7 **Drought Response**

Drought is a natural and recurring meteorological phenomenon that occurs when precipitation is significantly below “normal” for a period of time. Relatively mild, short-duration droughts are common throughout Texas and typically result in relatively mild impacts. However, extended and severe drought conditions can have serious impacts on water supplies, water suppliers, and water users including:

- Reduction in available water supply leading to shortage conditions;
- Increases in water demand, particularly for seasonal demands such as landscape irrigation;
- Stress on water utility infrastructure due to elevated seasonal peak water demands;
- Deterioration of source water quality;
- Lifestyle and financial impacts to water users associated with restrictions on non-essential water uses (e.g., loss of landscaping); and
- Financial impacts on water suppliers due to reduced revenues from water sales during periods of water demand curtailment.

Due to the potentially devastating effects of drought on communities and the State’s economy, it is important that water suppliers and users consider the potential impacts of drought and develop robust plans to address supply or demand management under drought conditions. This chapter presents information concerning historical droughts in the Region, current drought preparation and responses, recommendations for region-specific drought responses, and region-specific model drought contingency plans.

**Chapter Outline**

Section 7.1 – Drought of Record in the Regional Water Planning Area

Section 7.2 – Current Preparations for Drought in Region C

Section 7.3 – Existing and Potential Emergency Interconnects

Section 7.4 – Emergency Responses to Local Drought Conditions or Loss of Municipal Supply

Section 7.5 – Region-Specific Drought Response Recommendations

Section 7.6 – Drought Management WMS

Section 7.7 – Other Recommendations

**Related Appendices**

Appendix M – Summary of Existing Drought Plans and Potential Emergency Connections
7.1 Drought of Record in the Regional Water Planning Area

7.1.1 Regional Drought of Record
The Drought of Record (DOR) is typically defined as the worst drought to occur for a particular area during the available period of hydrologic record. Due to the variety of ways in which drought may be characterized (deviation from normal precipitation, temperature, agricultural impacts, economic losses, duration, impacts to reservoirs, etc.), defining which drought is the DOR for an area can be a complex issue. For much of the State, the DOR is generally considered to have occurred from 1950 through 1957. This drought combined severe reductions in rainfall with a multi-year duration, resulting in reduction or cessation of flows for many springs and streams, losses to livestock production and irrigated agriculture, and widespread impacts to vegetation. By the end of the drought in late 1956 or early 1957, nearly all of the counties in the State had been declared disaster areas. The drought of record for most water supplies used in Region C occurred from 1950 through 1957. The two drought periods recently experienced in Region C (2003 through 2006 and 2011 through 2015) caused low inflows and low water levels for many Region C lakes. Analysis using hydrologic data from recent years has indicated that Jim Chapman (Cooper) Lake in the Sulphur River Basin has recently experienced a new drought of record (2011 through 2015), reducing the yield by approximately 7 percent from what was in the 2016 Region C Plan. Yields of proposed projects in the Sulphur Basin show as much as a 24 percent reduction in yield. For other Region C supplies, the drought of the 1950s remains the drought of record.

7.1.2 Surface Water Drought Indication
The significance of the drought for the Region can be illustrated in several ways. For reservoir supplies, which make up a large portion of the water supply for Region C, the DOR corresponds to the period that reaches the minimum storage in the reservoir under an assumed demand. While many of the major water supply reservoirs serving Region C were not yet constructed during the DOR, their performance under a repeat of historical hydrology including the DOR can be assessed using the Texas Commission on Environmental Quality (TCEQ) Water Availability Model (WAM); this assessment is directly associated with the use of the WAM model to determine firm availability of surface water.

