

CITY OF
VENTURA

WATER SHORTAGE EVENT CONTINGENCY PLAN



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Water Shortage Event Contingency Plan

1. INTRODUCTION

This plan documents the City's Water Shortage Event Contingency Plan (WSECP) and Emergency Response Plan (ERP) per requirements of the Urban Water Management Act, Section 10632 of the California Water Code.

A. Declaration of Purpose of WSECP

The City of Ventura has developed this Water Shortage Event Contingency Plan to provide guidance if triggering events occur — whether from reduced supply, increased demand, or an emergency declaration — and identify corresponding actions to be taken during the various stages of a water shortage. The plan includes voluntary and mandatory stages which are intended to be fair to all water customers and users while having the least impact on business, employment and quality of life for residents.

The purpose of this WSECP is to:

- (1) Keep water use within supply and delivery capability, based on recommendations of citizen's advisory Water Shortage Task Force;
- (2) Define procedures to be used when supply cannot meet demand or continuing pumping will result in harm to supply source;
- (3) Familiarize all of Ventura Water's customers (residential, business, industrial, institutional/governmental and others) with procedures to be implemented when voluntary or mandatory water restrictions are in effect.

The Ventura Water General Manager, or designated representative, shall keep the City Council informed of the conditions of water supply, system usage, delivery capacity, and make recommendations to the City Council as appropriate, using best professional judgment and considering current weather conditions, weather forecasts, river flow conditions, and water system operations, for either enactment of initial restrictions or change to an appropriate stage in the WSECP.

The WSECP outlines specific actions that respond to and manage the City's water supplies through various circumstances, particularly drought conditions. The State Water Resources Control Board, California Department of Public Health and the Ventura County Health Care Agency may assist in determining whether an exception to any restrictions imposed according to the WSECP is necessary for the welfare, health, and safety of the public.

B. Status of Ventura Water System under Normal Conditions

Water Supply

The City's domestic water supply is derived from Lake Casitas, surface and sub-surface water from the Ventura River, and from local groundwater basins. There are presently five water sources that provide water to the Ventura Water System, in addition to reclaimed water that is used to offset potable demand:

(1) Casitas Municipal Water District (CMWD)

Water from Lake Casitas may be used only in the district of the Casitas Municipal Water District, which generally covers the west and midtown areas of the City and represent about 30% of all water connections. Ventura Water is contracted to purchase 8,000 acre-feet per year (AFY) but only required to purchase 6,000 AFY. Under drought conditions (lake levels below approximately 50% of capacity) the allocation could be reduced to 4,960 AFY. During November 2014 Lake Casitas held just above 50% of its capacity. The City's contract with CMWD allows a further reduction if lake levels fall to 25% of capacity or less. Additional water may be "rented" from CMWD and used anywhere in the Ventura System. Rental charges are an ongoing charge to the City until the water is physically returned by reduced use of Lake Casitas water. Approximately 5,000 acre-feet of water from Lake Casitas was used by the Ventura Water system in 2014. This is projected to increase by 111 acre-feet (AF) of demand within the CMWD service area in 2015; however a 10% reduction in supply is expected, bringing the projected 2015 actual delivery to 4,622 AFY.

(2) Ventura River / Foster Park Area (Foster Park)

Ventura Water's 2014 Comprehensive Water Resources Report (CWRR) reported that continuing drought conditions create an unknown supply from the Ventura River sources, projected in that report to be 0 to 2,000 AFY. Estimated reliable supply of 4,200 AFY was reported in the 2013 CWRR and confirmed for non-drought years in the 2014 CWRR.

(3) Mound Groundwater Basin (Mound)

Both the 2013 and 2014 CWRR show 4,000 AFY production from the Mound groundwater basin. This groundwater basin covers the central-east part of Ventura approximately from Mills Road to Kimball Road, from the hillsides to the Santa Clara River.

(4) Oxnard Plain Groundwater Basin (Fox Canyon Aquifer)

Estimated reliable supply of 4,100 AFY was reported in the 2013 CWRR and reduced to 3,918 AFY in the 2014 CWRR due to restrictions imposed by the Fox Canyon Groundwater Management Agency. Located to the south of the Mound Groundwater Basin, the basin supplies the well field near Buenaventura Golf Course located near the Santa Clara River, south of the 101 freeway.

(5) Santa Paula Groundwater Basin (Santa Paula Basin)

Located to the east of the Mound Groundwater Basin, the basin extends past City limits toward Santa Paula, with well fields located in and near Saticoy. Estimated reliable supply of 1,600 AFY was reported in the 2013 and 2014 CWRR. Water rights to 6 additional AFY were acquired for a past development. This is less than the maximum legal allocation of 3,000 AFY.

