Texas, including the Trans-Pecos Regions is perennially under drought or near drought conditions compared with more humid areas of the State. Citizens of the Region experience a wide range of weather conditions due to the Region being in the middle latitudes and northwest of the Gulf of Mexico. Although residents of the Region are generally accustomed to these conditions, the low rainfall and the accompanying high levels of evaporation underscore the necessity of developing plans that respond to potential disruptions in the supply of groundwater and surface water caused by drought conditions.

7.1.1 Precipitation Indicator

Average annual precipitation varies from about 8 inches a year in El Paso County to nearly 15 inches in Jeff Davis County, based on NWS cooperator weather station data (Figure 7-2).

Comparing the 1950s DOR and the current drought can be accomplished using historic precipitation, stream flow records, spring discharge, and water level measurements in wells for locations that have accumulated data measurements since the 1940s.

The greatest precipitation impact to the Region comes further north in New Mexico and southern Colorado. Along the Rio Grande lies New Mexico’s largest reservoir, Elephant Butte Reservoir. In terms of Far West Texas’ surface water availability, it is the annual volume of water released from the Elephant Butte that must try to meet a portion of the growing water demands of the Region. However, severe drought had driven the storage levels of the Elephant Butte Reservoir to record lows of less than ten percent full, or 97 feet into the reservoirs “dead pool during the recent drought. This is one of the many problems in a series of drought-related challenges facing the Region. Currently, Elephant Butte Reservoir is 22 percent full, so it has recovered somewhat from the previous drought.

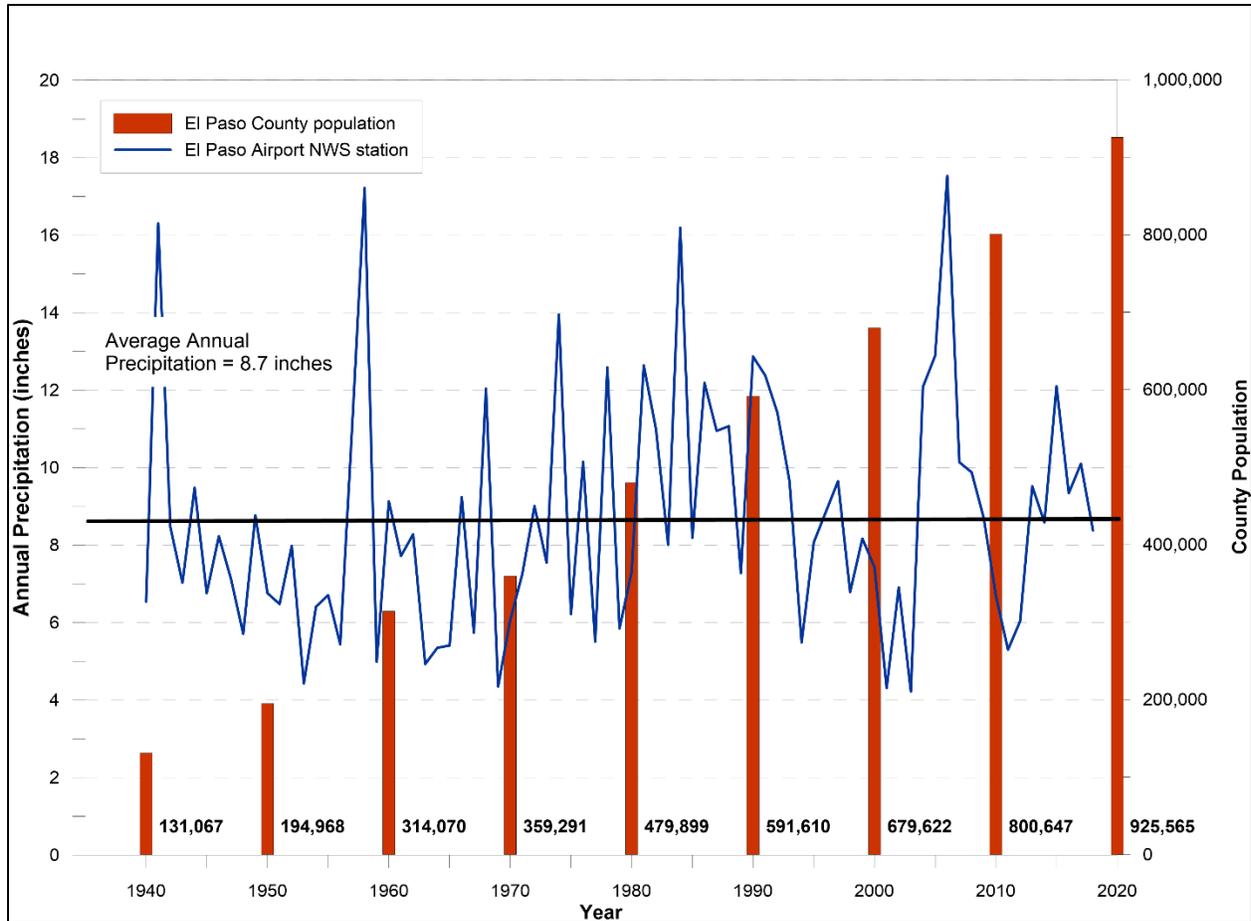


Figure 7-2. Annual Rainfall vs Population, El Paso County, 1940-2012

Source: NOAA NCDC; Texas Almanac

Figure 7-3 presents the storage capacity of Elephant Butte Reservoir from 1915 through 2019. The graph illustrates that the most significant declines in capacity due to drought impacting the reservoir occurred between 1951 and 1957. Recurring cycles of low capacity are evident between 1963 and 1965, 1971 and 1973, 1977 and 1979, 2003 and 2005 and since 2012. The longest sustained period of very low capacity occurred between 1953 and 1957.

Although water users located near the Rio Grande are more significantly impacted by precipitation that falls within the upper reaches of the Rio Grande Basin in New Mexico and southern Colorado, this is not the case for water users who are located further from the river. Precipitation in these areas provides important recharge to aquifers that are annually diminished by pumping withdrawals.

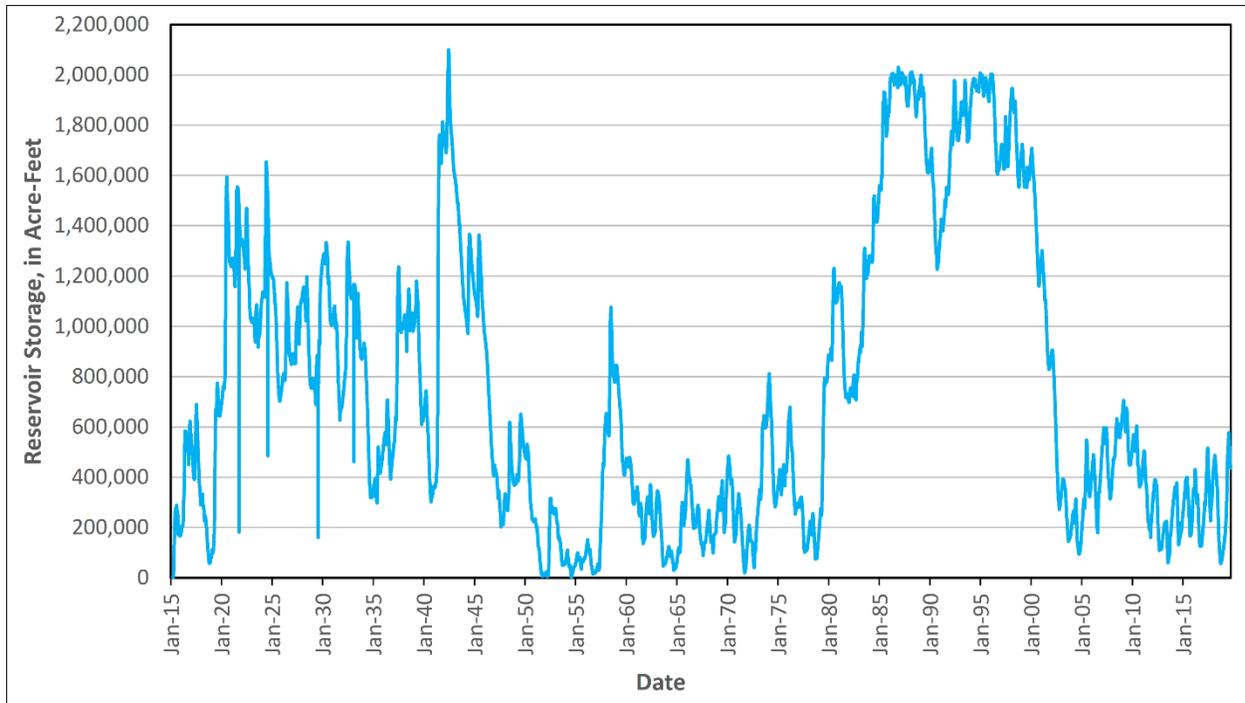


Figure 7-3. Storage Levels for Elephant Butte Reservoir 1915-2019

Source: Water Data for Texas

7.1.2 Stream Flow Indicator

The monitoring of streamflow of a river can generally provide a reliable indication of drought conditions throughout much of the State. However, gaging streamflow of the Rio Grande must be performed with knowledge of other factors that impact the supply of water in the river. Depending on the location of the stream gage, releases from Elephant Butte Reservoir and reservoirs on the Rio Conchos in Mexico have a large influence on streamflow at any given time.

A graph of streamflow at IBWC gaging station 08-374200.00 located on the Rio Grande just below the confluence with the Rio Conchos is included as Figure 7-4. The top graph illustrates peak events; the bottom graph focuses on low flow/no flow events. The construction and filling of Elephant Butte Reservoir accounts for the data gap between 1914 and 1930. The Luis L. Leon Reservoir (on the Rio Conchos) was completed in 1968.

Peak flows since 1900 have decreased after the construction of Elephant Butte Reservoir. The most current extreme peak occurred in 2008. The late spring and summer of 2008 was an abnormally wet season from the monsoonal rainfall over Mexico and southwest Texas (Hurricane Dolly in July, followed by tropical storm Julio in late August followed by tropical storm Lowell in September). The peak flow of 51,206 cfs occurred on September 19, 2008. Levees failed at Presidio, Texas and Ojinaga, Mexico causing extensive, devastating flooding in the area. The levees were designed for 42,000 cfs. Low-flow events appear to have occurred with relatively high frequency between 1900 and 1904, between 1952 and 1958, between 1996 and 2006. No flow was recorded between December 2011 and October 2014.

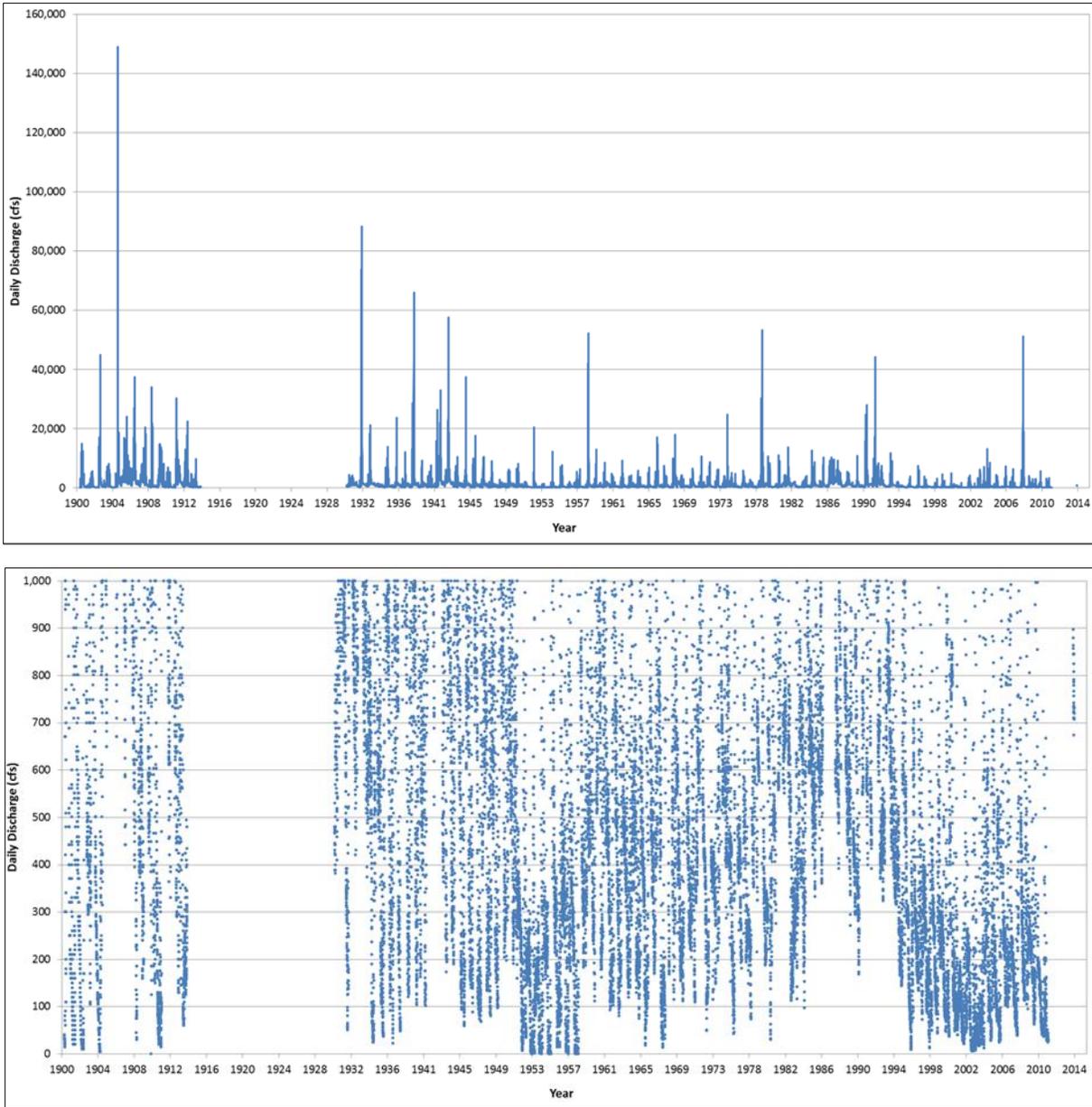


Figure 7-4. Streamflow below Rio Conchos Confluence 1900-2014

Source: IBWC (Filed a FOIA request on 3.7.19).

7.1.3 Spring Discharge Indicator

The San Solomon Spring System includes several springs that discharge to the Toyahville Basin near Toyahville, Texas. This group of springs includes: Phantom Lake, San Solomon, Giffin, Saragosa, West and East Sandia springs.

The only spring in this system that has a gaging station with a continuous period of record from the 1940s through today is Giffin Springs (Figure 7-5). The period of record extends back to 1930; however, measurements were sporadic prior to 1941. The average discharge for all measurements between 1941 and March 2019 is 4.2 cfs. The graph indicates that the longest period of below average flow within this

period of record occurred between 1964 and 1981. Note that most of these years had between two and four discharge measurements recorded. Additionally, springflow has generally remained below average since May 2015.

Some of the springs within this system have ceased to flow. For example, Phantom Lake Springs in Jeff Davis County are the highest in elevation of all the springs in the San Solomon Spring System. This spring stopped flowing naturally in 2001. This is partially attributed to irrigation pumping in the local area.

