

Drought Planning State Comparison

Drought is a common occurrence in Colorado and other western states due to a semi-arid climate. Annual precipitation in Colorado averages only 17 inches statewide with the majority of the state receiving only 12-16 inches. In addition to drought planning at the state level, many western states have drought planning mechanisms in place for local water providers or entities.

States use different methods to require or encourage water providers to develop local drought mitigation planning. Most rely on statutory language. Plan content and update requirements vary greatly. Local drought planning methods in Colorado, Texas, California, New Mexico, Arizona and Nevada are compared below.

All states examined, with drought planning at the local level, have statutory requirements mandating the plans, with the exception of Colorado. New Mexico has no local drought planning. Table 1 lists states that mandated local drought planning. Responsibility for local level drought planning rests with a variety of agencies, though most often the Department (or Division) of Water Resources. At the local planning level most states tend to focus primarily on municipal water suppliers. Texas has the most comprehensive coverage, with all water providers required to develop plans.

Drought plans exist as separate documents for Colorado and Texas; and as components of larger water plans for California, Arizona and Nevada. New Mexico does not require local drought plans. Most states require somewhat comprehensive drought plan content regardless of whether it was part of a larger water plan. Nevada was the exception, providing guidance that states only “Water Conservation Plans must include a contingency plan for drought conditions that ensures a supply of potable water.”

Once plans are in place, Colorado, California, Arizona and Nevada have no local drought plan reporting requirements. Texas requires that the Texas Commission on Environmental Quality (TCEQ) be notified of restrictions implemented, with reporting requirements that vary by type of water provider. Terminations of restrictions must also be reported. The TCEQ state website then lists water providers with restrictions in place. Many of the states consider required updates to be a reporting requirement.

All of the states with plan update requirements use a five year time frame for updates. Texas Drought Contingency Plans must be updated every five years to coincide with scheduled Regional Water Planning processes. California requires urban water suppliers update their Urban Water Management Plans at least once every five years. Arizona System Water Plans are due every five years by a state established due date. Nevada also requires that Water Conservation Plan (including a drought contingency plan component) be updated every five years. Colorado does not require updates.

Most states were somewhat limited regarding enforcement mechanisms. Texas, California, and Nevada require plans in order to be eligible for state funding. Arizona relies on publically identifying non-compliant water providers.

Water conservation and drought contingency plans are required for loans in excess of \$500,000 from the Texas Water Development Fund. California requires urban water providers to have a current and Department of Water Resources (DWR) reviewed Urban Water Management Plan in place in order to receive drought assistance or other DWR funds. Nevada requires that water providers have an approved Water Conservation Plan in order to be eligible for funding through the State Board for Financing Water Projects. Arizona’s Department of Water Resources (ADWR) must provide notice of noncompliance to the governing bodies of the cities, towns and counties located in the community water system’s service area. The ADWR also maintains a list of noncompliant systems on their website.

The following summarizes the content required and/or recommended for local drought plans by the states reviewed. While content tend to be similar, the ways states have chosen to organize plans vary. The below

list of possible plan content summarizes the requirements and recommendations for the states which were reviewed. Drought contingency plans may include:

- Water provider drought response contact person
- Purpose and background
 - Goals and objectives
 - Link drought mitigation planning with water supply and water conservation planning
- Plan for coordination with other local, regional, state planning group/agencies
- Vulnerability assessment
- Establish drought task force (or water shortage response team)
- Drought response stages
 - Drought indicators and triggers to begin and end each drought response stage (water provider specific)
 - Response actions (supply and demand management)
 - Specific, quantified targets for water use reductions
 - CWCB Drought Toolbox Scoping Report Page 22
 - Notification procedures
 - Enforcement procedures
 - Procedures for granting exceptions
 - Analyze economics impacts
- Monitoring procedures
- Plan for ongoing public education
- Develop drought ordinances
- Public input process
- Schedule/plan to adopt and implement the plan
- Plan updates and revision process and schedule

None of the states reviewed included all of the items above but many included a majority of items. A plan including all of these items would be very comprehensive. State by state planning elements and steps are outlined below.