(6) Recycled Water

Ventura Water collects and treats wastewater at its Ventura Water Reclamation Facility (VWRF). The reclamation facility has a current capacity of 12 million gallons per day (MGD). Average flows to the reclamation facility currently total approximately 9 MGD. A portion of the effluent is pumped to recycled water customers and the remaining effluent is discharged to the Santa Clara River Estuary. The recycled water produced from the VWRF is used for general irrigation of the two golf courses, a City park, and landscape irrigation areas located along the existing distribution alignment. The City supplies approximately 700 AFY recycled water, equal to current demand.

Ventura Water's existing water supply comes from multiple sources as summarized in Table 4-1 of the 2013 and 2014 Comprehensive Water Resources Report and shown in Exhibit 1, below.

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EXHIBIT 1
Table 4-1 from 2013 CWRR
Summary of Current Water Supply [1]

Water Supply Source	Current Supply (AFY)
Casitas Municipal Water District	5,000 [2]
Ventura River / Foster Park	4,200
Mound Groundwater Basin	4,000
Oxnard Plain Groundwater Basin	4,100
Santa Paula Groundwater Basin	1,600
Recycled Water	700
Total	19,600

[1] Used as Normal Year Supply in Table 1

[2] Demand within Casitas service area is approximately 5,000 AFY at this time.

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C. Ventura Water System Status in December 2014

Information in this section is based on the 2014 Comprehensive Water Resource Report.

Customers and Commitments

Ventura Water, a department of the City of Ventura, owns, operates and maintains a water distribution system that provides domestic water service to a population of approximately 113,500 persons and has approximately 32,000 service connections, as established by the June 2013 Comprehensive Water Resources Report (CWRR) and cited without revision in the May 1, 2014 CWRR update.

Ventura Water's existing water service area includes all areas within the City limits, as well as portions of unincorporated Ventura County that meet the City's policy for water connections outside City limits (Municipal Code Section 22.110.055).

Baseline water demand established by the 2013 CWRR was 17,601 acre-feet per year (AFY). The baseline water demand for 2014 (based on the 2009 to 2013 annual average) reported in the 2014 CWRR is 17,343 AFY. Demand for 2015 is projected by the 2014 CWRR to be 17,660 AFY; this quantity includes projected development of 350 new dwelling units.

Total 2014 supply from non-recycled sources is 18,900 AFY plus 700 AFY of recycled water from the Ventura Water Treatment Plant for a combined total supply of 19,600 AFY. The baseline water demand projected by the 2014 CWRR is 17,343 AFY, or 88.5% of supply representing an 11.5% buffer between demand and available supply.

Total 2015 supply projected in the 2014 CWRR is 19,535 AFY to 20,935 AFY. The 2014 CWRR also provides a "worst case drought conditions" with a projected 2015 supply of 14,824 AFY to 16,824 AFY. The significant differences are potential loss of ability to extract water from Ventura River sources plus a potentially reduced supply from Lake Casitas as that agency implements its own water shortage contingency plan.

The City also has a 10,000 acre-foot per year entitlement of water from the California State Water Project based on a contract established in 1971. To date the City has not utilized this water source because there are no facilities to get the water to the City. The contract requires an annual payment by the City, which in some years is partly offset by re-selling the allocation to other water agencies. This source may be available during a Water Shortage Event at significant capital outlay cost.

The 2013 CWRR notes a temporary pipeline inter-tie connection between Oxnard and Ventura could allow Ventura to access State Water during times of a water shortage emergency if state water were available.

Other potential sources of additional water supply include annexing land with water rights, obtaining water rights (temporary or permanent) from the Santa Paula Basin, desalinization of brackish or ocean water to potable water standards, increased treatment of groundwater supplies to reduce amount of water used to blend high Total Dissolved Solids (TDS) groundwater, rebuilding well fields in the Ventura River, and increased distribution and use of treated wastewater.

System Limitations

Water supplies have various limitations that may affect future water supply. Each source is closely monitored on an ongoing basis by staff of Ventura Water. Key issues include high mineral (TDS) content of groundwater from the Mound Basin which requires either costly treatment (filtration) or blending with less salty water from other sources such as Lake Casitas or Ventura River; uncertain availability of water from the Ventura River well field, possible changes in allocation from groundwater basins, and unknown demand for recycled water if the distribution system were to be expanded.

Storage Capacity

The City has 58.0 million gallons of operational storage citywide. This represents 178 acre feet of water, or 5 days of usage.

D. Policy of Water Efficiency

It is the policy of the City of Ventura and Ventura Water to promote water conservation. The water supply is a limited resource, and everyone shares in the responsibility for appropriately using and preserving this resource. All customers of the Ventura Water System are therefore encouraged to voluntarily reduce water usage by daily practicing water conservation, regardless of whether voluntary or mandatory water restrictions are implemented or certain water shortage rates are applied. There are many simple, cost-effective ways to lower water use and reduce strain on water resources and infrastructure without compromising Ventura's quality of life. Customers of the Ventura Water System are encouraged to follow at all times the water conservation measures found at www.cityofventura.net/water/efficiency.