7.1.3 Palmer Drought Severity Index
Another indicator commonly used by federal and state agencies to characterize drought severity is the Palmer Drought Severity Index (PDSI). The PDSI is an estimate of soil moisture conditions calculated based on precipitation and temperature. The PDSI classifies soil moisture on a scale ranging from approximately -6.0 to 6.0, with values of approximately -0.49 to +0.49 reflecting normal conditions, with -4.0 or lower representing extreme drought. The annual PDSI for the North Central Texas area, which includes the majority of the population in Region C, is shown in Figure 7.1. As illustrated in the figure, the 1950s drought is among the most severe in terms of PDSI and is also prolonged.
7.1.4 Other Regional Droughts

The Region C area, like much of Texas, has experienced a number of droughts in addition to the DOR, including several more recent dry periods. The recent drought period which began in approximately year 2010-2011 resulted in extremely low rainfall and soil moisture and high temperatures and created a new drought of record in some locations in the state. In Region C this drought, while intense, was not as long as the 1950’s drought. Consequently, most water supplies, besides those mentioned in Section 7.1.1, were not impacted to the extent that would occur in a repeat of the DOR.
7.2 Current Preparations for Drought in Region C

7.2.1 Drought Contingency Planning Overview

The TCEQ, in accordance with the Texas Administrative Code (TAC), requires all wholesale public water suppliers, retail public water suppliers, irrigation districts, and applicants for new or amended water rights to prepare and submit to the TCEQ drought contingency plans (DCPs) meeting the requirements of 30 TAC §288(b) and to update these plans at least every five years. TCEQ administrative rules define a drought contingency plan as “a strategy or combination of strategies for temporary supply management and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies”. TCEQ rules and associated guidance for documents for drought contingency planning embody several key principles including:

- Drought and its potential impacts on both water supply and demand, as well as water supply infrastructure, can be expected to occur;
- Drought response measures and implementation procedures can be defined in advance of drought;
- Through timely implementation of drought response measures, it is possible to avoid, minimize, or mitigate the risks and impacts of water shortages and other drought-related water supply emergencies;
- Some water demands are considered essential to public health and safety or to the economy while others can be considered non-essential or discretionary; and
- Drought contingency plans should be tailored to the unique circumstances of each water supplier (e.g., vulnerability of water supply and/or infrastructure to drought, end-users and demand characteristics, objectives, etc.).

Although each water supplier faces unique circumstances, there are a few elements that are found in most drought contingency plans and are consistent with the requirements for municipal DCPs in 30 TAC §288.20. These include:

- Criteria and procedures for determining when to initiate and when to terminate drought response measures. These are typically referred to as drought triggers. Common examples of drought triggers include indicators of supply availability (e.g., quantity of water supply remaining in a source) and demand indicators (e.g., daily demand relative to infrastructure capacity).
- Successive stages of drought response that require the implementation of increasingly stringent measures in response to increasingly severe drought conditions. A typical drought contingency plan will have an initial stage of voluntary measures followed by two or three successive stages of increasing stringent mandatory measures.
- Demand reduction goals or targets for each stage.
- Predetermined drought response measures for each stage that may include supply management, such as the temporary use of an alternative water source, and/or demand management, such as
restrictions on non-essential water uses.

- Procedures for plan implementation and enforcement.
- Public information (e.g., notification) and education.

Most drought contingency plans place a heavy emphasis on demand management measures that are designed to reduce water demands by means of curtailment of certain uses. It is important to note that demand management in this context is distinctly different from water conservation, although the terms are often used interchangeably. The objective of water conservation is to achieve lasting, long-term reductions in water use through improved water use efficiency, reduced waste, and through reuse and recycling. By contrast, demand curtailment is focused on temporary reductions in water use in response to temporary and potentially recurring water supply shortages or other water supply emergencies (e.g., equipment failures caused by excessively high peak water demands). Common approaches to water demand curtailment, applied individually or in combination, include:

- Prescriptive restrictions or bans on non-essential water uses and waste. In a municipal setting, such restrictions commonly target landscape irrigation, car washing, ornamental fountains, etc.
- Use of water pricing strategies, such as excess use surcharges, to encourage compliance with water use restrictions or to penalize excessive water use.
- Water rationing, where water is allocated to users on some proportionate or pro rata basis.

7.2.2 Current Drought Preparation

All wholesale public water providers and most municipalities in Region C have made preparation for responding to drought conditions, including the development of individual drought contingency plans to be implemented when necessary.