Colorado

The CWCB's Office of Water Conservation and Drought Planning (OWCDP) lists six steps to prepare a drought plan on their drought mitigation planning website

Obtain Public Input and Involvement

- Define Goals and Objectives
- Assess Water Supply and Demand Conditions
- Define Drought Indicators
- Identify and Assess Drought Mitigation Measures
- Develop a Drought Index and Management Strategy

CWCB's Drought Mitigation Plan Review Guidelines highlight the following plan elements, updated guidelines are currently being developed as part of the State Drought Mitigation and Response Plan revision and will be complete by late 2010.

- Establish a Drought Task Force
- Perform a Vulnerability Assessment of the Water Supply
- Develop Policy to Assess and Respond to Drought
- Develop Response Actions
- Maintain Ongoing Public Education and Awareness
- Link Drought Mitigation with Water Supply and Water Conservation Planning

Texas

The Handbook for Drought Contingency Planning for Retail Public Water Supplies (the most comprehensive of the guidance materials provided by Texas) includes the following six planning steps:

- Step 1: Public Involvement
- Step 2: Assess Vulnerability to Drought and Define Triggering Criteria
- Step 3: Determine Drought Response Targets and Best Management Practices

- Step 4: Adopt the Plan
- Step 6: Periodic Review and Update.

California

California requires that Urban Water Management Plan be updated on a five year cycle. The state updates its guidance documents prior to each cycle. The Guidebook to Assist Water Suppliers in the Preparation of a 2005 Urban Water Management Plan provides the following steps to developing a Water Shortage Contingency Plan (WSCP):

- Step 1: Stages of Action
- Step 2: Estimate of Minimum Supply for Next Three Years
- Step 3: Catastrophic Supply Interruption Plan
- Step 4: Prohibitions, Penalties and Consumption Reduction Methods
- Step 5: Analysis of Revenue Impacts of Reduced Sales During Shortages
- Step 6: Draft Ordinance and Use Monitoring Procedure

In 2008, in response to an ongoing drought, California developed the Urban Drought Guidebook 2008 Updated Edition to assist water providers who wanted to update their drought plans. This guidebook includes the following seven steps to developing a WSCP (note that these differ from the steps provided above in the 2005 guidance materials):

- Step 1: Establish a Water Shortage Response Team
- Step 2: Forecast Supply in Relation to Demand
- Step 3: Balance Supply and Demand: Assess Mitigation Options
- Step 4: Establish Triggering Levels
- Step 5: Develop a Staged Demand Reduction Program
- Step 6: Adopt the Water Shortage Contingency Plan (includes public input)
- Step 7: Implement the Water Shortage Contingency Plan.

New Mexico

New Mexico has no planning requirements or guidance materials.

Arizona

Arizona's revised statutes (Section 45- 576) specify that drought preparedness plans shall be designed to meet the specific needs of the water system for which it applies and shall include:

- Contact info for the person at the community water system who is responsible for directing operations during a water shortage emergency.
- Drought or emergency response stages and response actions.
- Plan of Action to respond to drought or water shortage conditions, including:
 - Public education;
 - Development of emergency supplies; and
 - Specific water supply or water demand management measures for each stage of drought or water shortage conditions.

Nevada

Nevada statutes say only that required Water Conservation Plans must include "A contingency plan for drought conditions that ensures a supply of potable water."

Table 1: Comparison of State Drought Planning Requirements

State	Local Plan	Required by Law	Funding Available	Plan Type	Entities Completing	Enforcement	Reporting Requirements	Update requirement
Colorado	X		X	Drought Mitigation Plan	Water providers or state and local government		None	None
Texas	X	X		Drought Contingency Plan	wholesale, retail public water suppliers, irrigation districts	must comply to be eligible for state funding	vary by type of provider; also providers must notify if restrictions are implemented	5yrs
California	X	X		Water Shortage Contingency Plan (a component of the Urban Water Management Plan)	Urban water suppliers (including wholesale) providing water for more than 3,000 customers or 3,000 AF/yr	must comply to be eligible for state funding	None	5yrs
New Mexico	None							→
Arizona	X	X		Drought Preparedness Plan (a Component of System Water Plan)	Community water systems serving at least 15 connections used by year round residents	publicly identify non-compliant water providers	None	5yrs
Nevada	X	X		Drought Contingency Plan (component of the Water Conservation Plan which is part of the Surface Water and Groundwater withdrawal permit applications)	water suppliers providing water for municipal industrial or domestic purposes	must comply to be eligible for state funding	None	5yrs