This WSECP recognizes the many Ventura Water customers who have voluntarily implemented water-saving landscape, plumbing, and other changes to permanently conserve water. Actions in this WSECP acknowledge cutbacks already made and the difficulty in making additional significant cutbacks for customers who have already reduced water use and invested heavily in water conservation measures.

E. Reduced Water Use During Water Shortage Events

This WSECP and other legal actions by the City establish changes that may be imposed on water users during Water Shortage Events. Such events may be a lengthy drought that has limited groundwater and surface water supplies, or an emergency condition brought about by an earthquake, fire, or other interruption in water delivery to the system. These actions are discussed in later sections of this WSECP.

The California Department of Water Resources has established as a guideline a health and safety baseline allocation level of 50 gallon per person consumption per day. Customers would not be cut back further than this allocation and those already at this level would not be impacted by drought rate structure to promote further reduction in water usage.

F. Coordination with City Facilities and Departments

Ventura Water will coordinate with the other City departments to ensure that City facilities including parks are being operated in a water efficient manner and to assist Ventura Water in attaining conservation goals. City facilities have a strong program of water and energy efficiency. Ventura Water and Parks will partner to review and reduce the irrigation of City property, and Ventura Water and Environmental Sustainability staff have a strong working relationship with our schools by providing educational programs to teach students and school managers how to reduce water usage. Periodically Community Development, Economic Development, Public Works, City Manager, and Ventura Water will continue to meet together and share information on near term and long term changes in supply and demand for water supply and wastewater treatment, differentiated into areas within the Casitas Municipal Water District and non-Casitas areas of the Ventura Water service area, and additional sub-areas as determined by the Ventura Water General Manager.

G. Coordination with Other Agencies

Coordination also will include state and county agencies within the Ventura Water service area, such as County of Ventura, VCMC, State Fairgrounds, Ventura Unified School District, Ventura College, Ventura Harbor District, state parks and others.

2. CAUSES FOR RESTRICTIONS

A. Water Shortage Event

A water shortage event can be anything from a single occurrence as short as twenty-four hours to a multi-year weather condition. If water shortage event triggers identified in Table 1 are met the City will consider enacting voluntary and/or mandatory restrictions as listed in Table 1 targeted primarily at reducing outdoor watering activities. Any such restrictions would be enacted pursuant to San Buenaventura Municipal Code, Chapter 22.170 Water Conservation, Section 22.170.010, Water waste prohibited, and enforced pursuant to applicable code provisions and the WSECP.

Other events, besides drought, that could trigger a water shortage event include an earthquake, water system failures, fire, contamination, regional power outage, state restrictions or other causes.

B. Definition of Drought

The following definition was written by the California Department of Water Resources:

Defining when drought occurs is a function of drought impacts to water users. Drought can best be thought of as a condition of water shortage for a particular user in a particular location. Hydrologic conditions constituting a drought for water users in one location may not constitute a drought for water users in a different part of California or for users with a different water supply. Individual water suppliers may use criteria such as rainfall/runoff, amount of water in storage, or expected supply from a water wholesaler to define their water supply conditions.

Drought is a gradual phenomenon. Although persistent drought may be characterized as an emergency, it differs from typical emergency events. Most natural disasters, such as floods or forest fires, occur relatively rapidly and afford little time for preparing for disaster response. Droughts occur slowly, over a period of time. There is no universal definition of when a drought begins or ends. Impacts of drought are typically felt first by those most reliant on annual rainfall – ranchers engaged in dryland grazing, rural residents relying on wells in low-yield rock formations, or small water systems lacking a reliable water source. Criteria used to identify statewide drought conditions do not address these localized impacts. Drought impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in groundwater basins decline.

Historical Droughts

Measurements of California water conditions cover only a small slice of the past. Widespread collection of rainfall and streamflow information began around the turn of the 20th century. During our period of recorded hydrology, the most significant statewide droughts occurred during 1928-34, 1976-77, 1987-92, 2007-09, and 2011-

14. The last significant regional drought occurred in parts of Southern California in 1999-2002. Historical data combined with estimates created from indirect indicators such as tree rings suggest that the 1928-34 event may have been the driest period in the Sacramento River watershed since about the mid-1550s.

Source: <http://www.water.ca.gov/waterconditions/background.cfm>

Task Force members note that a local drought between 1944-1951 severely impacted Ventura's water supply.

C. Natural Disaster or Failure of Water System Facilities

In the event of a natural disaster such as an earthquake, fire, toxic spill or flood, or should a catastrophic failure occur at any of Ventura Water System's facilities, the City will enact restrictions as addressed in Table 1 of this WSECP. Such restrictions would be based on the varying circumstances as determined necessary and appropriate by the City Council to respond to the emergency conditions, or by the City Manager in the event the City Council cannot act in a timely manner. Any restrictions would be enacted pursuant to San Buenaventura Municipal Code, Chapter 22.170 Water Conservation, Section 22.170.010, Water waste prohibited, and enforced pursuant to applicable code provisions.