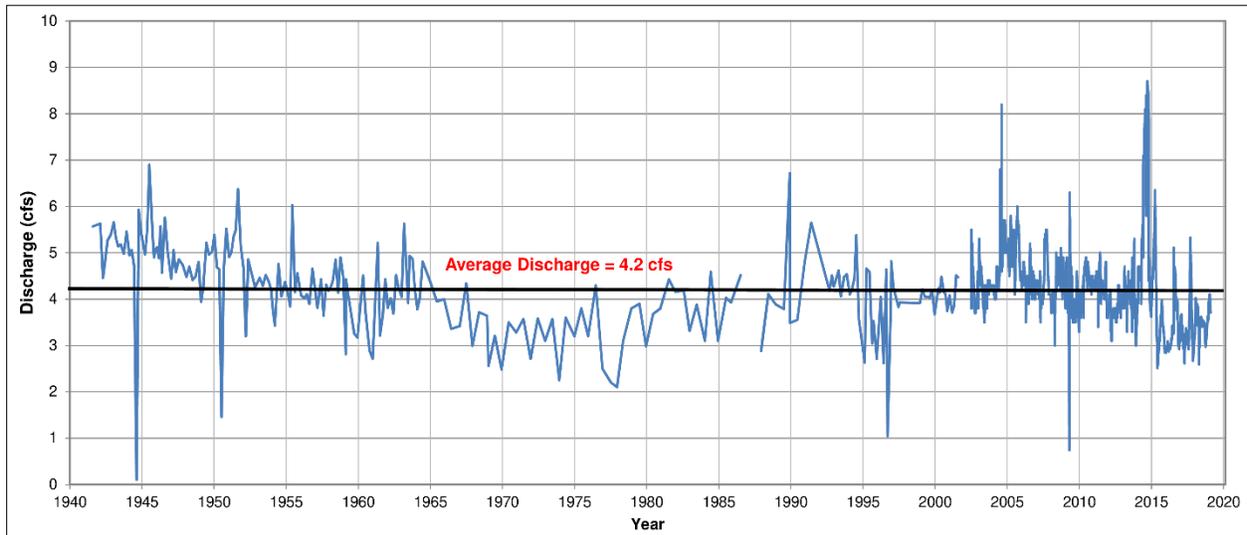


Figure 7-5. Giffin Springs Discharge 1941-March 2019

Source: Water Data for Texas

7.1.4 Groundwater Level Indicator

Figure 7-6 compares daily water level data from an existing real-time monitoring well with daily precipitation data from the nearby NWS Cooperative Weather Station at Panther Junction to illustrate aquifer response to precipitation events. This graph represents state well 73-47-404 which is completed within the Davis Mountains Igneous Aquifer in Brewster County. The data suggests that response time in the aquifer is quite rapid and occurs within a few days. Not all wells can be so readily correlated to rainfall events. Out of the nine pairs of wells and weather stations that were investigated within the Region, only this well showed an obvious response to rainfall occurring near the well.

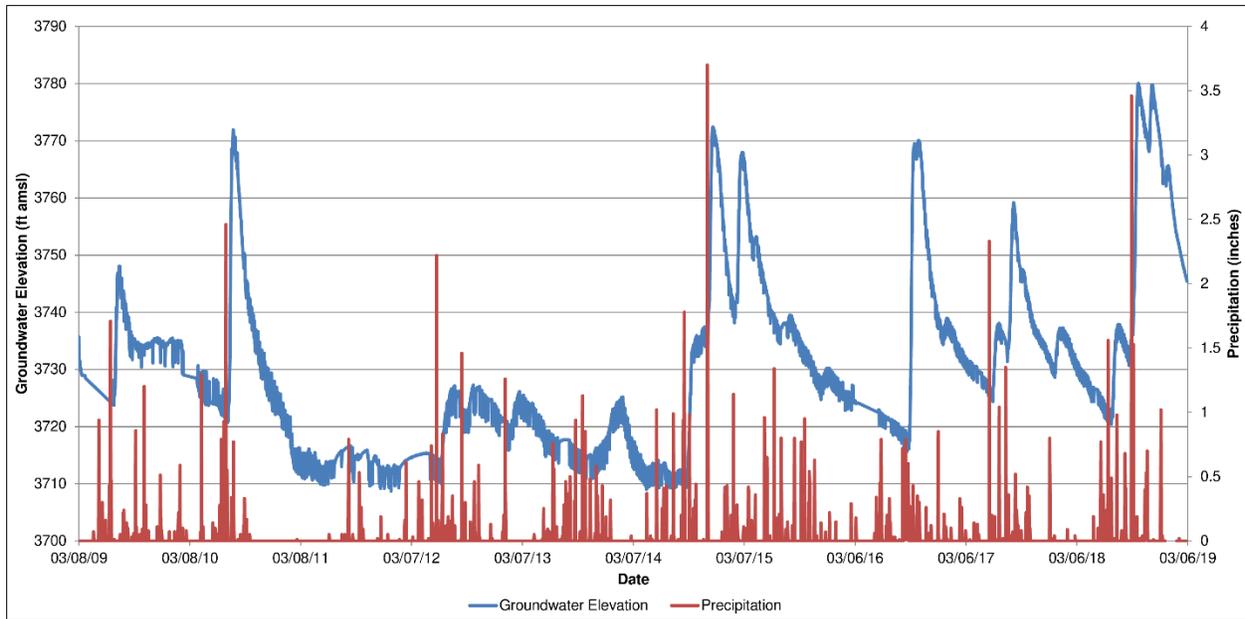


Figure 7-6. Daily Groundwater Elevation and Daily Precipitation, Igneous Aquifer, Brewster County

Source: Water Data for Texas

7.1.5 Far West Texas Drought of Record

The South-Central Climate Science Center prepared a report on the drought history for the Trans-Pecos of Texas in May of 2013. In this report, they determined that the period from February 1943 to November 1967 is the Drought of Record (DOR) for the Texas Trans-Pecos. The study points out that they consider the drought with the worst environmental conditions to outweigh the drought with the worst recorded impacts. They stated that a shorter less severe drought with high monetary losses (such as in 2011) does not outweigh a long and severe drought that occurred earlier in history. The study looked at data between 1895 and 2013. For this planning cycle, the drought of the 1950s is declared the DOR.

The catalyst for the recent drought can be attributed primarily to rainfall deficit (meteorological drought). The hydrological drought that has occurred because of rainfall deficit is evident in the decreased storage water levels of the Elephant Butte Reservoir, along with the decrease in the stream flow and spring discharge data that has been presented. However, the greatest unknown factor that these data collectively point to is the impact that can be attributed to anthropological factors.

The hydrological drought (impact on surface waters and groundwater) is a result of both meteorological and socioeconomic drought. To reiterate, socioeconomic drought occurs when demand exceeds supply due to a weather-related deficit. Typically, demand for a product increases with population growth and per capita consumptions. Supply increases due to efficiency technology and the construction of new water projects. If both are increasing, the rate of change between supply and demand is the key. However, when demand exceeds supply, vulnerability is magnified by water shortages during drought.

7.2 CURRENT DROUGHT PREPARATIONS AND RESPONSE

As mandated by 31 TAC 357.42(a)&(b), this section of the Plan summarizes and assesses all preparations and drought contingency plans that have been adopted by utilities and Groundwater Conservation Districts within the Far West Texas Region. The summary includes what specific triggers are used to determine the onset of each defined drought stage and the associated response actions that have been developed by local entities to decrease water demand during the drought stage.

Because of the range of conditions that affected the more than 4,000 water utilities throughout the State in 1997, the Texas Legislature directed the TCEQ to adopt rules establishing common drought plan requirements for water suppliers. Thus, TCEQ requires all wholesale public water providers, retail public water suppliers serving 3,300 connections or more, and irrigation districts to submit drought contingency plans (DCPs). In addition, many Groundwater Conservation Districts also have DCPs that provide education and voluntary action recommendations.

Plans are required to be made available for inspection upon request. Guidelines as to what should be included in each drought contingency plan can be found on TCEQ's website, at the following link: http://www.tceq.texas.gov/permitting/water_rights/contingency.html/#contents

DCPs are intended to establish criteria to identify when water supplies may be threatened and the actions that should be taken to ensure these potential threats are minimized. A common feature of drought contingency plans is a structure that allows increasingly stringent drought response measures to be implemented in successive stages as water supply decreases and water demand increases. This measured or gradual approach allows for timely and appropriate action as a water shortage develops. The onset and termination of each implementation stage should be defined by specific "triggering" criteria. Triggering criteria are intended to ensure that: 1) timely action is taken in response to a developing situation, and 2) the response is appropriate to the level of severity of the situation. Each water-supply entity is responsible for establishing its own DCP that includes appropriate triggering criteria and responses.

Figure 7-1 illustrates that drought conditions during this current planning period (2016-2020) were less severe than during the previous planning period (2011-2015). As a result, water utilities and conservation districts implemented less stringent measures during this recent period. Most entities declared no more than a low drought condition with voluntary restrictions throughout the warmer/drier part of the year and escalating to moderate drought declarations during the dryer than normal summer months of 2018.

7.2.1 Drought Response Triggers

Drought response triggers should be specific to each water supplier and should be based on an assessment of the water user's vulnerability. In some cases, it may be more appropriate to establish triggers based on a supply source volumetric indicator such as a lake surface elevation or an aquifer static water level. Similarly, triggers might be based on supply levels remaining in an elevated or ground storage tank within the water distribution system; this is not a recommended approach, as the warning of supply depletion would be only three to four days. Triggers based on demand levels can also be effective, if the demands are very closely and frequently monitored. Whichever method is employed, trigger criteria should be defined on well-established relationships between the benchmark and historical experience. If historical observations have not been made, then common sense must prevail until such time that more specific data can be presented.

7.2.2 Surface Water Triggers

Surface water sources are among the first reliable indicators of the onset of hydrologic drought. The annual allotment of Rio Grande Project water is determined by the U.S. Bureau of Reclamation (USBR) based on the amount of usable water in storage in Elephant Butte and Caballo Reservoirs. Based on the amount of storage remaining in Elephant Butte and Caballo Reservoirs at the end of the primary irrigation season (early- to mid-October), the USBR determines the amount of water that will be delivered the following year. In general, a one-year drought in the Upper Rio Grande drainage basin will have little effect on overall storage in the reservoirs. However, a long-term drought would have a significant effect on water releases downstream. Downstream users, both irrigation and municipal, are thus aware in advance of coming surface water supply shortages and can react accordingly.

The City of El Paso's Drought and Emergency Management Plan (2012) is administered through EPW and is based on three Drought or Water Emergency Stages: (1) At Stage I El Paso County Water Improvement District No. 1 (EPCWID#1) declares surface water allotment is less than 0.5 acre-feet per acre on or before April 1st; or when water demand is projected to exceed available capacity as determined by El Paso Water; (2) A Stage II water emergency is triggered when the EPCWID#1 declares surface water allotment of less than 1.0 acre-feet per acre after April 1 but before May 1st or there is not enough continuous release of surface water; or water demand is projected by EPW to exceed available capacity; (3) A Stage III water emergency is triggered when the EPCWID#1 declares surface water allotment of less than 1.5 acre-feet per acre after May 1 but before May 15th or there is not enough continuous release of surface water; or water demand is projected by EPW to exceed available capacity. A water emergency may also be declared based on a water system failure due to weather, electrical or mechanical failure or contamination of source. Once any stage is declared, the General Manager of EPW can implement a variety of response measures designed to conserve water. These range from use restrictions to citations for noncompliance.

Most of the other communities in El Paso County receive their water supplies from EPW or from other water-supply entities including the Horizon Regional MUD, El Paso County WCID No.4, and the Lower Valley Water District. Because of their reliance on supply provided by EPW, the Lower Valley Water District drought contingency triggers and responses are similar to the triggers and responses developed by EPW. The other wholesale water providers rely on groundwater, which is discussed under the following Groundwater Triggers section.

Irrigation districts depend on runoff from watersheds in the Upper Rio Grande drainage basins of New Mexico and southern Colorado to provide surface water to support irrigation in El Paso and Hudspeth Counties. Hence, drought triggers for the EPCWID #1 and the Hudspeth County Conservation and Reclamation District No.1 (HCCRD #1) are established based on storage levels in Elephant Butte and Caballo Reservoirs, which are in turn dependent on meteorological and hydrological conditions in these watersheds.

Drought conditions, which impact the EPCWID #1, are those that affect the headwaters of the Rio Grande and its tributaries, such that Rio Grande Compact water deliveries into Elephant Butte Reservoir are reduced. The district's board of directors determines when a drought exists and establishes the yearly delivery allotment to its water users based on its diversion allocation from the USBR. Generally, when water storage in Elephant Butte Reservoir is less than 0.9 million acre-feet during the irrigation season (March through September), the USBR declares drought conditions and sets its diversion allocations

(using the D1 and D2 curves) to the irrigation districts based on a delivery allotment of less than its normal (non-drought) three acre-feet per acre. During times of drought, the district will lower its delivery allotment based on the amount of its reduced diversion allocation from the USBR and its delivery commitments to its users. The extent of the reductions in the water allotments will be dependent on the severity of the drought conditions and will remain in effect until the conditions that triggered the drought contingency no longer exist.

The HCCRD #1 bases drought contingency planning on evaluation of the water supply projected and received by the EPCWID #1, since all waters received by HCCRD #1 are return flows and operational spills for El Paso County. Since conditions, to a degree, can be predicted prior to a crop season, the drought mitigation plan largely affects agricultural producers cropping plan. When a mild or moderate predicted shortage occurs, the HCCRD #1 will notify its clientele of the amount of the expected shortage. For a severe shortage, where the water supply will provide less than 50 percent of the expected demand, agricultural producers will be asked to prioritize their water requests based upon crop needs.

Water in the Lower Rio Grande segment is used principally for irrigation, recreation, and environmental needs. A drought trigger for this segment of the river is based on flows of less than 35,438 acre-feet. The TCEQ Rio Grande Watermaster administers the allocation of Texas' share of the international water and is responsible for informing water-rights users of expected diversions during drought years.

7.2.3 Groundwater Triggers

Groundwater triggers that indicate the onset of drought in Far West Texas are not as easily identifiable as relative to surface-water triggers. This is attributable to (1) the rapid response of stream discharge and reservoir storage to short-term changes in climatic conditions within a region and within adjoining areas where surface drainage originates, and (2) the typically slower response of groundwater systems to recharge processes. Although climatic conditions over a period of one or two years might have a significant impact on the availability of surface water, aquifers of the same area might not show comparable levels of response for much longer periods of time, depending on the location and size of recharge areas in a basin, the distribution of precipitation over recharge areas, the amount of recharge, and the extent to which aquifers are developed and exploited by major users of groundwater.

Several groundwater basins are identified in Chapter 3 as aquifers that will likely not experience consistent water-level decline, or mining, based on comparisons between projected demand, recharge and storage. In these areas, water levels might be expected to remain constant or relatively constant over the 2020 to 2070 planning period. Because of minimal water-level changes in these aquifers, water levels are not recommended as a drought-condition trigger. Atmospheric conditions are a better indicator for these areas.

Basins that do not receive sufficient recharge to offset natural discharge and pumpage may be depleted of groundwater (e.g., mined). The rate and extent of groundwater mining are related to the timeframe and the extent to which withdrawals exceed recharge. In such basins, water levels may fall over long periods of time, eventually reaching a point at which the cost of lifting water to the surface becomes uneconomic. Thus, water levels in such areas may not be a satisfactory drought trigger. Instead, communities might consider the rate at which water levels decline in response to increased demand during drought as a sufficient indicator.

Water levels in observation wells in and adjacent to municipal wellfields, especially where wells are completed in aquifers that respond relatively quickly to recharge events, may be established as drought triggers for municipal utilities in the future providing a sufficient number of measurements are made annually to establish a historical record. Water levels below specified elevations for a pre-determined period of time might be interpreted to be reasonable groundwater indicators of drought conditions. Until such historical water-level trends are established, municipal utilities will likely continue to depend on demand as a percentage of production capacity as their primary drought trigger. Twelve water-supply entities were listed in Table 6-1 in the 2011 Plan. Drought triggers of all entities are structured around system production capacity and daily demand, except for El Paso, which is structured upon surface-water allotment stages. None of the entities used groundwater triggers. However, while most of the entities rely on a system capacity trigger of some kind, they also have groundwater wells that they pump from and monitor.

7.2.4 System Capacity Triggers

Because of the above described problems with using water levels as drought-condition indicators, several municipal water-supply entities in the Far West Texas Region that rely on groundwater generally establish drought-condition triggers based on levels of demand that exceed a percentage of the systems production capacity. Alpine, Van Horn (and Sierra Blanca) Anthony, Vinton, Horizon Regional MUD (Horizon City), Dell City, Fort Davis WSC (Fort Davis), Marfa, Presidio and Terrell County WCID #1 (Sanderson) have adopted system capacity triggers. Several entities have drought responses triggered when daily water demand exceeds 75 percent of production capacity.

El Paso (EPW) receives surface water allocations from the local irrigation district, El Paso County Water Improvement District No.1 (EPCWID#1) via the Rio Grande Project. Currently, El Paso has water rights to about 65,000 ac-ft/yr. EPW initiates the various drought triggers based on the amount of surface water being provided by the EPCWID #1 as described in Section 7.3.2 above.