7.2.3 Regional Coordination

In an effort to become more consistent across the region, the major water providers (MWPs) and municipal suppliers held a series of meetings (2013-2014) to reach consensus on the number of stages in their DCPs and the primary outdoor irrigation restrictions. As a result of those meetings, most of the MWPs (Dallas, Fort Worth, North Texas Municipal Water District, Tarrant Regional Water District and Upper Trinity Regional Water District) modified their DCPs to have three stages which included the following irrigation restrictions for the following stages.

- **Stage 1** - Mandatory no more than twice per week watering (exception for hand watering, drip irrigation and soaker hoses).
- **Stage 2** - Mandatory no more than once per week watering (exception for hand watering, drip irrigation and soaker hoses).
- **Stage 3** - No outdoor irrigation (some exceptions for hand watering, drip irrigation and soaker hoses for trees and foundations).

The MWPs also encouraged their customers to adopt similar DCPs. As a result of the regional initiative, most of the reviewed DCPs have Stage 3 as the terminal stage, and the total number of stages in many plans has been reduced.
7.2.4 Summary of Existing Triggers and Responses

As part of the effort associated with Task 7 of the RWP, the RCWPG performed an assessment of existing drought triggers and planned responses in the Region based on available DCPs. TCEQ rules and 30 TAC §288(b) require that DCPs include documentation of coordination with the RWPGs to ensure consistency with the regional plans. The RCWPG was able to obtain DCPs for 63 entities in the Region, including named water user groups (WUGs), and retail suppliers within the County Other WUGs.

A Region C drought contingency plan database was developed to store information on the available DCPs, including sponsor information, number of stages, and the trigger and response types associated with each stage. Each drought stage was also characterized by the reduction type (percent demand, unit reduction, etc.), and associated reduction quantity value (percentage, MGD, or other). The results of this analysis are summarized in Appendix M. The Drought Response summary table in Appendix M is organized by WWP since many of their customer’s triggers are dependent on the WWP triggers.