Responses to a catastrophic interruption in water supply are part of the Emergency Response Plan (ERP) explained below in Section 7.

3. STAGES OF ACTION TO RESPOND TO WATER SHORTAGE EVENT

The City has developed a six-stage contingency plan to reduce demand up to 50 percent during a severe or extended water shortage event involving both voluntary and mandatory stages.

TABLE 1 - WATER SHORTAGE STAGES TRIGGERS/DEMAND REDUCTION GOALS

Advisory Stage 1	Trigger Annual Supply Projection is 10% below Normal Year Supply Projection	Demand Reduction Goal Based on Normal Year Supply 10% Voluntary
Moderate Stage 2	Annual Supply Projection is between 10% and 19% below Normal Year Supply Projection	10% Mandatory
Stage 3	Annual Supply Projection is between 20% and 29% below Normal Year Supply Projection	20% Mandatory
Severe Stage 4	Annual Supply Projection is between 30% and 39% below Normal Year Supply Projection	30% Mandatory
Stage 5	Annual Supply Projection is between 40% and 49% below Normal Year Supply Projection	40% Mandatory
Critical Stage 6	Annual Supply Projection is below 50% of Normal Year Supply Projection	50% Mandatory

Notes to Table 1:

1. The **Annual Supply Projection** is from Table 4.2 of the most recent Comprehensive Water Resources Report or Ventura Water General Manager in emergency conditions.
2. When the Water Shortage Event Contingency Plan is activated, the **Normal Year Supply Projection** number (identified from Table 4-1, "Summary of Current Water Supply", of the most recent Comprehensive Water Resources Report) will be used to establish a baseline supply value to be used for comparison of drought response and stages of action. The baseline supply value will not change through the duration of the event.

A. Water Supply Conditions

The water supply conditions in Table 1 are based on available water supply compared to normal year water supply and will be used to consider if water shortage event restrictions shall be implemented. Other circumstances may also be considered, including but not limited to the time of year, weather forecasts, river flow forecast, rainfall, temperature, past experience and economic feasibility, the volume of water available from Lake Casitas, volume available from groundwater wells, and quality of the water produced from each source.

B. Stages of Water Use Restrictions

Each stage shall remain in effect until conditions indicate a more or less restrictive stage is necessary and action is taken by the City Council based on supply criteria identified in Table 1. The City Council may enact any stage, and need not proceed in order through the stages.

(1) Enacting water use restrictions:

Stages 2-6 of the WSECP shall be enacted by the Ventura City Council declaring an emergency water restriction. Water supply conditions and goals for each restriction stage are outlined in Table 1.

(2) Modifying and ending water use restrictions:

For each month that customer water use restrictions are in effect at Stage 4, 5, or 6 under this WSECP the City Manager shall report to the City Council on the status of the shortage and water use changes in the Ventura Water system, including a recommendation to maintain, change or end the water use restrictions. A water shortage event can be terminated by the City Council upon determination that “normal year” supplies have been secured by rainfall, basin replenishment or a new supply. A water shortage event involving sudden, unforeseen emergencies can be terminated by the City Manager or their designee upon a determination that the emergency no longer exists. As soon as practicably possible or at the next scheduled Council meeting, the City Manager or their designee shall share this termination decision with the City Council.

(3) Water Rate Structure:

Water rates will return to the rate structure prior to the water shortage event upon the termination of the event.

C. Planning for Additional Water Supply to Meet Future Needs

Ventura Water currently has a monitoring program to provide roughly five years advance warning of the need for a supplemental water supply, whether the need results from decreased supply due to drought or other factors, or for long term increase in demand. This program includes an annual Comprehensive Water Resources Report to the City Council which includes water supply conditions. It is intended that this timeline

will give the City sufficient time to implement a supplemental water supply project, from the feasibility study phase to completion of construction and startup of the facility.

Response to reduced water supply

Any water shortage event should trigger a review of potential sources for supplemental water supply. A supplemental water supply project should be a priority for consideration in immediate capital projects if the five year supply projection shows a reduction of ten percent or more in water supply from all the sources combined, or if a Stage 3 Water Shortage Event continues for more than 18 months. Additional supply sources for consideration by the City Council include seawater desalination, purchasing and importing state water, increased use of reclaimed water, and other alternatives based on the actual circumstances at that time.

Response to increased future demand

The water demand trigger is met when projected annual demand within five years exceeds 90% of normal year supply as defined in Table 1. This demand-based trigger should be considered independently of the triggers based on reduced supply.

4. MINIMUM WATER SUPPLY AVAILABLE DURING NEXT THREE YEARS (2015-2017)

The primary factor in limiting the City’s existing water supplies is drought. In evaluating a three year worst-case rainfall scenario, the WSECP assumes, based on the adopted 2014 CWRR, that severe drought conditions affecting supply of surface and groundwater sources would begin immediately and continue for three consecutive years (Exhibit 2).