7.2.5 Municipal and Wholesale Water Provider Drought Contingency Plans

The TCEQ requires all retail public water suppliers serving 3,300 connections or more and wholesale public water providers to submit a drought contingency plan as a way to prepare and respond to water shortages. The amended [Title 30, Texas Administrative Code, Chapter 288](#) became effective on December 6, 2012 addressing TCEQ's guidelines and plan requirements. The forms for wholesale public water providers, retail public water suppliers and irrigation districts are available at:

https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/contingency.html#whattoinclude

Drought contingency plans for municipal uses by public water suppliers must document coordination with the regional water planning groups to ensure consistency with the regional water plans. The following entities have prepared drought contingency plans which are accessible at the specified websites:

- City of Alpine (<http://cityofalpine.com/>)
- City of Van Horn (<http://vanhornutilities.com>)
- Town of Anthony (<http://townofanthony.org/index.php>)
- City of El Paso (<https://www.epwater.org/>)

- El Paso County Tornillo WID
- El Paso County WCID #4 (Fabens)
- Fort Bliss
- Horizon Regional MUD (<http://horizonregional.com/>)
- Lower Valley Water District (<http://www.lvwd.org/>)
- City of Clint (drought plan same as LVWD)
- City of San Elizario (drought plan same as LVWD)
- City of Socorro (drought plan same as LVWD)
- City of Vinton (drought plan same as EPW)
- Fort Davis WSC
- City of Marfa
- City of Presidio (<http://presidiotx.us/>)
- Terrell County WCID #1

A list of entities, their supply source, specific triggers and actions, for each drought stage is provided in Table 7-1.

Table 7-1. Municipal Mandated Drought Triggers and Actions

| Water Supply Entity | Water Supply Source | Drought Trigger | Drought Stage and Response | | | | |
|-----------------------|--|--|---|---|--|--|-----------|
| | | | Mild | Moderate | Severe | Critical | Emergency |
| City of Alpine | Igneous (Meriwether #1 & #2 wells) | Demand-based triggers include the following components: 1) percent of water treatment capacity, 2) total daily demand as percent of pumping capacity, 3) storage capacity and 4) well pump run time. | Demand reaches 90% of production capacity; system failure that would limit the capacity of the system below 85% during peak demand periods. | Demand reaches 95% of production capacity; system failure that would limit the capacity of the system below 75% during peak demand periods. | Demand reaches 100% of production capacity; system failure that would limit the capacity of the system below 70% during peak demand periods. | Extended period of severe condition or any natural catastrophic situation. | N/A |
| | | | Voluntary- reduce water demand. | Mandatory- lawn watering schedule. | Set limits on water consumption; prohibit use of specific outdoor watering activities. | | |
| City of El Paso (EPW) | Hueco-Mesilla Bolson, Rio Grande River | Surface water allotment from El Paso County WID #1; system capacity limits. | EPCWID decreases allotment less than 0.5 acre-foot per acre on or before April 1; water demand is projected to exceed EPWU system capacity. | EPCWID decreases allotment less than 1.0 acre-foot per acre on or after April 1 but before May 1 or there is not a continuous release of surface water; water demand is projected to exceed EPWU system capacity. | EPCWID decreases allotment less than 1.5 acre-foot per acre after May 1 but before May 15 or there is not a continuous release of surface water; water demand is projected to exceed EPWU system capacity. | N/A | N/A |
| | | | Voluntary- reduce water demand by 25%. | Mandatory- lawn watering schedule. | Set limits on water consumption; prohibit use of specific outdoor watering activities. | | |
| City of Marfa | Igneous | Base on water supply and/or demand conditions. | Demand exceeds 90% of production capacity for 3 consecutive days; system disruption occurs that limits the capacity of the system below 85% during peak demand periods. | Demand exceeds 95% of production capacity for 3 consecutive days; system disruption occurs that limits the capacity of the system below 75% during peak demand periods. | Demand exceeds 98% of production capacity for 3 consecutive days; system disruption occurs that limits the capacity of the system below 70% during peak demand periods. | Extended period of severe condition or any natural catastrophic situation. | N/A |
| | | | Voluntary- reduce water demand by 1-5%. | Reduce water demand by 5-10%. | Reduce water demand by 10-15%. | | |

Table 7-1. (Continued) Municipal Mandated Drought Triggers and Actions

| Water Supply Entity | Water Supply Source | Drought Trigger | Drought Stage and Response | | | | |
|-----------------------------|----------------------|--|---|--|---|--|---|
| | | | Mild | Moderate | Severe | Critical | Emergency |
| City of Presidio | West Texas Bolson | Base on system capacity limits. | Total daily water demand equals or exceeds 2 million gallons on a single day. | Total daily water demand equals or exceeds 2 million gallons for 3 consecutive days. | Total daily water demand equals or exceeds 2 million gallons for 7 consecutive days. | Total daily water demand equals or exceeds 2 million gallons for 14 consecutive days. | Major system failures or supply contamination. |
| | | | Voluntary- reduce water use below 2 million gallons per day. | Mandatory- reduce water use below 2 million gallons per day. | Mandatory- reduce water use below 2 million gallons per day by restricting non-essential water use. | Mandatory- reduce water use below 2 million gallons per day by restricting irrigation of landscaped areas. | Mandatory- reduce water use below 2 million gallons per day by allocating water according to the water allocation plan. |
| City of Van Horn | West Texas Bolson | Demand exceeds production or storage capability measured over a 24-hr. period and refilling the storage facilities is rendered impossible. | Triggers were not provided in the DCP | Triggers were not provided in the DCP | Triggers were not provided in the DCP | Demand exceeds 80% of production capacity. | Demand exceeds 90% of production capacity. |
| | | | Voluntary- reduce water use. | Limit water usage determined by the plant's capability to provide continuous service in direct proportion to the loss of production/refill capability of the storage facility. | All outdoor water usage is prohibited. | Allocate water. | All uses of public water supply will be banned except in cases of emergency. |
| El Paso County Tornillo WID | Hueco-Mesilla Bolson | Base on system capacity limits and known water levels in the groundwater well(s). | N/A | Treated water reservoir levels do not fill above 70% overnight. | Treated water reservoir levels do not fill above 50% overnight and/or static water level in the EPCTWID well is less than previous month. | EPCTWID well capacity is equal to or less than 80% of the well's original specific capacity. | Major system failures or supply contamination. |
| | | | Voluntary- reduce water demand by 3%. | Reduce water demand by 10%. | Reduce water demand by 30%. | Reduce water demand by 40%. | Reduce water demand by 50%. |

Table 7-1. (Continued) Municipal Mandated Drought Triggers and Actions

| Water Supply Entity | Water Supply Source | Drought Trigger | Drought Stage and Response | | | | |
|------------------------|----------------------|--|--|--|--|---|--|
| | | | Mild | Moderate | Severe | Critical | Emergency |
| El Paso County WCID #4 | Hueco-Mesilla Bolson | Base on system capacity limits. | Average daily water use reaches 80% for 3 consecutive days. | Average daily water use reaches 90% for 3 consecutive days. | Average daily water use reaches 100% for 3 consecutive days. | Failure of system components is reduced to only one well. | Major system failures or supply contamination. |
| | | | Voluntary- reduce water demand by 15%. | Reduce water demand by 25%. | Reduce water demand by 50%. | Reduce water demand by 75%. | Reduce water demand by 75%. |
| Fort Bliss | Hueco-Mesilla Bolson | Base on system capacity limits. | N/A | Demand exceeds 90% of production capacity for 2 consecutive days. | Demand exceeds 95% of production capacity for 2 consecutive days. | Demand exceeds 100% of production capacity for 2 consecutive days. | Major system failures or supply contamination. |
| | | | N/A | Reduce water demand by 20%. | Reduce water demand by 30%. | Reduce water demand by 40%. | Reduce water demand by 50%. |
| Fort Davis WSC | Igneous | Base on system capacity limits. | N/A | Total daily water demand ranges from 60-70% of production capacity. | Total daily water demand exceeds 75% of production capacity. | Total daily water demand exceeds 75% of production capacity for more than 5 consecutive days. | Major system failures or supply contamination. |
| | | | Voluntary- reduce water demand by 10%. | Mandatory- reduce water demand by 10%. | Reduce water usage to a point the District can revert to the previous stage and continue to reduce usage until 10% reduction is secured. | Discontinue all non-essential and landscape irrigation water use. | Water rationing may be put into effect. |
| Horizon Regional MUD | Hueco-Mesilla Bolson | Base on system capacity limits and water levels in District's well(s). | Total daily water demands reach 80% of the District's capacity for 5 consecutive days. | Total daily water demands reach 90% of the District's capacity for 5 consecutive days. | Demand equals or exceeds 95% of the District's capacity for 3 consecutive days. | Demand meets 100% of capacity for 3 consecutive days. | Major system failures or supply contamination. |
| | | | Voluntary- reduce water demand by 10%. | Mandatory- reduce water demand by 10%. | Reduce water usage to a point the District can revert to the previous stage and continue to reduce usage until 10% reduction is secured. | Discontinue all non-essential and landscape irrigation water use. | Water rationing may be put into effect. |

Table 7-1. (Continued) Municipal Mandated Drought Triggers and Actions

| Water Supply Entity | Water Supply Source | Drought Trigger | Drought Stage and Response | | | | |
|------------------------------------|---------------------------|---|---|---|---|----------|--|
| | | | Mild | Moderate | Severe | Critical | Emergency |
| Lower Valley Water District | Hueco-Mesilla Bolson | Water levels in Elephant Butte Reservoir are less than a designated depth; decrease in surface water allotment; and increase in demand. | Water stored in Elephant Butte Reservoir is less than 50,000 acre-feet; surface water allotment is less than or equal to 3.0 acre-ft./acre; or demand exceeds 90% system capacity. | Surface water allotment less than or equal to 2.5 acre-ft./acre; or demand exceeds 95% system capacity. | Surface water allotment less than or equal to 2.0 acre-ft./acre; or demand exceeds 100% system capacity. | N/A | Major system failures or supply contamination. |
| | | | Voluntary-reduce landscape irrigation water use by 50%. | Voluntary-reduce industry water consumption by 25% | All non-essential water use is prohibited. | N/A | Water rationing may be put into effect. |
| Terrell County WCID #1 (Sanderson) | Edwards-Trinity (Plateau) | Base on system capacity limits. | Daily water demand reaches or exceeds 80% of the system's capacity for 5 consecutive days. | Daily water demand reaches or exceeds 90% of the system's capacity for 5 consecutive days. | Daily water demand reaches or exceeds 100% of the system's capacity for 2 consecutive days. | N/A | N/A |
| | | | Inform the public. | All non-essential water use is prohibited. | Prohibit outside water use. | N/A | N/A |
| Town of Anthony | Hueco-Mesilla Bolson | Base on system capacity limits. | Daily water demand exceeds 90% of the system's capacity for 3 consecutive days; equipment or system failure occurs that limits the capacity of the system below 85% during high demand periods. | Daily water demand exceeds 90% of the system's capacity for 3 consecutive days; equipment or system failure occurs that limits the capacity of the system below 75% during high demand periods. | Daily water demand exceeds 98% of the system's capacity for 3 consecutive days; equipment or system failure occurs that limits the capacity of the system below 70% during high demand periods. | N/A | Major system failures or supply contamination. |
| | | | Voluntary-reduce water demand by 1-5% | Reduce water demand by 5-10% | Reduce water demand by 10-15% | N/A | Water rationing may be put into effect. |

7.2.6 Groundwater Conservation District Drought Management

A discussion of the creation and the goals of the six Groundwater Conservation Districts (GCDs) formed in Far West Texas are discussed in more detail in Chapter 5 - Section 5.3. This section will focus on summarizing drought management by the Districts.

Six districts are currently in operation within the planning region:

- Brewster County GCD (<http://westtexasgroundwater.com>)
- Culberson County GCD
(<http://www.co.culberson.tx.us/page/culberson.GroundWaterConservationDistrict>)
- Hudspeth County UWCD #1
- Jeff Davis County UWCD
- Presidio County UWCD
- Terrell County GCD

Groundwater Conservation Districts are required to define management goals that specifically address drought conditions within their groundwater management plans. These are delineated via management objectives and performance standards.

7.2.6.1 Brewster County Groundwater Conservation District

Management Objective – file and discuss at each meeting of the Board, drought emergency contingency plans received since the previous meeting.

The District, in partnership with the landowners of the District, hopes to monitor changing storage conditions of groundwater due to drought conditions.

7.2.6.2 Culberson County Groundwater Conservation District

Management Objective – The District will monitor the PDSI and the TWDB drought page and report findings and actions to the District Board on a quarterly basis. If PDSI indicates that the District will experience severe drought conditions, the District will notify all public water suppliers within the District.

7.2.6.3 Hudspeth County Underground Water Conservation District No. 1

Management Objective – the annual amount of groundwater permitted by the District for withdrawal from the portion of the Bone Spring-Victorio Peak aquifer located within the District may be curtailed during periods of extreme drought in the recharge zone of the aquifer or because of other conditions that cause significant declines in groundwater levels. Such curtailment may be triggered by the District's Board based on the groundwater levels measured in the District's monitoring well(s).

7.2.6.4 Jeff Davis County Underground Water Conservation District

Management Objective – the District will monitor the PDSI and report to the Board, the number of times the District experiences PDSI of less than one (mild drought). If PDSI indicates that the District will experience severe drought conditions, the District will notify all public water suppliers within the District.

7.2.6.5 Presidio County Underground Water District

Management Objective – the District will monitor the PDSI at least once quarterly. If PDSI indicates that the District will experience severe drought conditions, the District will notify all public water suppliers within the District.

7.2.6.6 Terrell County Groundwater Conservation District

Management Objective – the District will access the PDSI map and will check for updates to the Drought Preparedness Council Situation Report and discuss current drought conditions during at least one Board meeting a year.

7.3 EXISTING AND POTENTIAL EMERGENCY INTERCONNECTS

According to Texas Statute §357.42(d)(e) regional water planning groups are to collect information on existing major water infrastructure facilities that may be used in the event of an emergency shortage of water. Pertinent information includes identifying the potential user(s) of an interconnected facility, the potential supplier(s), the estimated potential volume of supply that could be provided, and a general description of the facility. Texas Water Code §16.053(c) requires more specific information regarding facility locations to remain confidential. This section provides general information regarding existing and potential emergency interconnects among water user groups within Far West Texas.

El Paso Water provides water to several entities (see Chapter 2 Table 2-3) and has the connection to supply additional emergency supplies if needed. Additional water supply is also available to EPW during an emergency shortage of water via the Desalination Plant and from EPCWID#1 if supply from the Rio Grande is available. Major water infrastructure facilities with the potential to interconnect with other utilities were identified through a survey process to better evaluate existing and potentially feasible emergency interconnects. Six potential interconnects are identified as shown in Table 7-2.

Table 7-2. Existing and Potential Emergency Interconnects to Major Water Facilities

| Entity Providing Supply | Entity Receiving Supply |
|-----------------------------|--------------------------|
| Lower Valley Water District | El Paso WCID #4 Fabens |
| | El Paso Co. Tornillo WID |
| | Horizon Regional MUD |
| | Clint |
| EPW | Town of Anthony |
| | LVWD |
| | Fort Bliss |
| | Vinton |
| | Paseo Del Este MUD#1 |
| | East Montana |
| | Hacienda Del Norte |
| Fort Davis Estates | Fort Davis |
| EPCWID#1 | EPW |

7.4 EMERGENCY RESPONSES TO LOCAL DROUGHT CONDITIONS OR LOSS OF MUNICIPAL SUPPLY

Texas Statute §357.42(g) requires regional water planning groups to evaluate potential temporary emergency water supplies for all County-Other WUGs and municipalities with 2010 populations less than 7,500 that rely on a sole source of water. The purpose of this evaluation is to identify potential alternative water sources that may be considered for temporary emergency use if the existing water supply sources become temporarily unavailable due to extreme hydrologic conditions such as emergency water right curtailment, unanticipated loss of reservoir conservation storage, or other localized drought impacts.