The drought management strategies for most suppliers include some sort of limitation on outdoor irrigation. It appears that many of the entities included measures for twice per week, once per week and no outdoor irrigation for the first three stages. This was a regional consistency initiative sponsored by the major suppliers. Table 7.1 shows statistics based on the analysis of the DCPs for measures that were included in more than 50 percent of the plans. Measures typically increase in number and/or restrictiveness as more severe drought stages are triggered. Reductions are predominantly defined in the DCPs as a percentage of water demand.
<table>
<thead>
<tr>
<th>Drought Response Measure</th>
<th>Percentage of Plans Specifying Strategy</th>
<th>Average Stage Initiated</th>
</tr>
</thead>
<tbody>
<tr>
<td>No irrigation with hose-end sprinklers</td>
<td>96.8%</td>
<td>3.3</td>
</tr>
<tr>
<td>No irrigation with automatic irrigation systems</td>
<td>95.2%</td>
<td>3.3</td>
</tr>
<tr>
<td>Prohibit non-essential water uses - hosing of buildings or other structures except for fire protection</td>
<td>87.3%</td>
<td>2.6</td>
</tr>
<tr>
<td>No draining and filling of pools and spas</td>
<td>87.3%</td>
<td>2.9</td>
</tr>
<tr>
<td>Public awareness/ customer awareness measures</td>
<td>84.1%</td>
<td>1.1</td>
</tr>
<tr>
<td>Mandatory no more than twice per week irrigation limits</td>
<td>82.5%</td>
<td>1.3</td>
</tr>
<tr>
<td>Prohibit non-essential water uses - hosing of paved areas</td>
<td>81.0%</td>
<td>2.5</td>
</tr>
<tr>
<td>No operation of ornamental fountains/ ponds</td>
<td>79.4%</td>
<td>2.9</td>
</tr>
<tr>
<td>Mandatory no more than once per week irrigation limits</td>
<td>76.2%</td>
<td>2.1</td>
</tr>
<tr>
<td>No irrigation of golf course fairways</td>
<td>73.0%</td>
<td>3.2</td>
</tr>
<tr>
<td>No vehicle washing outside commercial facilities</td>
<td>71.4%</td>
<td>3.1</td>
</tr>
<tr>
<td>Encourage delay in establishing new landscaping</td>
<td>68.3%</td>
<td>1.3</td>
</tr>
<tr>
<td>No irrigation of athletic fields</td>
<td>66.7%</td>
<td>3.3</td>
</tr>
<tr>
<td>Discontinue non-essential water use by city/utility</td>
<td>65.1%</td>
<td>1.9</td>
</tr>
<tr>
<td>Use alternative supply sources</td>
<td>65.1%</td>
<td>2.7</td>
</tr>
<tr>
<td>No new permits for swimming pools, Jacuzzis, spas, ornamental ponds, or fountains</td>
<td>63.5%</td>
<td>3.1</td>
</tr>
<tr>
<td>No new landscaping or watering of new landscaping</td>
<td>63.5%</td>
<td>3.1</td>
</tr>
<tr>
<td>Water rationing/ reductions by set percentages for commercial/ industrial customers</td>
<td>63.5%</td>
<td>3.2</td>
</tr>
<tr>
<td>No irrigation of public areas</td>
<td>63.5%</td>
<td>3.4</td>
</tr>
<tr>
<td>No irrigation of landscaped areas, such as gardens, trees, and flowers</td>
<td>63.5%</td>
<td>3.5</td>
</tr>
<tr>
<td>No irrigation by hand-watering, with soaker hoses, or by drip irrigation</td>
<td>61.9%</td>
<td>3.5</td>
</tr>
<tr>
<td>Investigate alternative water sources</td>
<td>60.3%</td>
<td>1.6</td>
</tr>
<tr>
<td>Request wholesale customers implement Stage 1 or similar measures</td>
<td>57.1%</td>
<td>1.0</td>
</tr>
<tr>
<td>Discourage/ reduce frequency of draining and filling of pools and spas</td>
<td>57.1%</td>
<td>1.0</td>
</tr>
<tr>
<td>Increased enforcement; add personnel</td>
<td>57.1%</td>
<td>1.3</td>
</tr>
<tr>
<td>Prohibit non-essential water uses - flushing gutters, allowing runoff, not repairing leaks</td>
<td>57.1%</td>
<td>1.8</td>
</tr>
<tr>
<td>Request wholesale customers implement Stage 2 or similar measures</td>
<td>57.1%</td>
<td>2.0</td>
</tr>
<tr>
<td>Mandatory limit on irrigation hours</td>
<td>55.6%</td>
<td>1.4</td>
</tr>
<tr>
<td>Request wholesale customers implement Stage 3 or similar measures</td>
<td>55.6%</td>
<td>3.0</td>
</tr>
<tr>
<td>Vehicle washing only with bucket and/or handheld hose with shutoff nozzle (outside of commercial facilities)</td>
<td>52.4%</td>
<td>1.3</td>
</tr>
<tr>
<td>Mandatory maximum once weekly landscape watering schedule for private parks and golf courses</td>
<td>52.4%</td>
<td>2.0</td>
</tr>
<tr>
<td>Intensify public awareness/ customer awareness measures</td>
<td>52.4%</td>
<td>2.1</td>
</tr>
<tr>
<td>Implement rate surcharges</td>
<td>50.8%</td>
<td>2.0</td>
</tr>
</tbody>
</table>
7.2.5 Effectiveness of Drought Response Measures and Challenges in Quantification

The Information available to the RWPG through submitted DCP documents does not quantify the historical or potential reductions in water use associated with implementation of the DCPs.

7.3 Existing and Potential Emergency Interconnects

In accordance with the requirements of Texas Water Development Board (TWDB) and the Texas Administrative Code, the RCWPG was required to collect information on existing water infrastructure that may be used for emergency interconnects. To meet this requirement, Region C included a question regarding this on the November 2017 WUG survey and asked for this information during WWP meetings. Information was requested regarding interconnect relationships, facilities, general locations, and supply volumes and sources. At the June 24, 2019 Region C Water Planning Group meeting, the RCWPG determined that a separate subcommittee was not needed to review the list of emergency interconnects. The RCWPG approved the Region C consultants to submit the list to the TWDB separately from the Regional Water Plan.