Available water sources reflecting capacity of current production facilities will be used as a "snapshot" of current conditions based on Table 4.2 of the 2014 CWRR and corresponding tables in subsequent year CWRRs. These quantities must be evaluated each year and updated to reflect changing conditions, legal or regulatory changes, and system improvements.

As noted above in Section 1C, five-year average baseline water demand reported in the 2014 Comprehensive Water Resources Report was 17,343 Acre-Feet per Year (AFY).

Available water supplies during the three year period were projected considering:

- (1) The current status of each existing source;
- (2) The past response of each existing source to similar drought conditions.

Also, because of the complexities of the City’s water sources, the specific numbers are only approximations.

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**EXHIBIT 2
Estimate of Minimum Supply for the Next Three Years (2015-2017)**

Source	Supply (AF)		
	2015	2016	2017
Casitas Municipal Water District	4,600	4,600	4,600
Ventura River (Foster Park)	0-2,000	0-2,000	0-2,000
Mound Basin	4,000	4,000	4,000
Oxnard Plain Basin	3,918	3,918	3,918
Santa Paula Basin	1,606	1,606	1,606
Recycled Water	700	700	700
Total Supplies	14,824- 16,824	14,824- 16,824	14,824- 16,824

Notes: Based on the 2014 CWRR, Table 4-2, 2015 Supply Drought Impact.

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5. PROHIBITIONS, PENALTIES, AND CONSUMPTION REDUCTION METHODS

At each of the stages of action within the Water Shortage Event Contingency Plan shown in Table 1, Ventura Water and its customers each have certain actions they must undertake.

- (1) Ventura Water actions involve increasing public awareness and education, recommending to the City Council activation of ordinances prohibiting water waste, activating mandatory water conservation regulations, and periodically reviewing triggering events and stages.
- (2) Water customer actions involve implementing water conservation measures and complying with water conservation ordinances and regulations.

A. Water Shortage Rates for Revenue Loss Recovery

Water Shortage Rates would be implemented when mandatory stages are enacted by the City Council. A rate schedule has been created for each mandatory stage of this plan. The rates would resume to normal rates once the Water Shortage Event is retracted based on triggers in this plan.

(1) Goals of Water Shortage Rates:

- Meet community expectations to provide safe and reliable water supply during shortages at rates that are fair and as low as possible.
- Maintain fiscal stability in the event of a sudden or long-term water shortage.
- Achieve state mandates and legal requirements.
- Be adopted into Ventura's Municipal Code to provide expediency and business continuity in the event of future shortages.

(2) Principles of the Water Shortage Rates:

- The existing Tier 1 for residential customers will be split into two tiers to provide a protected range of water usage wherein the per hundred cubic foot (HCF) charge will not increase; thus, creating a four tier rate structure during a Water Shortage Event.
- The rates will be increased for each stage of mandatory conservation to ensure full revenue loss recovery.
- Non-residential customers will be expected to conserve half of the mandatory call for conservation; therefore, the per HCF charge will increase for full revenue recover at the relevant loss.
- Any additional expenses from the water wholesaler or regulatory agencies due to drought will be passed onto customers through a water shortage pass-through when the City's Water Enterprise is charged. For Stages 2 through 5 the pass-through will only affect Water Shortage Tiers 3 and 4 and for Stage 6 the pass through will affect Tiers 2 through 4.

(3) Codifying the Water Shortage Rates:

- The below percentages would be applied to the existing tiered rates or uniform rates when a water shortage event is called by the City Council.
- Customers will be given 30 days-notice prior to the rates going in effect unless the City Council takes extraordinary action.
- Tier 1 in the existing tiered structure is split into Tier 1 and Tier 2 in a Water Shortage Event so that low water users will experience no increase in water rates.
- The percentage increase is applied to Tier 1 charges to create the Tier 2 charges in a Water Shortage Event and so on.

**TABLE 2
SHORTAGE RATES INCREASE BY STAGE
(FULL REVENUE RECOVERY)**

Customer Class	Bi-monthly Tier	Base Rates (\$/hcf)	Stage 2 Increase	Stage 3 Increase	Stage 4 Increase	Stage 5 Increase	Stage 6 Increase
<u>Inside City</u>							
SFR							
Tier 1	6	\$2.40	1.00	1.00	1.00	1.00	1.00
Tier 2	14	\$2.40	1.13	1.36	1.46	1.71	2.10
Tier 3	30	\$3.35	1.20	1.66	2.09	2.99	5.08
Tier 4	> 30	\$5.66	1.19	1.48	2.18	4.67	8.70
MFR (per unit)							
Tier 1	6	\$2.40	1.00	1.00	1.00	1.00	1.00
Tier 2	10	\$2.40	1.13	1.36	1.46	1.71	2.10
Tier 3	16	\$3.35	1.20	1.66	2.09	2.99	5.08
Tier 4	> 16	\$5.66	1.19	1.48	2.18	4.67	8.70
Non-Residential		\$3.09	1.12	1.17	1.21	1.27	1.31
Non-Residential Irrigation		\$3.09	1.20	1.60	2.13	3.66	6.64
Institutional/Interruptible		\$2.39	1.20	1.62	2.04	2.89	4.97

B. Efficiency Tracking/Reductions in Demand

Certain aspects of water conservation can be readily monitored and evaluated, such as metered water use and production quantities. Other aspects such as public education are more difficult to measure in terms of effectiveness. Additionally, weather patterns make it more difficult to compare one year's water demand and conservation results with another year's usage.