This section provides potential solutions that should act as a guide for municipal water users that are most vulnerable in the event of a loss of supply. Entities evaluated for emergency responses to local drought conditions or loss of municipal supply were assumed to have 180 days or less of remaining supply. This review was limited and did not require technical analyses or evaluations following in accordance with 31 TAC §357.34.

There are 12 municipal and County-Other entities in the Region that have a 2010 Census population of less than 7,500 and rely upon a sole source of water. Eleven entities rely on groundwater and one (City of Clint) relies on water purchased from another entity. Potential emergency water supply sources that might be used by these small sole-source municipal or County-Other entities include the following:

- New local groundwater well
- Emergency interconnect
- Use of other named local supply
- Trucked-in water delivery
- Brackish groundwater limited treatment
- Brackish groundwater desalination
- Release from upstream reservoir
- Curtailment of upstream and/or downstream water rights

Based upon personal communication with the entities, the addition of a new local groundwater well along with trucking in water was identified by all entities as a potential emergency water supply source. The City of Clint and the City of Presidio would also consider the curtailment of proximal water rights as a feasible option under emergency conditions. The entities along with feasible potential emergency water supply options have been included in Table 7-3.

Table 7-3. Emergency Responses to Local Drought Conditions

| Entity | | | | Implementation Requirements | | | | | | | | | |
|--|------------|-----------------|-------------|------------------------------------|-----------------------------|--|-----------------------------------|------------------------|--------------------|---------------------------------|-------------------------|--|---------------------------------------|
| Water User Group Name | County | 2020 Population | 2020 Demand | Curtailment of upstream/downstream | Additional groundwater well | Brackish groundwater limited treatment | Brackish groundwater desalination | Emergency interconnect | Trucked - in water | Type of infrastructure required | Entity providing supply | Other local entities required to participate | Emergency agreements already in place |
| Alpine | Brewster | 6,066 | 1,934 | | ▪ | | | | ▪ | | | | |
| Anthony | Brewster | 4,206 | 770 | | ▪ | | | ▪ | ▪ | Pipeline/Truck | EPW | | General |
| Clint | El Paso | 1,131 | 92 | ▪ | ▪ | | | ▪ | ▪ | Pipeline/Truck | LVWD | LVWD | |
| East Montana Water System | El Paso | 6,599 | 806 | | ▪ | | | | ▪ | | | | |
| El Paso Co. Tornillo WID | El Paso | 3,202 | 320 | | ▪ | | | ▪ | ▪ | | LVWD | | |
| El Paso WCID 4 Fabens | El Paso | 8,858 | 810 | | ▪ | | | ▪ | ▪ | | LVWD | | |
| Esperanza Water Service | Hudspeth | 905 | 142 | | ▪ | | | | ▪ | | | | |
| Federal Correctional Institution - La Tuna | El Paso | 1,668 | 352 | | ▪ | | | | ▪ | | | | |
| Fort Davis Estates | Jeff Davis | 1,361 | 319 | | ▪ | | | ▪ | ▪ | Pipeline/Truck | Fort Davis WSC | | |
| Haciendas Del Norte WID | El Paso | 1,218 | 196 | | ▪ | | | | ▪ | | | | |
| Hudspeth County WCID 1 | Hudspeth | 952 | 142 | | ▪ | | | | ▪ | | | | |
| Lajitas Municipal Services | Brewster | 542 | 103 | | ▪ | | | | ▪ | | | | |
| Marathon WSSS | Brewster | 444 | 124 | | ▪ | | | | ▪ | | | | |
| Marfa | Presidio | 2,583 | 690 | | ▪ | | | | ▪ | | | | |
| Paseo Del Este MUD 1 | El Paso | 8,116 | 1,054 | | ▪ | | | | ▪ | | | | |
| Presidio | Presidio | 5,458 | 738 | ▪ | ▪ | | | | ▪ | Trucks | | | |
| Terrell County WCID 1 (Sanderson) | Terrell | 870 | 178 | | ▪ | | | | ▪ | Trucks | | | |
| Sierra Blanca (County-Other) | Hudspeth | 553 | 58 | | ▪ | | ▪ | ▪ | ▪ | Trucks | | Hudspeth Co. WCID1 | General |
| Van Horn | Culberson | 2,319 | 662 | | ▪ | | | | ▪ | Trucks | | | |
| Valentine (County-Other) | Jeff Davis | 198 | 168 | | ▪ | | | | ▪ | | | | |

In order to qualify for emergency funds that are earmarked for emergency groundwater supply wells, entities must have a drought plan in place and be currently listed as an entity that is limiting water use to avoid shortages. This list is updated weekly by the TCEQ's Drinking Water Technical Review and Oversight Team and can be found at: <https://www.tceq.texas.gov/drinkingwater/trot/droughtw.html>.

There is some assistance available through the Texas Department of Agriculture and the Texas Water Development Board. There are requirements, deadlines, and a specific application process. Contact the TWDB by e-mail, <Financial_Assistance@twdb.texas.gov>, or call 512-463-0991. Contact the Texas Department of Agriculture, Community Development Block Grants, or call 512-463-7476. Funding is limited.

Other TCEQ Guidance resources:

- Emergency and Temporary Use of Wells for Public Water Supplies (RG-485)
- https://www.tceq.texas.gov/assets/public/comm_exec/pubs/rg/rg-485.pdf Video: Workshop on Drought Emergency Planning for Public Water Systems in Texas
<http://www.youtube.com/watch?v=BdIF9CEcGPI&feature=plcp&context=C34378a7UDOEgToPDskJNYWXf5I3pKq8tW9pkVqQU>

7.5 REGION-SPECIFIC MODEL DROUGHT RESPONSE RECOMMENDATIONS AND MODEL CONTINGENCY PLANS

As mandated by TAC 357.42(c)&(i), the RWPGs shall develop drought response recommendations regarding the management of existing groundwater and surface water sources in the RWPA designated in accordance with §357.32. The RWPGs shall make drought preparation and response recommendations regarding the development of, content contained within, and implementation of local drought contingency plans. The RWPGs shall develop region-specific model drought contingency plans that shall be presented in the RWP which shall be consistent with 30 TAC Chapter 288 requirements.

A new component of the planning process introduced in this planning cycle is Regional Drought Planning, which essentially expands the conceptualization and application of drought planning by specific entities to encompass the entire Far West Texas Region. The approach utilized in developing a region-specific drought plan considers the following: 1) all regional groundwater and surface water sources, 2) current drought plans that are being utilized by user entities within the region, and 3) current monitoring stations within the region that have evolved since the previous planning cycle.

The goals of this approach are: 1) to gain a comprehensive view of what particular resources are being monitored by entities within the region, 2) determine which resources are not being monitored, 3) determine which users do not fall under the umbrella of existing DCPs, 3) identify potential monitoring stations with publicly accessible real-time data that currently exist, 4) determine how these data can be utilized for the water user groups that do are not subject to existing DCPs, and ultimately 5) development of a regional model drought contingency plan.

As discussed in Section 7.2, numerous groundwater conservation districts, irrigation districts, municipalities, and various public supply systems have written drought management plans or drought contingency plans and have provided them for inclusion in the Regional Plan.

7.5.1 Regional Groundwater Resources and Monitoring

Nine groundwater sources identified within Far West Texas and their contribution to total regional groundwater supply, based upon historical pumping averages for years 2012 through 2016, are:

- Bone Spring-Victorio (15%)
- Capitan Reef Complex (3%)
- Edwards-Trinity (Plateau) (less than 1%)
- Hueco-Mesilla (39%)
- Igneous (2%)
- Marathon (less than 1%)
- Rustler (less than 1%)
- West Texas Bolson (11%)
- Other (29%)

Current drought contingency plans are detailed in Section 7.3.5 and Table 7-1. State well numbers of the monitoring wells used by municipal entities that utilize groundwater triggers are shown in Table 7-4. A map of these locations is included as Figure 7-7.

Table 7-4. Current Municipal Trigger Monitoring Wells

| Water Supply Entity | County | Water Supply Source | Well ID |
|------------------------|----------|---------------------------|-----------|
| City of Marfa | Presidio | Igneous | 51-48-603 |
| City of Marfa | Presidio | Igneous | 51-48-602 |
| Terrell County WCID #1 | Terrell | Edwards-Trinity (Plateau) | 53-53-804 |
| Terrell County WCID #1 | Terrell | Edwards-Trinity (Plateau) | 53-53-806 |
| Terrell County WCID #1 | Terrell | Edwards-Trinity (Plateau) | 53-53-809 |
| Terrell County WCID #1 | Terrell | Edwards-Trinity (Plateau) | 53-53-903 |

The previous Far West Texas Water Plans identified wells that could potentially be used for drought monitoring. Table 7-5 provides a selection of groundwater trigger wells included in the 2016 Plan, with an updated status and history of measurements.

Table 7-5. 2016 RWP Groundwater Trigger Monitoring Wells

| Aquifer | County | Well ID | Monitoring Agency | Period of Record & Measurement Count | Current Status |
|---------------------------|------------|--------------------------------|----------------------------|--------------------------------------|---------------------------------|
| Igneous | Brewster | 52-35-709 (Cartwright Well) | TWDB | 1958-2019 (100 measurements) | Active |
| Marathon | Brewster | 52-55-106 | Registered Driller | 2008 (1 measurement) | Inactive |
| Lobo | Culberson | 51-02-903 | TWDB | 1950-2019 (66 measurements) | Active |
| Wild Horse | Culberson | 47-59-106 | TWDB | 1953-2019 (64 measurements) | Active |
| Hueco Bolson | El Paso | 49-13-710 (EPWU #67) | City | 1968-2009 (50 measurements) | Inactive (plugged in 2009) |
| Mesilla Bolson | El Paso | 49-04-138 (JL-EPWU #117) | USGS | 1952-2010 (46 measurements) | Monitoring discontinued in 2010 |
| Rio Grande Alluvium | El Paso | 49-04-701 | U.S. Bureau of Reclamation | 1946-1990 (532 measurements) | Unknown |
| Bone Spring-Victorio | Hudspeth | 48-07-516 | TWDB | 1966-2019 Recorder well | Active |
| Ryan Flat | Jeff Davis | 51-19-902 (2 Section Well) | TWDB | 1955-2019 (61 measurements) | Active |
| Edwards-Trinity (Plateau) | Terrell | 53-53-601 | Terrell County WCID #1 | 1986 (no measurements) | Unknown |

The TWDB maintains a component of their website called Water Data for Texas that is a collective of real-time monitoring data from both groundwater wells and reservoir stage-capacity gages. Table 7-6 is a summary of the 7 groundwater wells located within Far West Texas, with their locations included on Figure 7-7.

Table 7-6. Currently Active (Real-Time) Monitoring Wells

Source: Water Data for Texas

| County | State Well Number | Aquifer | Aquifer Type | Entity/Cooperator | Data Transmission | Start Date - Period of Record |
|------------|-------------------------|----------------------------|--------------|-------------------------------|-------------------|-------------------------------|
| Brewster | 7347404 | Other | Unconfined | Texas Water Development Board | Satellite | 5/9/2007 |
| Culberson | 4759123 | Salt Bolson and Cretaceous | Unconfined | Texas Water Development Board | Satellite | 6/10/1996 |
| El Paso | 4904476 | Hueco-Mesilla Bolson | Unconfined | U.S. Geological Survey | Satellite | 10/15/2013 |
| El Paso | 4913301 | Hueco-Mesilla Bolson | Unconfined | Texas Water Development Board | Satellite | 12/5/2002 |
| Hudspeth | 4807516 | Bone Spring-Victorio Peak | Unconfined | Texas Water Development Board | Satellite | 3/10/1966 |
| Jeff Davis | 5225209 | Igneous | Unconfined | Texas Water Development Board | Satellite | 9/5/2001 |
| Presidio | 5129805 | West Texas Bolson | Unconfined | Texas Water Development Board | Satellite | 9/15/1993 |

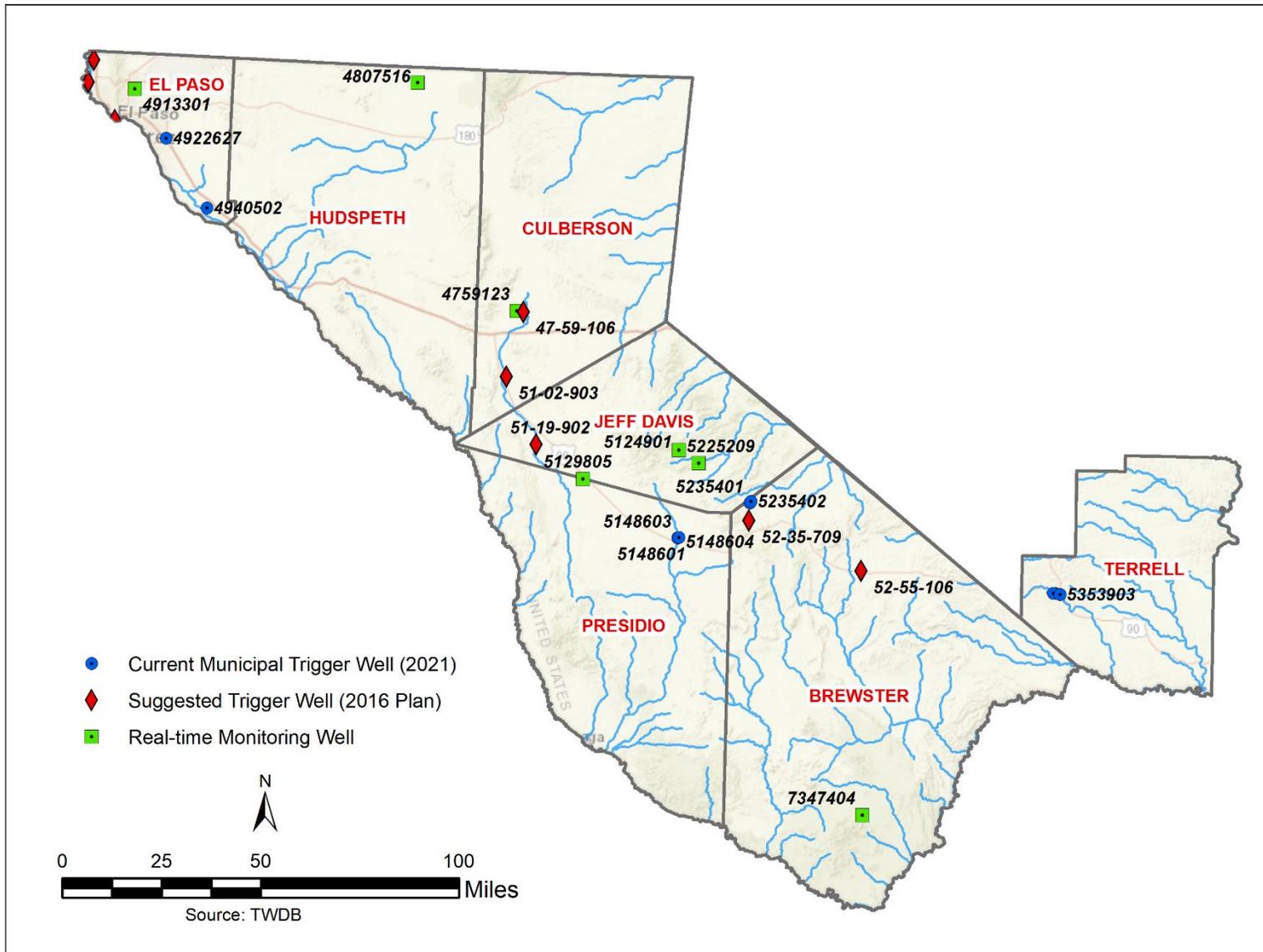


Figure 7-7. Regional Monitoring and Trigger Wells

7.5.2 Regional Surface Water Resources

Surface water sources identified within Far West Texas and their contribution to total regional surface water supply are:

- Rio Grande (65%)
- Rio Grande Return Flows (34%)
- Pecos River (<1%)

The basin contribution to the regional supply calculation is based upon the WAM Run 3 (Full Authorization) availability numbers.

A list of selected currently active stream flow and spring flow and gauging stations are listed in Table 7-7 International Boundary Water Commission (IBWC) and U.S. Geological Survey (USGS) gauging stations located along the Rio Grande between the Rio Conchos and the Pecos River are presented on Figure 7-8. There are five stations that are currently operating in this reach of the Rio Grande. The IBWC and USGS stations have real-time data that is publicly accessible online.