In reviewing Drought Contingency Plans submitted to Region C, a number of non-confidential emergency interconnects (existing and potential) were found. They are: Bonham interconnection with Bois d’Arc MUD, Saginaw emergency connections to current supplier (Fort Worth) at two alternative locations, River Oaks emergency interconnection with Fort Worth for treated water, Walnut Creek SUD emergency interconnections with Community WSC and Azle, Dallas County Park Cities MUD interconnection with Dallas, Red River Authority emergency interconnects with an unspecified number of small entities, Grand Prairie’s emergency interconnections with Arlington and Mansfield, Pilot Point potential interconnection with Mustang SUD, East Cedar Creek FWSD potential interconnection with viable public water entities, and Woodbine WSC potential interconnection with unspecified water supplier.

7.4 Emergency Responses to Local Drought Conditions or Loss of Municipal Supply

In addition to regional or statewide droughts, entities may be subject to localized drought conditions or loss of existing water supplies due to infrastructure failure, temporary water quality impairment, or other unforeseen conditions. Loss of existing supplies, while relatively uncommon, is particularly challenging to address as the causes are often difficult to anticipate. Numerous entities within Region C have DCPs which include an emergency response stage and corresponding measures for droughts exceeding the DOR or for other emergency water supply conditions. Some entities, including a number of WWPs, also have emergency action plans which establish procedures for responding rapidly and effectively to emergency conditions.

Because it is not possible for water providers to predict all emergency conditions and because responses or repairs may require an extended period of time, it is important to consider the range of options for emergency water supply
sources available under emergency conditions. A high-level analysis of options was performed to assess potential emergency water supply options for WUGs in Region C with estimated Year 2010 population of 7,500 or less that rely on a sole source for is existing supply, as well as for all County Other WUGs (these parameters were set forth in the scope of work for regional planning). Consideration of emergency supply options for these entities is particularly important as many smaller WUGs may not have existing access to backup supplies through interconnect facilities with adjacent systems. Applicable WUGs were characterized by projected Year 2020 population, Year 2020 demand, existing supply source type (surface water, groundwater, or blend), and other WUG-specific information. These characteristics were then used to identify potentially feasible emergency supply options and associated infrastructure requirements. The results of this analysis are presented in Appendix M.

7.5 Region-Specific Drought Response Recommendations

7.5.1 Drought Response Recommendation for Surface Water

The RCWPG acknowledges that the DCPs for surface water suppliers provide the best drought management tools for surface supplies and recommends that the DCPs developed by the operators of these supplies serve as the RCWPG triggers for surface water. The RCWPG also recognizes that these triggers are subject to change as providers periodically reassess their needs and encourages both wholesale providers and other entities using surface water to examine their DCPs regularly.
In particular, reservoirs are a major source of surface water in Region C, and drought triggers for direct providers and direct users of surface water in Region C are typically tied to reservoir levels or storage volume.

### 7.5.2 Drought Response Recommendation for Groundwater and Other Sources

Region C has historically relied primarily on surface water sources for most of its supply. Only a small percentage of the overall supply in the region comes from groundwater sources. Groundwater production is generally local to points of use, and aquifer properties vary spatially. Likewise, the characteristics of other sources such as reuse are specific to the associated supplier. As such, many providers using these sources have developed their DCPs in the context of their individual supply portfolios. The RCWPG acknowledges that the DCPs for groundwater suppliers are the best drought management tools for groundwater supplies and recommends that the DCPs developed by the operators of these supplies serve as the RCWPG triggers for groundwater. The RCWPG also recognizes that these triggers are subject to change as providers periodically reassess their needs and encourage both wholesale providers and other entities to examine their DCPs regularly.

The RCWPG recommends that water providers regularly review the U.S. Drought Monitor as a tool for tracking drought conditions and in drought planning efforts leading up to drought measure implementation. ([https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?TX](https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?TX))