When severe shortages occur and some degree of mandatory reduction is required, a program's effectiveness can be judged directly by water billings. In these cases, targeted results must be met and even reluctant customers will, on the whole, meet the goals. Specific methods to evaluate effectiveness of water conservation programs to be employed by the City are:

- (1) Monitoring of Metered Water Usage – This will determine how much has been used. Compiling statistics to track usage of customer groups to determine trends is currently being done through the EnQuesta water billing computer system. Meter readings/billings can be compared and analyzed to determine the effectiveness of conservation for all customer classes.
- (2) Monitoring Production Quantities – In normal water supply conditions, production figures are recorded daily by automation in the City's HACH Software System. The Water Production Supervisor and the Production Leadworker monitor the accuracy of the monthly production totals. The totals are incorporated into the monthly water supply report to the State by the Water Treatment Supervisor.

To verify that conservation reduction goals are being met, production and metered usage reports will be provided to the Ventura Water General Manager and Water Utility Manager during each stage of the conservation period. Water production figures will be compared to previous year production figures for the same time period to ascertain if conservation goals are being reached. Results will be posted on the Ventura Water website.

Additional actions available to Ventura Water include:

- (1) Transition current customer water meters to "smart meters" to allow timely monitoring by customer of water use patterns. Program should be implemented in a manner that avoids sudden increases to customers for meter upgrades.
- (2) Provide incentives to property owners to install individual meters or sub-meters in multi-family structures to for resident/property owners to track water usage.
- (3) The City shall develop means to distribute reclaimed water to interested users for landscape irrigation and other non-potable uses.

C. Other Water Conservation Actions by the City

The City shall comply with the restrictions similar to those implemented for the public to the extent possible and not inconsistent with the restrictions provided for the City in this section. The City will encourage all water customers to cooperate with the water restrictions imposed by each stage.

Limit use of potable water to irrigate newly planted street, park and/or golf course trees, street medians, and general irrigation on all City properties. Non-potable water from wastewater treatment shall be used by City personnel if available for such purposes. No new plantings shall be installed by the City during Stage 3 or higher Water Shortage Events, unless necessary for erosion control.

In stage 2 or 3 mandatory restrictions, ornamental fountains and waterfalls shall not be replenished unless water recirculates.

Take reasonable effort to preserve permanent trees, shrubs and turf on City property. City parks have three priorities for watering during a shortage; comparable priorities apply to trees, shrubs and turf in non-park City owned facilities.

(1) No or little reduction in watering of turf in sports fields shall be required where there are safety concerns due to continued use;

(2) 20-30% reduction in watering for visitor areas of the City that need to look welcoming to visitors; and

(3) 30-40% reduction in passive use areas, these are the areas that will turn brown first.

The City Manager shall review city operations to identify feasible water use reductions with the goal of matching allocation reductions imposed on residential customers.

Upon declaration of Stage 3 water shortage event Ventura Water will contact appropriate agencies to determine process for an emergency inter-tie to state project water via City of Oxnard should shortage conditions increase to become health or safety threat to Ventura Water customers.

During Stages 4-6, the decision to fill or refill City swimming pools or continue operation of said pools in a manner that is safe and expeditious will be separate from the restrictions in the WSECP. Changes shall be approved by the City Council with input from the Ventura Water General Manager and Parks, Recreation and Community Partnerships Director following written notification to all contracted user groups of the city pools.

During Stage 5, hydrant flushing maintenance program shall be limited except as deemed necessary by the Ventura Water General Manager and City Fire Chief to enhance water quality or to conduct fire flow and large meter tests. Jet flushing of sanitary sewers, storm sewer flushing, and street sweeping shall be limited except as deemed necessary for health, safety, sanitation, or general welfare purposes.

6. CITY AND CUSTOMER ACTION PLAN

There are actions that the City and Water Customers will be responsible to undertake at each stage to attain demand reduction goals. These measures at the six stages of the City's Water Shortage Event Contingency Plan are described below.