Table 7-7. Currently Active Surface Water Gauging Locations, USGS, IBWC

| County | Station ID | Station Name | Agency | Period of Record | Measurement Frequency |
|-----------|------------|---|--------|------------------|-----------------------|
| Presidio | 08-3650.00 | Rio Grande below American Dam at El Paso, Texas | IBWC | 1938-2019 | 15 minutes |
| Presidio | 08-3705.00 | Rio Grande at Old Fort Quitman, Texas | IBWC | 1923-2019 | 15 minutes |
| Presidio | 08-3712.00 | Rio Grande near Candelaria, Texas | IBWC | 1976-2019 | 15 minutes |
| Presidio | 08-3715.00 | Rio Grande above Rio Conchos near Presidio, Texas | IBWC | 1900-2019 | 15 minutes |
| Presidio | 08-3742.00 | Rio Grande below Rio Conchos near Presidio, Texas | IBWC | 1900-2019 | 15 minutes |
| Presidio | 08-3743.00 | Rio Grande below Mulato Dam near Redford, Texas | IBWC | 2014-2019 | 15 minutes |
| Val Verde | 08-4474.10 | Pecos River near Langtry, Texas | IBWC | 1967-2019 | 15 minutes |
| Brewster | 08-3745.00 | Terlingua Creek near Terlingua, Texas | IBWC | 1932-2019 | 15 minutes |
| Brewster | 08-3750.00 | Rio Grande at Johnson Ranch near Castolon, Texas | IBWC | 1936-2019 | 15 minutes |
| Brewster | 08374550 | Rio Grande near Castolon, Texas | USGS | 2007-2019 | Daily |
| Brewster | 08375300 | Rio Grande at Rio Grande Village, BBNP, Texas | USGS | 2007-2019 | Daily |
| Terrell | 08447020 | Independence Creek near Sheffield, Texas | USGS | 1974-2019 | Daily |

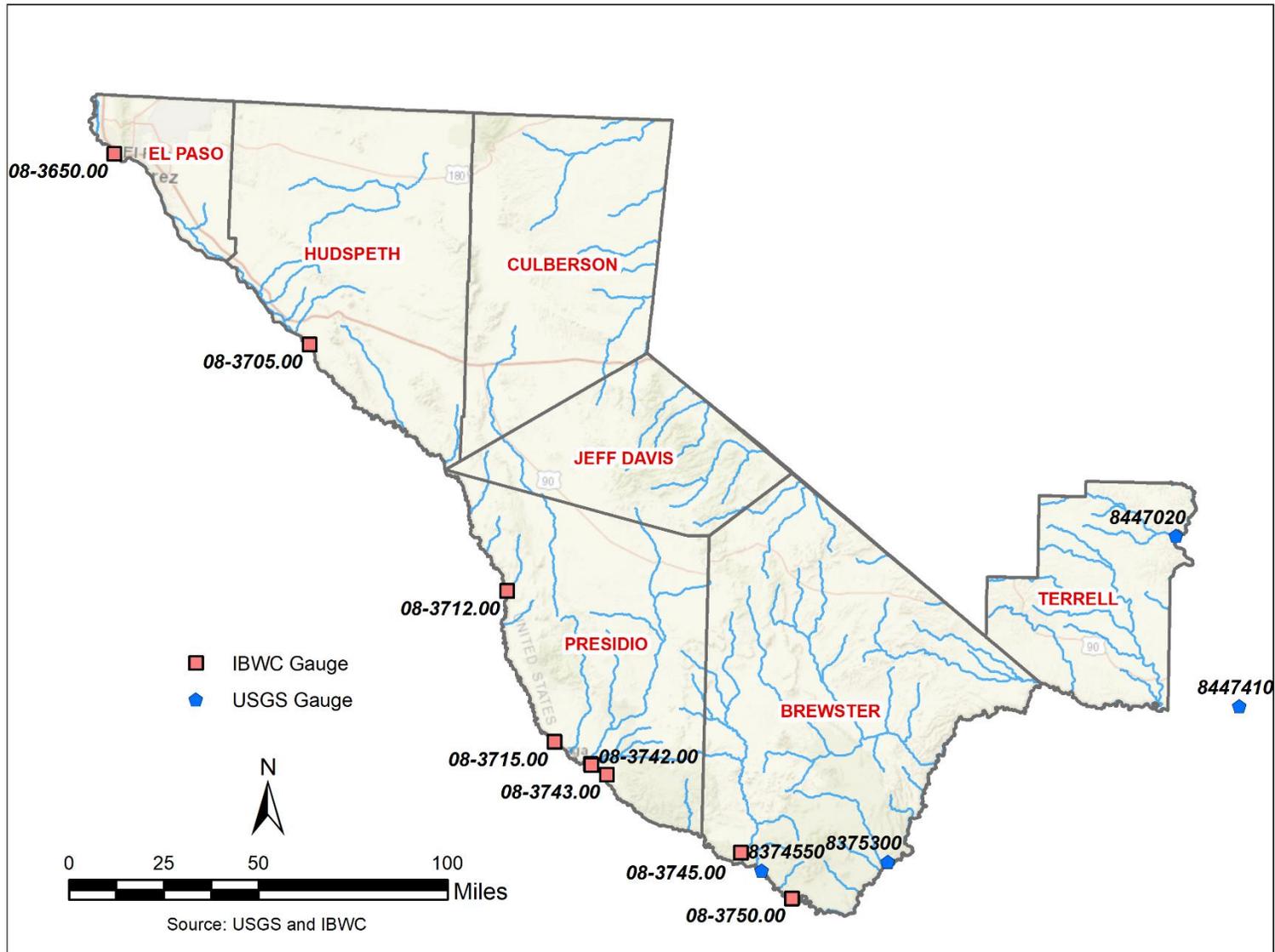


Figure 7-8. Selected Active Surface Water Gaging Locations

7.5.3 Regional Model Drought Contingency Plan

The Regional Model DCP summary Table 7-8 provides an overview of all existing regional water sources, WUGs, monitoring wells, gaging stations as well as recommended drought triggers and actions. The intent of including the monitoring wells and stations is to provide a comprehensive region-wide assessment of what current tools are available to WUGs and districts to monitor resources within the Region.

The Regional Model DCP will undoubtedly change over time to address particular needs and issues of the Region's users. Therefore, this initial version of the model plan will primarily focus on identifying all sources, users and monitoring tools to find the specific components within the Region that are not currently incorporated into any existing drought plan but could potentially utilize existing data resources. Another focus of this first model plan will consider consistency of existing plans within the Region. Entities that have adopted drought plans will only be assessed to this end, therefore fine-tuning existing triggers of existing municipal drought plans is not a goal of the model plan beyond an effort toward achieving consistent responses/actions to drought across the Region. No triggers have been recommended for modification; however, an effort has been made to make the percent reduction of demand/use a little more aggressive and more equitable across the board. Additionally, 'voluntary conservation' has been removed as a stage 1 action. Conservation is a BMP that ideally will ultimately be practiced on a daily basis, and not merely as a reaction to drought conditions, therefore it has been removed as an action in the Regional Model DCP.

Smaller PWS entities (county-other), manufacturing, power, and irrigation water wells that exceed GCD exempt well-production thresholds are subject to drought actions imposed by the conservation districts. Exempt well users are requested to voluntarily follow the actions specified by the Districts for non-exempt users. Generally, the water user groups within the Region that are *not* included in these plans (or included on a voluntary basis) are: 1) exempt water wells in counties with established GCDs, 2) users in Culberson and Hudspeth County outside of GCD boundaries, 3) and El Paso County users outside of EPW distribution system.

Table 7-8. Recommended Regional Drought Plan Triggers and Actions

| Source Name | Source Type | Source User Entity | Current WUG Monitoring | Real-time Source Monitoring | Triggers | Recommendations | Specific Actions (Percent Reduction Demand/ Use) | | | | | | | |
|------------------------------------|-------------|---|---|---|---|--|--|----|----|----|-------|----|----|----|
| | | | | | | | Source Manager | | | | Users | | | |
| | | | | | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Mild | Mod | Severe | Critical | Mild | Mod | Severe | Critical | | | | | | | |
| <i>Bone Spring - Victorio Peak</i> | GW | <i>County Other</i> | TWDB | 48-07-516 (TWDB) | Trigger and monitoring wells in GCD Management Plan | Create a formal DCP with wells, triggers and responses | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | <i>Irrigation</i> | | | | | | | | | | | | |
| | | <i>Livestock</i> | | | | | | | | | | | | |
| <i>Capitan Reef Complex</i> | GW | <i>Irrigation</i> | N/A | N/A | Non-potable supply. | N/A | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | <i>Mining</i> | | | | | | | | | | | | |
| | | <i>Livestock</i> | | | | | | | | | | | | |
| <i>Edwards-Trinity (Plateau)</i> | GW | Terrell County WCID #1 (Sanderson) | TWDB 53-53-804, 53-53-806, 53-53-809, 53-53-903 | N/A | See Table 7-1 | Create a formal DCP with wells, triggers and responses. Make stage 1 a mandatory 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | County Other - (Brewster, Culberson, Jeff Davis, Terrell) | N/A | N/A | Trigger and monitoring wells in GCD Management Plan | N/A | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | <i>Irrigation</i> | | | | | | | | | | | | |
| | | <i>Livestock</i> | | | | | | | | | | | | |
| <i>Mining</i> | | | | | | | | | | | | | | |
| <i>Hueco-Mesilla Bolson</i> | GW | City of El Paso | N/A | 49-04-476 (USGS), or 49-13-301 (TWDB) | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a mandatory 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | City of Vinton | | | See Table 7-1 (EPW) | Follow El Paso triggers and actions. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | Lower Valley Water District | | | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a mandatory 20% demand reduction. | | | | | | | | |
| | | Town of Clint | | | See Table 7-1 (LVWD) | Follow LVWD triggers and actions. | | | | | | | | |
| | | City of San Elizario | | | | | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | City of Socorro | | | | | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | El Paso County Tornillo WID | | | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | El Paso County WCID #4 | | | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| <i>Hueco-Mesilla Bolson</i> | GW | Fort Bliss | N/A | 49-04-476 (USGS), or 49-13-301 (TWDB) | See Table 7-1 | Add triggers and actions for Stage 1 to achieve 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | Horizon Regional MUD | | | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | Town of Anthony | | | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | <i>County Other</i> | | | N/A | N/A | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | <i>Manufacturing</i> | | | | | | | | | | | | |
| | | <i>Mining</i> | | | | | | | | | | | | |
| | | <i>Power</i> | | | | | | | | | | | | |
| <i>Livestock</i> | | | | | | | | | | | | | | |

Table 7-8. (Continued) Recommended Regional Drought Plan Triggers and Actions

| Source Name | Source Type | Source User Entity | Current WUG Monitoring | Real-time Source Monitoring | Triggers | Recommendations | Specific Actions (Percent Reduction Demand/ Use) | | | | | | | |
|--|-------------|---|------------------------|-----------------------------|---|---|--|-----|--------|----------|-------|-----|--------|----------|
| | | | | | | | Source Manager | | | | Users | | | |
| | | | | | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| | | | | | | | Mild | Mod | Severe | Critical | Mild | Mod | Severe | Critical |
| <i>Igneous</i> | GW | City of Alpine | N/A | not needed | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | City of Marfa | 51-48-602, 51-48-603 | not needed | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | Fort Davis WSC | N/A | 52-25-209 (TWDB) | See Table 7-1 | Add triggers and actions for Stage 1 to achieve 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | <i>County Other</i> | | | Subject to GCD management plans. | N/A | Follow GCD recommendations. | | | | | | | |
| | | <i>Irrigation</i> | | | | | | | | | | | | |
| <i>Mining</i> | | | | | | | | | | | | | | |
| <i>Livestock</i> | | | | | | | | | | | | | | |
| <i>Marathon</i> | GW | Marathon WSSS | N/A | N/A | Subject to GCD management plans. | N/A | Follow GCD recommendations. | | | | | | | |
| | | <i>County Other</i> | | | | | | | | | | | | |
| | | <i>Livestock</i> | | | | | | | | | | | | |
| <i>West Texas Bolsons</i> | GW | City of Presidio | N/A | 47-59-123 (TWDB) | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | City of Van Horn | | | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a 20% demand reduction. Add triggers to DCP. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | Hudspeth County WCID #1 (Sierra Blanca) | | | No DCP submitted. | N/A | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | <i>County Other</i> | N/A | 51-29-805 (TWDB) | Subject to GCD management plans except in Hudspeth County | N/A | | | | | | | | |
| | | <i>Irrigation</i> | | | | | | | | | | | | |
| | | <i>Mining</i> | | | | | | | | | | | | |
| <i>Livestock</i> | | | | | | | | | | | | | | |
| <i>Other - Rio Grande Alluvium (El Paso, Hudspeth)</i> | GW | Horizon Regional MUD | N/A | N/A | See Table 7-1 | Remove voluntary conservation as a stage. Make stage 1 a 20% demand reduction. | 20 | 30 | 40 | 50 | 20 | 30 | 40 | 50 |
| | | <i>Mining</i> | N/A | N/A | N/A | N/A | | | | | | | | |
| | | <i>Irrigation</i> | | | | | | | | | | | | |
| <i>Other - Volcanics (Brewster)</i> | GW | <i>Mining</i> | N/A | 73-47-404 | Subject to GCD management plans. | N/A | Follow GCD recommendations. | | | | | | | |
| | | <i>Irrigation</i> | | | | | | | | | | | | |
| | | <i>Livestock</i> | | | | | | | | | | | | |

Table 7-8. (Continued) Recommended Regional Drought Plan Triggers and Actions

| Source Name | Source Type | Source User Entity | Current WUG Monitoring | Real-time Source Monitoring | Triggers | Recommendations | Specific Actions (Percent Reduction Demand/ Use) | | | | | | | |
|--------------------|-------------|----------------------------|------------------------|---|--|---------------------|--|-----|--------|----------|-------|-----|--------|----------|
| | | | | | | | Source Manager | | | | Users | | | |
| | | | | | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| | | | | | | | Mild | Mod | Severe | Critical | Mild | Mod | Severe | Critical |
| Upper Rio Grande | SW | City of El Paso | EPCWID#1 | USBR Elephant Butte Reservoir Dam | Subject to requirements mandated by the Rio Grande Project | No recommendations. | No recommendations. | | | | | | | |
| Lower Rio Grande | SW | Hudspeth County Irrigation | | 08-3705.00 Rio Grande at Old Fort Quitman, Texas | Subject to local mandates by irrigation district | No recommendations. | No recommendations | | | | | | | |
| | | Presidio County Irrigation | | IBWC 08-3742.00 Rio Grande below Rio Conchos near Presidio, TX USGS 08375300 Rio Grande at Rio Grande Village, BBNP, Texas | Subject to local mandates by irrigation district | No recommendations. | | | | | | | | |
| Terlingua Creek | SW | | | IBWC 08-3745.00 Terlingua Creek near Terlingua, TX | N/A | No recommendations. | | | | | | | | |
| Pecos River | SW | | | IBWC 08-4474.10 Pecos River near Langtry, TX | N/A | No recommendations. | | | | | | | | |
| Independence Creek | SW | | | USGS 08447020 Independence Creek near Sheffield, TX | N/A | No recommendations. | | | | | | | | |
| Toyahville Springs | SW | | | USGS 08427000 Giffin Springs at Toyahville, TX | N/A | No recommendations. | | | | | | | | |

7.5.4 Model Drought Contingency Plans

Model drought contingency plans were developed for the Far West Texas region and are included in Attachment 7-1. Each plan identifies four drought stages: mild, moderate, severe and emergency. The recommended responses range from notification of drought conditions and voluntary reductions in the “mild” stage to mandatory restrictions during an “emergency” stage. Entities using the model plan can select the trigger conditions for the different stages and appropriate responses for each stage.

In 2019, the Drought Preparedness Council recommended that a model DCP be in place for any water user group that exceeds ten percent of the Region’s water demands. For Far West Texas, these user groups include irrigation and municipal. Based on this recommendation, model DCPs for municipal and irrigation users have been added.