The drought monitor is easily accessible, regularly updated, and does not require entities to directly monitor specific sources to benefit from its information. Its simplicity also facilitates its use in communicating drought conditions to customers and other water users. **Table 7.2** shows the categories of the U.S. Drought Monitor with corresponding Palmer Drought Severity Index values.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Possible Impacts</th>
<th>Palmer Drought Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>D0</td>
<td>Abnormally Dry</td>
<td>Going into drought: short-term dryness slowing planting, growth of crops or pastures. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered</td>
<td>-1.0 to -1.9</td>
</tr>
<tr>
<td>D1</td>
<td>Moderate Drought</td>
<td>Some damage to crops, pastures; streams, reservoirs, or wells low, some water shortages developing or imminent; voluntary water-use restrictions requested</td>
<td>-2.0 to -2.9</td>
</tr>
<tr>
<td>D2</td>
<td>Severe Drought</td>
<td>Crop or pasture losses likely; water shortages common; water restrictions imposed</td>
<td>-3.0 to -3.9</td>
</tr>
<tr>
<td>D3</td>
<td>Extreme Drought</td>
<td>Major crop/pasture losses; widespread water shortages or restrictions</td>
<td>-4.0 to -4.9</td>
</tr>
<tr>
<td>D4</td>
<td>Exceptional Drought</td>
<td>Exceptional and widespread crop/pasture losses; shortages of water in reservoirs, streams, and wells creating water emergencies</td>
<td>-5.0 or less</td>
</tr>
</tbody>
</table>
The RCWPG recommends the following actions based on each of the drought classifications listed:

- **Abnormally Dry.** Entities should begin to review their DCP, status of current supplies and current demands to determine if implementation of a DCP stage is necessary.

- **Moderate Drought.** Entities should review their DCP, status of current supplies and current demands to determine if implementation of a DCP stage is necessary.

- **Severe Drought.** Entities should review their DCP, status of current supplies and current demands to determine if implementation of a DCP stage or changing to a more stringent stage is necessary. At this point if the review indicates current supplies may not be sufficient to meet reduced demands the entity should begin considering alternative supplies.

- **Extreme Drought.** Entities should review their DCP, status of current supplies and current demands to determine if implementation of a DCP stage or changing to a more stringent stage is necessary. At this point if the review indicates current supplies may not be sufficient to meet reduced demands the entity should consider alternative supplies.

- **Exceptional Drought.** Entities should review their DCP, status of current supplies and current demands to determine if implementation of a DCP stage or changing to a more stringent stage is necessary. At this point if the review indicates current supplies are not sufficient to meet reduced demands the entity should implement alternative supplies.

### 7.5.3 Recommendations for Entities Not Required to Submit a DCP

While wholesale suppliers, retail public water suppliers, and irrigation districts are required to have a DCP, there are a number of users such as industrial operations and individual irrigators which are not. While some of these users receive water from providers with established drought management procedures, all water users are subject to the impacts of drought. For entities not required to have a DCP and not under the DCP of a supplier, the RCWPG recommends that they consider developing a DCP based on one of the model plans provided on the Region C website. Links are provided in Section 7.5.4 of this document.

The RCWPG recommends that these entities regularly monitor drought conditions in order to facilitate decision making processes. Several resources are available for monitoring drought. For users which receive water from an outside supplier, communication and notifications of anticipated or implemented drought stages are key resources.

The following references are also recommended for consideration:

- **Palmer Drought Severity Index:** https://www.drought.gov/drought/data-maps-tools/current-conditions
- **TCEQ drought information:** https://www.tceq.texas.gov/response/drought
- **TWDB drought information:** https://www.waterdatafortexas.org/drought
7.5.4 Model Drought Contingency Plans

Model drought contingency plans addressing the requirements of 30 TAC §288(b) were developed for Region C and are available on the Region C website. Model plans were developed for municipal providers, irrigation users, manufacturing users, and steam electric water users. These model plans were largely based on templates provided by the TCEQ, with several modifications made to elaborate on notification procedures, provide consistency with region-wide efforts to have three standard stages, and incorporate other components.

These plans are available at:

- **Municipal:**

- **Irrigation:**

- **Manufacturing:**

- **Steam Electric:**

7.6 Drought Management Water Management Strategies

The RCWPG does not support drought management measures as WMS in the Region C RWP. Such measures are not designed to address long-term growth in demands but, rather, are inherently temporary strategies intended to conserve water supplies or reduce adverse impacts during times of drought or emergency and are not active under more hydrologically favorable conditions. Drought management measures would not be implemented until well into a drought of record and would be lifted shortly after the drought has subsided. Because drought management is only active and beneficial under certain periods of time, its reliable yield is essentially zero when considered in an analogous manner to surface water, groundwater, reuse, or conservation. Also, as discussed previously, the efficacy of individual drought response measures is difficult to quantify and can vary considerably from one entity to another and one drought to another due to hydrologic and human factors. This creates additional uncertainty in the use of drought response as a reliable measure for addressing water needs. While drought management measures are not included as WMS in the Region C RWP, drought management is an important component of water supply management. The RCWPG supports implementation of DCPs under appropriate conditions by water providers in order to prolong supply availability and reduce impacts to water users and local economies.