A. Stage 1 & 2: 0-10 Percent Reduction Goal (Voluntary/Mandatory)

City Actions

1. Monitor conservation levels and increase public awareness.
2. Notify customers of shortage conditions and disseminate water conservation information and kits.
3. Publicize Water Shortage Event Contingency Plan stages and the possible actions per stage including water use reduction goals.
4. Provide information on customer's bill as to what they should be using for the needed cutback.
5. Maintain existing tiered rate structure to promote water conservation.
6. Enforce mandatory water consumption reduction program for all customers and users.
7. Enact water rate surcharge for water consumption over baseline amount. Enact surcharge review program, customers may appeal in writing for a waiver of penalties incurred due to a leak, break or hardship.
8. Give incentive for landscape changes to use less irrigation.
9. Promote grey water use by education, incentives and other actions.
10. Enforce Water Waste Ordinance (Exhibit 3).
11. Inform new development applicants of Water Shortage Event Contingency Plan and its restrictions, including notice that if conditions worsen issuance of permits and development approvals may be delayed until additional supply becomes available or conditions significantly improve.
12. Provide ways to increase use of recycled water to reduce potable water usage.

Water Customer Actions

1. Monitor own meter for usage.
2. Implement conservation measures to reduce usage.
3. Comply with City's Water Waste Ordinance (Exhibit 3).
4. Where feasible, use non-potable water to perform dust control, irrigate street landscaping, parks, and other areas.

B. Stage 3: 20 Percent Reduction Goal (Mandatory)

City Actions (In addition to actions established in previous Stage)

1. Prepare a resolution for City Council consideration that will initiate the appropriate mandatory conservation stage addressed in the City's Water Waste Ordinance.
2. Make reasonable efforts to provide low cost recycled water for irrigation and other non-potable uses as approved by regulatory agency.
3. Municipal Irrigation Interruptible Rate Customers will reduce use of potable water by 20%.
4. Use recycled water on City parks and landscaping using contract trucks or other equipment.
5. Provide incentives to single metered multi-family units to install individual meters or sub-meters.
6. Send written notification of increase to Stage 3 to all development project applicants.
7. Change outdoor watering limitations to specific days of the week to aid enforcement.

Water Customer Actions (In addition to actions established in previous Stage)

1. Comply with mandatory water conservation regulations.
2. Do not wash sidewalks, walkways, driveways, parking lots or any other hard-surfaced areas by hose or flooding, except as otherwise necessary to prevent or eliminate conditions dangerous to the public health and safety or for other legitimate necessity.
3. Bath, dish washing, and laundry water may be used for outside irrigation purposes to the extent allowed under local health and safety regulations.
4. Comply with prohibited outdoor irrigation of ornamental landscape or turf with potable water through an irrigation system between the hours of 9:00 am and 6:00 pm and limiting the use of irrigation systems to two days a week.
5. Comply with these on other requirements of the Water Waste Ordinance:
 - Do not allow water to run and be wasted during outdoor use. (Adjust or reduce sprinklers so the water does not run onto the pavement or street.)
 - Do not allow leaks to persist past 48 hours.
 - Handheld hoses used to wash a vehicle must have an automatic shutoff nozzle.
 - Water service in all restaurants is by customer request only.
 - Do not operate fountains unless the water is recirculating.
 - Do not knowingly waste water in any way.

C. Stage 4: 30 Percent Reduction Goal (Mandatory)

City Actions (In addition to actions established in previous Stages)

1. Prepare a resolution for City Council consideration initiating the appropriate mandatory conservation stage addressed in the City's Municipal Code or this WSECP.
2. Ensure efficient use of potable water for street sweeping and other activities that otherwise consume potable water.
3. Municipal Irrigation Interruptible Rate Customers will reduce use of potable water by 30%.
4. Implement baseline/use appeal process for hardship cases.
5. New development that does not have a water supply to serve their project which supplements the City's water supply will be required to offset any impact to water supply during the Stage 4 (or higher) Water Shortage Event if they wish to continue the entitlement process during a Water Shortage Event.

Water Customer Actions (In addition to actions established in previous Stages)

1. Comply with mandatory water conservation regulations.

D. Stage 5: 40 Percent Reduction Goal (Mandatory)

City Actions (In addition to actions established in previous Stage)

1. Prepare a resolution for City Council consideration initiating the appropriate mandatory conservation stage addressed in the City's Municipal Code or this WSECP.
2. Enforce mandatory water consumption goals and allocations for all customers and users.
3. Municipal Irrigation Interruptible Rate Customers will reduce use of potable water by 40%.
4. Prepare a resolution for City Council consideration directing the Community Development Department to stop processing development approvals in order to conduct a public hearing regarding water allocation to development applications.
5. Limit outdoor watering to 1 day per week.

Water Customer Actions (In addition to actions established in previous Stage)

1. Comply with mandatory water conservation regulations.

E. Stage 6: 50 Percent Reduction Goal (Mandatory)

City Actions (In addition to actions established in previous Stages)

1. Prepare a resolution for City Council approval initiating the appropriate mandatory conservation stage addressed in the City's Municipal Code or this WSECP.
2. Enforce mandatory water consumption goals and allocations for all customers and users.
3. No outdoor irrigation using potable water will be allowed.
4. All water use not required for health and safety is prohibited.
5. Suspend the issuance of any new development approvals and new water connections other than those required to be processed by state law. Building permits which do not create new demand for water or which are for emergencies, public safety and water conservation may be exempted by the City Manager.