Public Water Supplier

Drought contingency plans have previously been adopted by the majority public suppliers and municipalities in Far West Texas, although some suppliers did not provide any adopted plans. Current triggers and response actions for participating entities are summarized in Table 7-1. Recommended changes to existing response actions are detailed in Table 7-8.

Irrigation

Irrigation wells located within a municipality are subject to the triggers and response actions designated by the city’s drought plan. Non-exempt irrigation wells located outside of a municipality but within a GCD are subject to the triggers and response actions of the GCD. Exempt irrigation wells located within a GCD are requested to comply voluntarily with response actions that have been mandated for non-exempt well owners. No response actions have been designated for irrigators located in El Paso County except for those located within the City of El Paso’s jurisdictional boundary.

Major Water Provider

There are two major municipal water providers in the Far West Texas region:

- El Paso Water
- Lower Valley Water District

Currently adopted triggers and response actions for these providers are summarized in Table 7-9.

Table 7-9. Major Municipal Water Provider Drought Triggers and Response Actions

| WWP | | Stage & Description | | | | |
|-----------------------------|---|--|---|--|-------------|--|
| | | 1 - Mild | 2 - Moderate | 3 - Severe | 4 - Extreme | 5 - Emergency |
| El Paso Water | Trigger | EPCWID decreases allotment less than 0.5-acre foot per acre on or before April 1; water demand is projected to exceed EPWU system capacity. | EPCWID decreases allotment less than 1.0-acre foot per acre on or after April 1 but before May 1 or there is not a continuous release of surface water; water demand is projected to exceed EPWU system capacity. | EPCWID decreases allotment less than 1.5-acre foot per acre after May 1 but before May 15 or there is not a continuous release of surface water; water demand is projected to exceed EPWU system capacity. | N/A | N/A |
| El Paso Water | Conservation Goal (percent reduction in pumpage) | Voluntary-reduce water demand by 25%, public education and outreach. | Mandatory lawn watering schedule and permitting. | Set limits on water consumption; prohibit use of specific outdoor watering activities. | N/A | N/A |
| Lower Valley Water District | Trigger | Water stored in Elephant Butte Reservoir is less than 50,000 acre-feet; surface water allotment is less than or equal to 3.0 acre-ft./acre; or demand exceeds 90% system capacity. | Surface water allotment less than or equal to 2.5 acre-ft./acre; or demand exceeds 95% system capacity. | Surface water allotment less than or equal to 2.0 acre-ft./acre; or demand exceeds 100% system capacity. | N/A | Major system failures or supply contamination. |
| Lower Valley Water District | Conservation Goal (percent reduction in pumpage) | Voluntary-reduce landscape irrigation water use by 50%. No: aesthetic use (fountains), car washes, filling of pools, or pavement washing. | Voluntary-reduce industry water consumption by 25% No: planting except xeriscape, street-sweeping, City or County irrigation, plus all stage 1 restrictions. | All non-essential water use is prohibited. | N/A | Water rationing may be put into effect. |

7.6 DROUGHT MANAGEMENT WATER MANAGEMENT STRATEGIES

Far West Texas does not consider drought management as a feasible strategy to meet long-term growth in demands or current needs. This strategy is considered a temporary measure aimed at conserving available water supplies during times of drought or emergencies. Drought management is most adequately addressed in the region through the implementation of local drought contingency plans. Far West Texas is supportive of the development and use of these plans during periods of drought or emergency water needs.

Average annual precipitation in Far West Texas varies from about eight inches a year in El Paso County to nearly 15 inches in Jeff Davis County. As a result, the Region is accustomed to managing water supplies in a dry environment. Thus, Far West Texas is probably the best prepared Regional Water Planning Area in in the State to manage their water resources during drought conditions.

7.7 OTHER DROUGHT-RELATED CONSIDERATIONS AND RECOMMENDATIONS

7.7.1 Texas Drought Preparedness Council and Drought Preparedness Plan

In accordance with TWDB rules, all relevant recommendations from the Drought Preparedness Council were considered in the writing of this Chapter. The Texas Drought Preparedness Council is composed of representatives from multiple State agencies and plays an important role in monitoring drought conditions, advising the governor and other groups on significant drought conditions, and facilitating coordination among local, State, and federal agencies in drought-response planning. The Council meets regularly to discuss drought indicators and conditions across the State and releases Situation Reports summarizing their findings. Additionally, the Council has developed the State Drought Preparedness Plan, which sets forth a framework for approaching drought in an integrated manner to minimize impacts to people and resources. Far West Texas supports the ongoing efforts of the Texas Drought Preparedness Council and recommends that water providers and other interested parties regularly review the Situation Reports as part of their drought monitoring procedures. The Council provided two new recommendations in 2019 to all RWPGs which are addressed in this chapter.

- Follow the outline template for Chapter 7 provided to the regions by Texas Water Development Board staff in April of 2019, making an effort to fully address the assessment of current drought preparations and planned responses, as well as planned responses to local drought conditions or loss of municipal supply.
- Develop region-specific model drought contingency plans for all water use categories in the region that account for more than 10 percent of water demands in any decade over the 50-year planning horizon.

To meet these recommendations, Far West Texas has developed this Chapter to correspond with the sections of the outline template and has provided model DCPs for both municipal and irrigation users.

7.7.2 Other Drought Recommendations

The Far West Texas Water Planning Group recognizes that while drought preparedness, including drought contingency plans (DCPs), are an important tool, in some instances, drought cannot be prepared for, it must be responded to. The Planning Group maintains that DCPs developed by the local, individual water providers are the best available tool for drought management and fully supports the use and implementation of individual DCPs during times of drought. The Planning Group has reviewed provided DCPs and specific drought response strategies proposed in this Plan and find no unnecessary or counterproductive variations to exist.

Drought in Far West Texas can be defined in three operational definitions; meteorologic, agricultural and hydrologic (see Chapter 1, Section 1.2.6). Because Far West Texas already exists in a meteorological environment that is significantly drier than the rest of the State, it is more logical to consider management strategies that address a diminished or lost water supply source. Primary sources include Rio Grande surface water and groundwater from numerous aquifers.

Rio Grande drought supply is largely the result of meteorological conditions in southern Colorado and New Mexico. Surface water drought management recommendations are:

- Continue to support the US Bureau of Reclamation - Rio Grande Project administration.
- Continue to financially support El Paso County WID#1 projects intended to prevent loss of water due to seepage in canals.
- Continue to legally support the justifiable delivery of apportioned water (Rio Grande Compact) across the New Mexico state line.
- Continue to legally support the justifiable delivery of apportioned water (Rio Grande International Treaty) across the international boundary.

Rural communities other than those in El Paso County are reliant on groundwater sources. Groundwater in Far West Texas is generally not immediately impacted by intermittent drought conditions as does surface water. Therefore, loss of supply is more of an infrastructure issue. Communities in these counties can mostly be classified as small to very small, with limited financial revenues. Thus, the biggest threat to a water-supply loss is the lack of a back-up source. Some communities have only one water-supply well and no interconnect options. The Far West Texas Water Planning Group thus recommends that state and federal agencies with rural-community relief functions provide grant funding opportunities to address this potential water-shortage predicament.

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APPENDIX 7A MODEL DROUGHT CONTINGENCY PLANS

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**Far West Texas
Model Drought Contingency Plan
for an Irrigation District
(adapted from TCEQ)**

Irrigation District: Click to add text

Address: _____

Telephone Number: () Fax: ()

Water Right No.(s): _____

Regional Water Planning Group: _____

Form Completed by: _____

Title: _____

Person responsible for implementation: _____ Phone: ()

Signature: _____ 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 ____ (*example: 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 _____ (*example: 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 of 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 _____ (*example: 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-feet 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 ____ (*example: 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 ____ (*example: 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 user's 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 user's 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.

**Far West Texas
Drought Contingency Plan
for a Retail Public Water Supplier**

(Adapted from TCEQ)

Name: Click to add text

Address: _____

Telephone Number: () Fax: ()

Water Right No.(s): _____

Regional Water Planning Group: _____

Form Completed by: _____

Title: _____

Person responsible for implementation: _____ Phone: ()

Signature: _____ Date: / /

Section I: Declaration of Policy, Purpose, and Intent

In order to conserve the available water supply and protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the _____ (*name of your water supplier*) hereby adopts the following regulations and restrictions on the delivery and consumption of water.

Water uses regulated or prohibited under this Drought Contingency Plan (the Plan) are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water which subjects the offender(s) to penalties as defined in Section X of this Plan.

Section II: Public Involvement

Opportunity for the public to provide input into the preparation of the Plan was provided by the _____ (*name of your water supplier*) by means of _____ (*describe methods used to inform the public about the preparation of the plan and provide opportunities for input; for example, scheduling and providing public notice of a public meeting to accept input on the Plan*).

Section III: Public Education

The _____ (*name of your water supplier*) will periodically provide the public with information about the Plan, including information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. This information will be provided by means of _____ (*describe methods to be used to*

provide information to the public about the Plan; for example, public events, press releases or utility bill inserts).

Section IV: Coordination with Regional Water Planning Groups

The service area of the _____ (*name of your water supplier*) is located within the _____ (*name of regional water planning area or areas*) and _____ (*name of your water supplier*) has provided a copy of this Plan to the _____ (*name of your regional water planning group or groups*).

Section V: Authorization

The _____ (*designated official; for example, the mayor, city manager, utility director, general manager, etc.*), or his/her designee is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety, and welfare. The _____ (*designated official*) or his/her designee shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this Plan.

Section VI: Application

The provisions of this Plan shall apply to all persons, customers, and property utilizing water provided by the _____ (*name of your water supplier*). The terms “person” and “customer” as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities.

Section VII: Definitions

For the purposes of this Plan, the following definitions shall apply:

Aesthetic water use: water use for ornamental or decorative purposes such as fountains, reflecting pools, and water gardens.

Commercial and institutional water use: water use which is integral to the operations of commercial and non-profit establishments and governmental entities such as retail establishments, hotels and motels, restaurants, and office buildings.

Conservation: those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water or increase the recycling and reuse of water so that a supply is conserved and made available for future or alternative uses.

Customer: any person, company, or organization using water supplied by _____ (*name of your water supplier*).

Domestic water use: water use for personal needs or for household or sanitary purposes such as drinking, bathing, heating, cooking, sanitation, or for cleaning a residence, business, industry, or institution.

Even number address: street addresses, box numbers, or rural postal route numbers ending in 0, 2, 4, 6, or 8 and locations without addresses.

Industrial water use: the use of water in processes designed to convert materials of lower value into forms having greater usability and value.

Landscape irrigation use: water used for the irrigation and maintenance of landscaped areas, whether publicly or privately owned, including residential and commercial lawns, gardens, golf courses, parks, and rights-of-way and medians.

Non-essential water use: water uses that are not essential nor required for the protection of public, health, safety, and welfare, including:

- (a) irrigation of landscape areas, including parks, athletic fields, and golf courses, except otherwise provided under this Plan;
- (b) use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle;
- (c) use of water to wash down any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- (d) use of water to wash down buildings or structures for purposes other than immediate fire protection;
- (e) flushing gutters or permitting water to run or accumulate in any gutter or street;
- (f) use of water to fill, refill, or add to any indoor or outdoor swimming pools or Jacuzzi-type pools;
- (g) use of water in a fountain or pond for aesthetic or scenic purposes except where necessary to support aquatic life;
- (h) failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and
- (i) use of water from hydrants for construction purposes or any other purposes other than fire fighting.

Odd numbered address: street addresses, box numbers, or rural postal route numbers ending in 1, 3, 5, 7, or 9.

Section VIII: Criteria for Initiation and Termination of Drought Response Stages

The _____ (*designated official*) or his/her designee shall monitor water supply and/or demand conditions on a _____ (*example: daily, weekly, monthly*) basis and shall determine when conditions warrant initiation or termination of each stage of the Plan, that is, when the specified “triggers” are reached.

The triggering criteria described below are based on:

_____.
(*Provide a brief description of the rationale for the triggering criteria; for example, triggering criteria / trigger levels based on a statistical analysis of the vulnerability of the water source under drought of record conditions, or based on known system capacity limits.*)

Utilization of alternative water sources and/or alternative delivery mechanisms:

Alternative water source(s) for _____ (*name of utility*) is/are: _____.
(*Examples: Other well(s), Inter-connection with other system, Temporary use of a non-municipal water supply, Purchased water, Use of reclaimed water for non-potable purposes, etc.*)

Stage 1 Triggers -- MILD Water Shortage Conditions

Requirements for initiation

Customers shall be requested to voluntarily conserve water and adhere to the prescribed restrictions on certain water uses, defined in Section VII Definitions, when _____.

(*Describe triggering criteria / trigger levels; see examples below.*)

Following are examples of the types of triggering criteria that might be used in one or more successive stages of a drought contingency plan. The public water supplier may devise other triggering criteria and an appropriate number of stages tailored to its system. One or a combination of the criteria selected by the public water supplier must be defined for each drought response stage, but usually not all will apply.

Example 1: Annually, beginning on May 1 through September 30.

Example 2: When the water supply available to the ____ (name of your water supplier) is equal to or less than ____ (acre-feet, percentage of storage, etc.).

*Example 3: When, pursuant to requirements specified in the ____ (name of **your** water supplier) wholesale water purchase contract with ____ (name of your wholesale water supplier), notification is received requesting initiation of Stage 1 of the Drought Contingency Plan.*

Example 4: When flows in the ____ (name of stream or river) are equal to or less than ____ cubic feet per second.

Example 5: When the static water level in the ____ (name of your water supplier) well(s) is equal to or less than ____ feet above/below mean sea level.

Example 6: When the specific capacity of the ____ (name of your water supplier) well(s) is equal to or less than ____ percent of the well's original specific capacity.

Example 7: When total daily water demand equals or exceeds ____ million gallons for ____ consecutive days of ____ million gallons on a single day (example: based on the safe operating capacity of water supply facilities).

Example 8: Continually falling treated water reservoir levels which do not refill above ____ percent overnight (example: based on an evaluation of minimum treated water storage required to avoid system outage).

Requirements for termination

Stage 1 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of ____ (example: 3) consecutive days.

Stage 2 Triggers – MODERATE Water Shortage Conditions

Requirements for initiation

Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses provided in Section IX of this Plan when ____ (describe triggering criteria; see examples in Stage 1).

Requirements for termination

Stage 2 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of ____ (example: 3) consecutive days. Upon termination of Stage 2, Stage 1, or the applicable drought response stage based on the triggering criteria, becomes operative.

Stage 3 Triggers – SEVERE Water Shortage ConditionsRequirements for initiation

Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses for Stage 3 of this Plan when ____ (*describe triggering criteria; see examples in Stage 1*).

Requirements for termination

Stage 3 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of ____ (*example: 3*) consecutive days. Upon termination of Stage 3, Stage 2, or the applicable drought response stage based on the triggering criteria, becomes operative.

Stage 4 Triggers – CRITICAL Water Shortage ConditionsRequirements for initiation

Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses for Stage 4 of this Plan when ____ (*describe triggering criteria; see examples in Stage 1*).

Requirements for termination

Stage 4 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of ____ (*example: 3*) consecutive days. Upon termination of Stage 4, Stage 3, or the applicable drought response stage based on the triggering criteria, becomes operative.

Stage 5 Triggers – EMERGENCY Water Shortage ConditionsRequirements for initiation

Customers shall be required to comply with the requirements and restrictions for Stage 5 of this Plan when ____ (*designated official*), or his/her designee, determines that a water supply emergency exists based on:

1. Major water line breaks, or pump or system failures occur, which cause unprecedented loss of capability to provide water service; **or**
2. Natural or man-made contamination of the water supply source(s).

Requirements for termination

Stage 5 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of ____ (*example: 3*) consecutive days.

Stage 6 Triggers – WATER ALLOCATIONRequirements for initiation

Customers shall be required to comply with the water allocation plan prescribed in Section IX of this Plan and comply with the requirements and restrictions for Stage 5 of this Plan when ____ (*describe triggering criteria, see examples in Stage 1*).

Requirements for termination - Water allocation may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of ____ (*example: 3*) consecutive days.