7.7 Other Recommendations

7.7.1 Texas Drought Preparedness Council

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 in order to minimized impacts to people and resources. The RCWPG 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. In a letter dated August 1, 2019 the Council provided two recommendations to all RWPGs which are addressed in this chapter.

- Follow the outline template for Chapter 7 provided to the regions by the Texas Water Development Board.
- 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 the RCWPG has developed this chapter to correspond with the sections of TWDB’s outline template. Regarding the second recommendation, the only use category in Region C that accounts for more than 10 percent of water demand in any decade is Municipal. To address this recommendation, a municipal model drought contingency plan was developed. Going beyond this recommendation, Region C also developed model drought contingency plans for irrigation, manufacturing, and steam electric use categories.

### 7.7.2 Development, Content, and Implementation of DCPs

The RCWPG recognizes that the DCPs developed by water providers in the Region are the best available tools for drought management, and recommends the following actions regarding development, content, and implementation of DCPs:

- In addition to any monitoring procedures included in the DCP, regular monitoring of resources and information from TCEQ, TWDB, the Texas Drought Preparedness Council, and the U.S. Drought Monitor.
- Coordination with wholesale providers regarding drought conditions and potential implementation of drought stages, particularly during times of limited precipitation.
- Review of the DCP by appropriate water provider representatives, particularly during times of limited precipitation.
- Regular consideration of updates to the DCP document to accommodate changes in supply sources, infrastructure, water demands, or service area.
- Communication with customers during times of decreased supply or precipitation in order to facilitate potential implementation of drought measures and reinforce the importance of compliance with any voluntary measures.
- Designation of appropriate resources to allow for consistent application of enforcement procedures as established in the DCP.
7.7.3 House Bill 807 Requirements

House Bill 807 was passed by the 86th Texas Legislature and signed by the Governor on June 10, 2019 and became effective immediately, meaning that the requirements of the Bill would apply to the current round of planning and must be included in the 2021 Regional Water Plans. The Bill amended Section 16.053 of the Texas Water Code to include, among others, the requirement that RWPGs “identify unnecessary or counterproductive variations in specific drought response strategies, including outdoor watering restrictions, among user groups in the regional water planning area that may confuse the public or otherwise impede drought response efforts” (TWC §16.053(e)(3)(E)).

TWDB provided the following guidance to meet this requirement: "RWPGs should review information collected through current requirements outlined in 31 TAC Section 357.42(c) and (i) and Section 7.5 of Exhibit C" and "Drought response strategies determined to be ‘unnecessary or counterproductive’ should be documented in Chapter 7 of the RWP." This information has been reviewed, and this chapter has been updated with the following information showing how Region C water providers have made efforts to reduce any confusing or counterproductive variations in drought response strategies.

In the past, many water suppliers in Region C had different drought stages, triggers, and responses that may have been counterproductive to the efforts of drought response. Since most of the region shares common news outlets reporting the drought responses, these different stages, triggers and responses often confused the public and may have impeded drought response efforts. In an effort to become more consistent across the region, the major water providers (MWPs) and municipal suppliers held a series of meetings (2013-2014) to reach consensus on the number of stages in their DCPs and the primary outdoor irrigation restrictions. As a result of those meetings, the MWPs (Dallas, Fort Worth, North Texas Municipal Water District, Tarrant Regional Water District and Upper Trinity Regional Water District) modified their DCPs to have three stages which include irrigation restrictions.

The MWPs also encouraged their customers to adopt similar DCPs. As a result of the regional initiative, most of the reviewed DCPs have Stage 3 as the terminal stage, and the total number of stages in many plans has been reduced.