Note: The inclusion of WATER ALLOCATION as part of a drought contingency plan may not be required in all cases. For example, for a given water supplier, an analysis of water supply availability under drought of record conditions may indicate that there is essentially no risk of water supply shortage. Hence, a drought contingency plan for such a water supplier might only address facility capacity limitations and emergency conditions (example: supply source contamination and system capacity limitations).

Section IX: Drought Response Stages

The _____ (*designated official*), or his/her designee, shall monitor water supply and/or demand conditions on a daily basis and, in accordance with the triggering criteria set forth in Section VIII of this Plan, shall determine that a mild, moderate, severe, critical, emergency or water shortage condition exists and shall implement the following notification procedures:

Notification

Notification of the Public:

The _____ (*designated official*) or his/ her designee shall notify the public by means of:

Examples:
publication in a newspaper of general circulation,
direct mail to each customer,
public service announcements,
signs posted in public places
take-home fliers at schools.

Additional Notification:

The _____ (*designated official*) or his/ her designee shall notify directly, or cause to be notified directly, the following individuals and entities:

Examples:
Mayor / Chairman and members of the City Council / Utility Board
Fire Chief(s)
City and/or County Emergency Management Coordinator(s)
County Judge & Commissioner(s)
State Disaster District / Department of Public Safety
TCEQ (required when mandatory restrictions are imposed)
Major water users
Critical water users, i.e. hospitals
Parks / street superintendents & public facilities managers

Note: The plan should specify direct notice only as appropriate to respective drought stages.

Stage 1 Response – MILD Water Shortage Conditions

Target: Achieve a voluntary _____ percent reduction in _____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by (name of your water supplier) to manage limited water supplies and/or reduce water demand.

Examples include: system water loss control, activation and use of an alternative supply source(s); use of reclaimed water for non-potable purposes.

Voluntary Water Use Restrictions for Reducing Demand:

- (a) Water customers are requested to voluntarily limit the irrigation of landscaped areas to Sundays and Thursdays for customers with a street address ending in an even number (0, 2, 4, 6 or 8), and Saturdays and Wednesdays for water customers with a street address ending in an odd number (1, 3, 5, 7 or 9), and to irrigate landscapes only between the hours of midnight and 10:00 a.m. and 8:00 p.m. to midnight on designated watering days.
- (b) All operations of the ____ (*name of your water supplier*) shall adhere to water use restrictions prescribed for Stage 1 of the Plan.
- (c) Water customers are requested to practice water conservation and to minimize or discontinue water use for non-essential purposes.

Stage 2 Response – MODERATE Water Shortage Conditions

Target: Achieve a ____ percent reduction in ____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by ____ (name of your water supplier) to manage limited water supplies and/or reduce water demand. Examples include: system water loss control, reduced or discontinued irrigation of public landscaped areas; use of an alternative supply source(s); use of reclaimed water for non-potable purposes.

Water Use Restrictions for Demand Reduction:

Under threat of penalty for violation, the following water use restrictions shall apply to all persons:

- (a) Irrigation of landscaped areas with hose-end sprinklers or automatic irrigation systems shall be limited to Sundays and Thursdays for customers with a street address ending in an even number (0, 2, 4, 6 or 8), and Saturdays and Wednesdays for water customers with a street address ending in an odd number (1, 3, 5, 7 or 9), and irrigation of landscaped areas is further limited to the hours of 12:00 midnight until 10:00 a.m. and between 8:00 p.m. and 12:00 midnight on designated watering days. However, irrigation of landscaped areas is permitted at anytime if it is by means of a hand-held hose, a faucet filled bucket or watering can of five (5) gallons or less, or drip irrigation system.
- (b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is prohibited except on designated watering days between the hours of 12:00 midnight and 10:00 a.m. and between 8:00 p.m. and 12:00 midnight. Such washing, when allowed, shall be done with a hand-held bucket or a hand-held hose equipped with a positive shutoff nozzle for quick rises. Vehicle washing may be done at any time on the immediate premises of a commercial car wash or commercial service station. Further, such washing may be exempted from these

regulations if the health, safety, and welfare of the public is contingent upon frequent vehicle cleansing, such as garbage trucks and vehicles used to transport food and perishables.

- (c) Use of water to fill, refill, or add to any indoor or outdoor swimming pools, wading pools, or Jacuzzi-type pools is prohibited except on designated watering days between the hours of 12:00 midnight and 10:00 a.m. and between 8 p.m. and 12:00 midnight.
- (d) Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.
- (e) Use of water from hydrants shall be limited to fire fighting, related activities, or other activities necessary to maintain public health, safety, and welfare, except that use of water from designated fire hydrants for construction purposes may be allowed under special permit from the ____ (*name of your water supplier*).
- (f) Use of water for the irrigation of golf course greens, tees, and fairways is prohibited except on designated watering days between the hours 12:00 midnight and 10:00 a.m. and between 8 p.m. and 12:00 midnight. However, if the golf course utilizes a water source other than that provided by the ____ (*name of your water supplier*), the facility shall not be subject to these regulations.
- (g) All restaurants are prohibited from serving water to patrons except upon request of the patron.
- (h) The following uses of water are defined as non-essential and are prohibited:
 - 1. wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
 - 2. use of water to wash down buildings or structures for purposes other than immediate fire protection;
 - 3. use of water for dust control;
 - 4. flushing gutters or permitting water to run or accumulate in any gutter or street; and
 - 5. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s).

Stage 3 Response – SEVERE Water Shortage Conditions

Target: Achieve a ____ percent reduction in ____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by ____ (name of your water supplier) to manage limited water supplies and/or reduce water demand. Examples include: system water loss control, reduced or discontinued irrigation of public landscaped areas; use of an alternative supply source(s); use of reclaimed water for non-potable purposes.

Water Use Restrictions for Demand Reduction:

All requirements of Stage 2 shall remain in effect during Stage 3 except:

- (a) Irrigation of landscaped areas shall be limited to designated watering days between the hours of 12:00 midnight and 10:00 a.m. and between 8 p.m. and 12:00 midnight and shall be by means of hand-held hoses, hand-held buckets, drip irrigation, or permanently installed automatic sprinkler system only. The use of hose-end sprinklers is prohibited at all times.
- (b) The watering of golf course tees is prohibited unless the golf course utilizes a water source other than that provided by the ____ (*name of your water supplier*).
- (c) The use of water for construction purposes from designated fire hydrants under special permit is to be discontinued.

Stage 4 Response – CRITICAL Water Shortage Conditions

Target: Achieve a ____ percent reduction in ____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by ____ (name of your water supplier) to manage limited water supplies and/or reduce water demand. Examples include: system water loss control, reduced or discontinued irrigation of public landscaped areas; use of an alternative supply source(s); use of reclaimed water for non-potable purposes.

Water Use Restrictions for Reducing Demand:

All requirements of Stage 2 and 3 shall remain in effect during Stage 4 except:

- (a) Irrigation of landscaped areas shall be limited to designated watering days between the hours of 6:00 a.m. and 10:00 a.m. and between 8:00 p.m. and 12:00 midnight and shall be by means of hand-held hoses, hand-held buckets, or drip irrigation only. The use of hose-end sprinklers or permanently installed automatic sprinkler systems are prohibited at all times.
- (b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle not occurring on the premises of a commercial car wash and commercial service stations and not in the immediate interest of public health, safety, and welfare is prohibited. Further, such vehicle washing at commercial car washes and commercial service stations shall occur only between the hours of 6:00 a.m. and 10:00 a.m. and between 6:00 p.m. and 10 p.m.
- (c) The filling, refilling, or adding of water to swimming pools, wading pools, and Jacuzzi-type pools is prohibited.
- (d) Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.

- (e) No application for new, additional, expanded, or increased-in-size water service connections, meters, service lines, pipeline extensions, mains, or water service facilities of any kind shall be approved, and time limits for approval of such applications are hereby suspended for such time as this drought response stage or a higher-numbered stage shall be in effect.

Stage 5 Response – EMERGENCY Water Shortage Conditions

Target: Achieve a ____ percent reduction in ____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by ____ (name of your water supplier) to manage limited water supplies and/or reduce water demand. Examples include: system water loss control, reduced or discontinued irrigation of public landscaped areas; use of an alternative supply source(s); use of reclaimed water for non-potable purposes.

Water Use Restrictions for Reducing Demand:

All requirements of Stage 2, 3, and 4 shall remain in effect during Stage 5 except:

- (a) Irrigation of landscaped areas is absolutely prohibited.
- (b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is absolutely prohibited.

Stage 6 Response – WATER ALLOCATION

In the event that water shortage conditions threaten public health, safety, and welfare, the ____ (*designated official*) is hereby authorized to allocate water according to the following water allocation plan:

Single-Family Residential Customers

The allocation to residential water customers residing in a single-family dwelling shall be as follows:

| Persons per Household | Gallons per Month |
|------------------------------|--------------------------|
| 1 or 2 | 6,000 |
| 3 or 4 | 7,000 |
| 5 or 6 | 8,000 |
| 7 or 8 | 9,000 |
| 9 or 10 | 10,000 |
| 11 or more | 12,000 |

“Household” means the residential premises served by the customer’s meter. “Persons per household” include only those persons currently physically residing at the premises and expected to reside there for the entire billing period. It shall be assumed that a particular customer’s household is comprised of two (2) persons unless the customer notifies the ____ (*name of your water supplier*) of a greater number of persons per

household on a form prescribed by the ____ (*designated official*). The ____ (*designated official*) shall give his/her best effort to see that such forms are mailed, otherwise provided, or made available to every residential customer. If, however, a customer does not receive such a form, it shall be the customer's responsibility to go to the ____ (*name of your water supplier*) offices to complete and sign the form claiming more than two (2) persons per household. New customers may claim more persons per household at the time of applying for water service on the form prescribed by the ____ (*designated official*). When the number of persons per household increases so as to place the customer in a different allocation category, the customer may notify the ____ (*name of water supplier*) on such form and the change will be implemented in the next practicable billing period. If the number of persons in a household is reduced, the customer shall notify the ____ (*name of your water supplier*) in writing within two (2) days. In prescribing the method for claiming more than two (2) persons per household, the ____ (*designated official*) shall adopt methods to insure the accuracy of the claim. Any person who knowingly, recklessly, or with criminal negligence falsely reports the number of persons in a household or fails to timely notify the ____ (*name of your water supplier*) of a reduction in the number of person in a household shall be fined not less than \$____.

Residential water customers shall pay the following surcharges:

- \$ ____ for the first 1,000 gallons over allocation.
- \$ ____ for the second 1,000 gallons over allocation.
- \$ ____ for the third 1,000 gallons over allocation.
- \$ ____ for each additional 1,000 gallons over allocation.

Surcharges shall be cumulative.

Master-Metered Multi-Family Residential Customers

The allocation to a customer billed from a master meter which jointly measures water to multiple permanent residential dwelling units (example: apartments, mobile homes) shall be allocated 6,000 gallons per month for each dwelling unit. It shall be assumed that such a customer's meter serves two dwelling units unless the customer notifies the ____ (*name of your water supplier*) of a greater number on a form prescribed by the ____ (*designated official*). The ____ (*designated official*) shall give his/her best effort to see that such forms are mailed, otherwise provided, or made available to every such customer. If, however, a customer does not receive such a form, it shall be the customer's responsibility to go to the ____ (*name of your water supplier*) offices to complete and sign the form claiming more than two (2) dwellings. A dwelling unit may be claimed under this provision whether it is occupied or not. New customers may claim more dwelling units at the time of applying for water service on the form prescribed by the ____ (*designated official*). If the number of dwelling units served by a master meter is reduced, the customer shall notify the ____ (*name of your water supplier*) in writing within two (2) days. In prescribing the method for claiming more than two (2) dwelling units, the ____ (*designated official*) shall adopt methods to insure the accuracy of the claim. Any person who knowingly, recklessly, or with criminal negligence falsely reports the number of dwelling units served by a master meter or fails to timely notify the ____ (*name of your water supplier*) of a reduction in the number of person in a household shall be fined not less than \$____. Customers billed from a master meter under this provision shall pay the following monthly surcharges:

- \$ ____ for 1,000 gallons over allocation up through 1,000 gallons for each dwelling unit.
- \$ ____, thereafter, for each additional 1,000 gallons over allocation up through a second 1,000 gallons for each dwelling unit.
- \$ ____, thereafter, for each additional 1,000 gallons over allocation up through a third 1,000 gallons for each dwelling unit.
- \$ ____, thereafter for each additional 1,000 gallons over allocation.

Surcharges shall be cumulative.

Commercial Customers

A monthly water allocation shall be established by the ____ (*designated official*), or his/her designee, for each nonresidential commercial customer other than an industrial customer who uses water for processing purposes. The non-residential customer's allocation shall be approximately ____ (*example: 75%*) percent of the customer's usage for corresponding month's billing period for the previous 12 months. If the customer's billing history is shorter than 12 months, the monthly average for the period for which there is a record shall be used for any monthly period for which no history exists. Provided, however, a customer, ____ percent of whose monthly usage is less than ____ gallons, shall be allocated ____ gallons. The ____ (*designated official*) shall give his/her best effort to see that notice of each non-residential customer's allocation is mailed to such customer. If, however, a customer does not receive such notice, it shall be the customer's responsibility to contact the ____ (*name of your water supplier*) to determine the allocation. Upon request of the customer or at the initiative of the ____ (*designated official*), the allocation may be reduced or increased if, (1) the designated period does not accurately reflect the customer's normal water usage, (2) one nonresidential customer agrees to transfer part of its allocation to another nonresidential customer, or (3) other objective evidence demonstrates that the designated allocation is inaccurate under present conditions. A customer may appeal an allocation established hereunder to the ____ (*designated official or alternatively, a special water allocation review committee*). Nonresidential commercial customers shall pay the following surcharges:

Customers whose allocation is ____ gallons through ____ gallons per month:

- \$ ____ per thousand gallons for the first 1,000 gallons over allocation.
- \$ ____ per thousand gallons for the second 1,000 gallons over allocation.
- \$ ____ per thousand gallons for the third 1,000 gallons over allocation.
- \$ ____ per thousand gallons for each additional 1,000 gallons over allocation.

Customers whose allocation is ____ gallons per month or more:

- ____ times the block rate for each 1,000 gallons in excess of the allocation up through 5 percent above allocation.
- ____ times the block rate for each 1,000 gallons from 5 percent through 10 percent above allocation.
- ____ times the block rate for each 1,000 gallons from 10 percent through 15 percent above allocation.
- ____ times the block rate for each 1,000 gallons more than 15 percent above allocation.

The surcharges shall be cumulative. As used herein, "block rate" means the charge to the customer per 1,000 gallons at the regular water rate schedule at the level of the customer's allocation.

Industrial Customers

A monthly water allocation shall be established by the _____ (*designated official*), or his/her designee, for each industrial customer, which uses water for processing purposes. The industrial customer's allocation shall be approximately _____ (*example: 90%*) percent of the customer's water usage baseline. Ninety (90) days after the initial imposition of the allocation for industrial customers, the industrial customer's allocation shall be further reduced to _____ (*example: 85%*) percent of the customer's water usage baseline. The industrial customer's water use baseline will be computed on the average water use for the _____ month period ending prior to the date of implementation of Stage 2 of the Plan. If the industrial water customer's billing history is shorter than _____ months, the monthly average for the period for which there is a record shall be used for any monthly period for which no billing history exists. The _____ (*designated official*) shall give his/her best effort to see that notice of each industrial customer's allocation is mailed to such customer. If, however, a customer does not receive such notice, it shall be the customer's responsibility to contact the _____ (*name of your water supplier*) to determine the allocation, and the allocation shall be fully effective notwithstanding the lack of receipt of written notice. Upon request of the customer or at the initiative of the _____ (*designated official*), the allocation may be reduced or increased, (1) if the designated period does not accurately reflect the customer's normal water use because the customer had shutdown a major processing unit for repair or overhaul during the period, (2) the customer has added or is in the process of adding significant additional processing capacity, (3) the customer has shutdown or significantly reduced the production of a major processing unit, (4) the customer has previously implemented significant permanent water conservation measures such that the ability to further reduce water use is limited, (5) the customer agrees to transfer part of its allocation to another industrial customer, or (6) if other objective evidence demonstrates that the designated allocation is inaccurate under present conditions. A customer may appeal an allocation established hereunder to the _____ (*designated official or alternatively, a special water allocation review committee*). Industrial customers shall pay the following surcharges:

Customers whose allocation is _____ gallons through _____ gallons per month:

- \$ _____ per thousand gallons for the first 1,000 gallons over allocation.
- \$ _____ per thousand gallons for the second 1,000 gallons over allocation.
- \$ _____ per thousand gallons for the third 1,000 gallons over allocation.
- \$ _____ per thousand gallons for each additional 1,000 gallons over allocation.

Customers whose allocation is _____ gallons per month or more:

- _____ times the block rate for each 1,000 gallons in excess of the allocation up through 5 percent above allocation.
- _____ times the block rate for each 1,000 gallons from 5 percent through 10 percent above allocation.
- _____ times the block rate for each 1,000 gallons from 10 percent through 15 percent above allocation.

_____ times the block rate for each 1,000 gallons more than 15 percent above allocation.

The surcharges shall be cumulative. As used herein, "block rate" means the charge to the customer per 1,000 gallons at the regular water rate schedule at the level of the customer's allocation.

Section X: Enforcement

- (a) No person shall knowingly or intentionally allow the use of water from the _____ (*name of your water supplier*) for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this Plan, or in an amount in excess of that permitted by the drought response stage in effect at the time pursuant to action taken by _____ (*designated official*), or his/her designee, in accordance with provisions of this Plan.
- (b) Any person who violates this Plan is guilty of a misdemeanor and, upon conviction shall be punished by a fine of not less than _____ dollars (\$_____) and not more than _____ dollars (\$_____). Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense. If a person is convicted of three or more distinct violations of this Plan, the _____ (*designated official*) shall, upon due notice to the customer, be authorized to discontinue water service to the premises where such violations occur. Services discontinued under such circumstances shall be restored only upon payment of a re-connection charge, hereby established at \$ _____, and any other costs incurred by the _____ (*name of your water supplier*) in discontinuing service. In addition, suitable assurance must be given to the _____ (*designated official*) that the same action shall not be repeated while the Plan is in effect. Compliance with this plan may also be sought through injunctive relief in the district court.
- (c) Any person, including a person classified as a water customer of the _____ (*name of your water supplier*), in apparent control of the property where a violation occurs or originates shall be presumed to be the violator, and proof that the violation occurred on the person's property shall constitute a rebuttable presumption that the person in apparent control of the property committed the violation, but any such person shall have the right to show that he/she did not commit the violation. Parents shall be presumed to be responsible for violations of their minor children and proof that a violation, committed by a child, occurred on property within the parents' control shall constitute a rebuttable presumption that the parent committed the violation, but any such parent may be excused if he/she proves that he/she had previously directed the child not to use the water as it was used in violation of this Plan and that the parent could not have reasonably known of the violation.

- (d) Any employee of the _____ (*name of your water supplier*), police officer, or other _____ employee designated by the _____ (*designated official*), may issue a citation to a person he/she reasonably believes to be in violation of this Ordinance. The citation shall be prepared in duplicate and shall contain the name and address of the alleged violator, if known, the offense charged, and shall direct him/her to appear in the _____ (*example: municipal court*) on the date shown on the citation for which the date shall not be less than 3 days nor more than 5 days from the date the citation was issued. The alleged violator shall be _____ served a copy of the citation. Service of the citation shall be complete upon delivery of the citation to the alleged violator, to an agent or employee of a violator, or to a person over 14 years of age who is a member of the violator's immediate family or is a resident of the violator's residence. The alleged violator shall appear in _____ (*example: municipal court*) to enter a plea of guilty or not guilty for the violation of this Plan. If the alleged violator fails to appear in _____ (*example: municipal court*), a warrant for his/her arrest may be issued. A summons to appear may be issued in lieu of an arrest warrant. These cases shall be expedited and given preferential setting in _____ (*example: municipal court*) before all other cases.

Section XI: Variances

The _____ (*designated official*), or his/her designee, may, in writing, grant temporary variance for existing water uses otherwise prohibited under this Plan if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the health, sanitation, or fire protection for the public or the person requesting such variance and if one or more of the following conditions are met:

- (a) Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.
- (b) Alternative methods can be implemented which will achieve the same level of reduction in water use.

Persons requesting an exemption from the provisions of this Ordinance shall file a petition for variance with the _____ (*name of your water supplier*) within 5 days after the Plan or a particular drought response stage has been invoked. All petitions for variances shall be reviewed by the _____ (*designated official*), or his/her designee, and shall include the following:

- (a) Name and address of the petitioner(s).
- (b) Purpose of water use.
- (c) Specific provision(s) of the Plan from which the petitioner is requesting relief.
- (d) Detailed statement as to how the specific provision of the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner complies with this Ordinance.
- (e) Description of the relief requested.
- (f) Period of time for which the variance is sought.
- (g) Alternative water use restrictions or other measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date.
- (h) Other pertinent information.

**Far West Texas
Drought Contingency Plan
for a Wholesale Public Water Supplier
(Adapted from TCEQ)**

Name: Click to add text

Address: _____

Telephone Number: () Fax: ()

Water Right No.(s): _____

Regional Water Planning Group: _____

Form Completed by: _____

Title: _____

Person responsible for implementation: _____ Phone: ()

Signature: _____ Date: / /

Section I: Declaration of Policy, Purpose, and Intent

In order to conserve the available water supply and/or to protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the _____ (*name of your water supplier*) adopts the following Drought Contingency Plan (the Plan).

Section II: Public Involvement

Opportunity for the public and wholesale water customers to provide input into the preparation of the Plan was provided by _____ (*name of your water supplier*) by means of _____ (*describe methods used to inform the public and wholesale customers about the preparation of the plan and opportunities for input; for example, scheduling and proving public notice of a public meeting to accept input on the Plan*).

Section III: Wholesale Water Customer Education

The _____ (*name of your water supplier*) will periodically provide wholesale water customers with information about the Plan, including information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. This information will be provided by means of _____ (*example: describe methods to be used to provide customers with information about the Plan; for example, providing a copy of the Plan or periodically including information about the Plan with invoices for water sales*).

Section IV: Coordination with Regional Water Planning Groups

The water service area of the _____ (name of your water supplier) is located within the _____ (name of regional water planning area or areas) and the _____ (name of your water supplier) has provided a copy of the Plan to the _____ (name of your regional water planning group or groups).

Section V: Authorization

The _____ (designated official; for example, the general manager or executive director), or his/her designee, is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety, and welfare. The _____ or his/her designee, shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this Plan.

Section VI: Application

The provisions of this Plan shall apply to all customers utilizing water provided by the _____ (name of your water supplier). The terms "person" and "customer" as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities.

Section VII: Criteria for Initiation and Termination of Drought Response Stages

The _____ (designated official), or his/her designee, shall monitor water supply and/or demand conditions on a (example: weekly, monthly) basis and shall determine when conditions warrant initiation or termination of each stage of the Plan. Customer notification of the initiation or termination of drought response stages will be made by mail or telephone. The news media will also be informed.

The triggering criteria described below are based on:

_____.
(provide a brief description of the rationale for the triggering criteria; for example, triggering criteria are based on a statistical analysis of the vulnerability of the water source under drought of record conditions).

Utilization of alternative water sources and/or alternative delivery mechanisms:

Alternative water source(s) for _____ (name of utility) is/are: _____.
(Examples: Other well(s), Inter-connection with other system, Temporary use of a non-municipal water supply, Purchased water, Use of reclaimed water for non-potable purposes, etc.).

Stage 1 Triggers -- MILD Water Shortage Conditions

Requirements for initiation - The _____ (name of your water supplier) will recognize that a mild water shortage condition exists when _____ (describe triggering criteria, see examples below).

Below are examples of the types of triggering criteria that might be used in a wholesale water supplier's drought contingency plan. The wholesale water supplier may devise other triggering criteria and an appropriate number of stages tailored to its system; however, the plan must contain a minimum of three drought stages. One or a combination of such criteria may be defined for each drought response stage:

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: When the combined storage in the ____ (name of reservoirs) 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 river) near ____, Texas reaches ____ cubic feet per second (cfs).

Example 4: When total daily water demand equals or exceeds ____ million gallons for ____ consecutive days or ____ million gallons on a single day.

Example 5: When total daily water demand equals or exceeds ____ percent of the safe operating capacity of ____ million gallons per day for ____ consecutive days or ____ percent on a single day.

Requirements for termination - Stage 1 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of ____ (example: 30) consecutive days. The ____ (name of water supplier) will notify its wholesale customers and the media of the termination of Stage 1.

Stage 2 Triggers -- MODERATE Water Shortage Conditions

Requirements for initiation - The ____ (name of your water supplier) will recognize that a moderate water shortage condition exists when ____ (describe triggering criteria).

Requirements for termination - Stage 2 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of ____ (example: 30) consecutive days. Upon termination of Stage 2, Stage 1, or the applicable drought response stage based on the triggering criteria, becomes operative. The ____ (name of your water supplier) will notify its wholesale customers and the media of the termination of Stage 2.

Stage 3 Triggers -- SEVERE Water Shortage Conditions

Requirements for initiation - The ____ (name of your water supplier) will recognize that a severe water shortage condition exists when ____ (describe triggering criteria; see examples in Stage 1).

Requirements for termination - Stage 3 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of ____ (example: 30) consecutive days. Upon termination of Stage 3, Stage 2, or the applicable drought response stage based on the triggering criteria, becomes operative. The ____ (name of your water supplier) will notify its wholesale customers and the media of the termination of Stage 3.

Stage 4 Triggers -- CRITICAL Water Shortage Conditions

Requirements for initiation - The ____ (name of your water supplier) will recognize that an emergency water shortage condition exists when ____ (describe triggering criteria; see examples below).

Example 1. Major water line breaks, or pump or system failures occur, which cause unprecedented loss of capability to provide water service; or

Example 2. Natural or man-made contamination of the water supply source(s).

Requirements for termination - Stage 4 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of ____ (example: 30) consecutive

days. The ____ (*name of your water supplier*) will notify its wholesale customers and the media of the termination of Stage 4.

Section VIII: Drought Response Stages

The ____ (*designated official*), or his/her designee, shall monitor water supply and/or demand conditions and, in accordance with the triggering criteria set forth in Section VII, shall determine that mild, moderate, severe, or critical water shortage conditions exist or that an emergency condition exists and shall implement the following actions:

Stage 1 Response -- MILD Water Shortage Conditions

Target: Achieve a voluntary ____ percent reduction in ____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by ____ (designated official), or his/her designee(s), to manage limited water supplies and/or reduce water demand. Examples include modifying reservoir operations procedures, interconnection with another water system, and use of reclaimed water for nonpotable purposes.

Water Use Restrictions for Reducing Demand:

(a) The ____ (*designated official*), or his/her designee(s), will contact wholesale water customers to discuss water supply and/or demand conditions and will request that wholesale water customers initiate voluntary measures to reduce water use (*example: implement Stage 1 or appropriate stage of the customer's drought contingency plan*).

(b) The ____ (*designated official*), or his/her designee(s), will provide a weekly report to news media with information regarding current water supply and/or demand conditions, projected water supply and demand conditions if drought conditions persist, and consumer information on water conservation measures and practices.

Stage 2 Response -- MODERATE Water Shortage Conditions

Target: Achieve a ____ percent reduction in ____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by ____ (designated official), or his/her designee(s), to manage limited water supplies and/or reduce water demand. Examples include modifying reservoir operations procedures, interconnection with another water system, and use of reclaimed water for non-potable purposes.

Water Use Restrictions for Reducing Demand:

(a) The ____ (*designated official*), or his/her designee(s), will request wholesale water customers to initiate mandatory measures to reduce non-essential water use (*example: implement Stage 2 or appropriate stage of the customer's drought contingency plan*).

(b) The ____ (*designated official*), or his/her designee(s), will initiate weekly contact with wholesale water customers to discuss water supply and/or demand conditions and the possibility of pro rata curtailment of water diversions and/or deliveries.

(c) The ____ (*designated official*), or his/her designee(s), will further prepare for the implementation of pro rata curtailment of water diversions and/or deliveries by preparing a monthly water usage allocation baseline for each wholesale customer.

(d) The ____ (*designated official*), or his/her designee(s), will provide a weekly report to news media with information regarding current water supply and/or demand conditions, projected water supply and demand conditions if drought conditions persist, and consumer information on water conservation measures and practices.

Stage 3 Response -- SEVERE Water Shortage Conditions

Target: Achieve a ____ percent reduction in ____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by ____ (designated official), or his/her designee(s), to manage limited water supplies and/or reduce water demand. Examples include modifying reservoir operations procedures, interconnection with another water system, and use of reclaimed water for non-potable purposes.

Water Use Restrictions for Reducing Demand:

(a) The ____ (*designated official*), or his/her designee(s), will contact wholesale water customers to discuss water supply and/or demand conditions and will request that wholesale water customers initiate additional mandatory measures to reduce non-essential water use (example: implement Stage 3 or appropriate stage of the customer's drought contingency plan).

(b) The ____ (*designated official*), or his/her designee(s), will initiate pro rata curtailment of water diversions and/or deliveries for each wholesale customer.

(c) The ____ (*designated official*), or his/her designee(s), will provide a weekly report to news media with information regarding current water supply and/or demand conditions, projected water supply and demand conditions if drought conditions persist, and consumer information on water conservation measures and practices.

Stage 4 Response -- EMERGENCY Water Shortage Conditions

Whenever emergency water shortage conditions exist as defined in Section VII of the Plan, the ____ (*designated official*) shall:

1. Assess the severity of the problem and identify the actions needed and time required to solve the problem.
2. Inform the utility director or other responsible official of each wholesale water customer by telephone or in person and suggest actions, as appropriate, to alleviate problems (*example: notification of the public to reduce water use until service is restored*).

3. If appropriate, notify city, county, and/or state emergency response officials for assistance.
4. Undertake necessary actions, including repairs and/or clean-up as needed.
5. Prepare a post-event assessment report on the incident and critique of emergency response procedures and actions.

Section IX: Pro Rata Curtailment

In the event that the triggering criteria specified in Section VII of the Plan for Stage 3 - Severe Water Shortage Conditions have been met, the _____ (*designated official*) is hereby authorized to initiate allocation of water supplies on a pro rata basis in accordance with Texas Water Code, §11.039.

Section X: Contract Provisions

The _____ (*name of your water supplier*) will 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.

Section XI: Enforcement

During any period when pro rata allocation of available water supplies is in effect, wholesale customers shall pay the following surcharges on excess water diversions and/or deliveries:

Example of surcharge:

_____ times the normal water charge per acre-foot for water diversions and/or deliveries in excess of the monthly allocation from _____ percent through _____ percent above the monthly allocation.

Section XII: Variances

The _____ (*designated official*), or his/her designee, may, in writing, grant a temporary variance to the pro rata water allocation policies provided by this Plan if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the public health, welfare, or safety and if one or more of the following conditions are met:

- (a) Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.
- (b) Alternative methods can be implemented which will achieve the same level of reduction in water use.

Persons requesting an exemption from the provisions of this Plan shall file a petition for variance with the _____ (*designated official*) within 5 days after pro rata allocation has been invoked. All petitions for variances shall be reviewed by the _____ (*governing body*), and shall include the following:

- (a) Name and address of the petitioner(s).
- (b) Detailed statement with supporting data and information as to how the pro rata allocation of water under the policies and procedures established in the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner complies with this Ordinance.
- (c) Description of the relief requested.
- (d) Period of time for which the variance is sought.
- (e) Alternative measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date.

(f) Other pertinent information.

Variances granted by the _____ (*governing body*) shall be subject to the following conditions, unless waived or modified by the _____ (*governing body*) or its designee:

(a) Variances granted shall include a timetable for compliance.

(b) Variances granted shall expire when the Plan is no longer in effect, unless the petitioner has failed to meet specified requirements.

No variance shall be retroactive or otherwise justify any violation of this Plan occurring prior to the issuance of the variance.

Section XIII: Severability

It is hereby declared to be the intention of the _____ (*governing body of your water supplier*) that the sections, paragraphs, sentences, clauses, and phrases of this Plan are severable and, if any phrase, clause, sentence, paragraph, or section 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 _____ (*governing body of your water supplier*) without the incorporation into this Plan of any such unconstitutional phrase, clause, sentence, paragraph, or section.

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