Water Customer Actions (In addition to actions established in previous Stages)

1. Comply with mandatory water conservation regulations.
2. Prohibition of all outside water use unless necessary for the preservation of health and safety and the public welfare.
3. Watering with hand-held five gallon maximum bucket, filled at exterior hose bib or interior faucet (not by hose) shall be allowed at any time. This will assist in preserving vegetable gardens or fruit trees.
4. The filling of swimming and wading pools is prohibited.

F. Priorities for Water Use

The following priorities for use of available water, based on Chapter 3 of the California Water Code (Water Shortage Emergencies, Sections 350-359) and community input, were used in establishing consumption limits. In order of preference they are:

- (1) Health and Safety - interior residential use and firefighting.
- (2) Commercial, Industrial and Governmental Uses - maintain jobs and economic base.
- (3) Permanent Crops.
- (4) Annual Crops. Existing Landscaping - especially trees and shrubs.
- (5) New Demand - projects without permits when shortage declared.

EXHIBIT 3 -Text of City of San Buenaventura Water Waste Ordinance

Sec. 22.170.010. - Water waste prohibited.

A. *Prohibited uses.* No person shall use or permit the use of water:

1. For the watering of turf, ornamental landscape, open ground crops and trees, including agricultural irrigation, in a manner or to an extent which allows water to run to waste;
2. Such that the escape of water through leaks, breaks or malfunction within the water user's plumbing or distribution system occurs for any period of time beyond which such break or leak should reasonably have been discovered and corrected. It shall be presumed that a period of 48 hours after the water user discovers such leak, break or malfunction, or receives notice from the city of such condition, whichever occurs first, is a reasonable time within which to correct such condition;
3. In conjunction with use of a handheld hose to wash automobiles, trucks, trailers, boats, or other types of mobile equipment without the use of a workable positive shutoff nozzle;
4. For the operation of any ornamental fountain, or similar structures, unless water for such use is recycled for lawful reuse without substantial loss;
5. For washing of sidewalks, walkways, driveways, parking lots or any other hard-surfaced areas by hose or flooding, except as otherwise necessary to prevent or eliminate conditions dangerous to the public health and safety or for other legitimate necessity;
6. For serving of water by a restaurant to its customers without first being requested by the customer; or
7. Knowingly for any indiscriminate running of water or washing with water not otherwise prohibited above which is wasteful and without reasonable purpose.

B. *Failure to comply.*

1. *Civil penalties.* In addition to any other penalties or sanctions provided by this Code, the following civil penalties shall apply for violation of any of the provisions of this article:
 - (a) For the first violation of any of the provisions of this article a written notice is to be given.
 - (b) For the second violation of any of the provisions of this article a surcharge penalty is hereby imposed in an amount equal to 50 percent of the most recent bimonthly water bill (exclusive of the sewer portion of the bill), or \$25.00, whichever is less, payable as part of the water bill, by the customer at the premises at which the violation occurred.
 - (c) For the third violation of any of the provisions of this article a surcharge penalty is hereby imposed in an amount equal to 25 percent of the most recent bimonthly water bill (exclusive of the sewer portion of the bill), or \$50.00, whichever is greater. This penalty is payable as part of the water bill, by the customer at the premises at which the violation occurred.

(d) For a fourth violation of any of the provisions of this article within 12 calendar months, the city will install a flow restricting device of one GPM capacity for services up to 1½ inch size, and comparatively sized restrictors for larger services, on the service of the customer at the premises at which the violation occurred for a period of not less than 48 hours. The charge for installing such a flow restricting device will be based upon the size of the meter and the actual cost of installation. The charge for removal of the flow restricting device and restoration of normal service shall be based on the actual cost involved. Said charges shall be payable by said customer as part of the water bill. Restoration of normal service will be performed during the hours of 8:00 a.m. to 4:00 p.m. on regular working days. In addition, a surcharge penalty of 50 percent of the most recent water bill shall be imposed for restoration of normal service, payable by said customer as part of the water bill.

(e) For any subsequent violation after the fourth violation of any of the provisions of this article within 12 calendar months, the city may discontinue water service to the customer at the premises at which the violation occurred.

2. *Notice.* The city will give notice of each violation to the customer at the premises at which the violation occurred, as follows:

(a) For a first, second or third violation, the city may give written notice of the fact of such violation to the customer personally or by regular mail.

(b) If the penalty assessed is, or includes the installation of a flow restrictor or the discontinuance of water service to the customer for any period of time whatever, notice of the violation will be given in the following manner:

(1) By giving written notice thereof to the customer personally; or

(2) If the customer is absent from or unavailable at either the customer's place of residence or place of business, by leaving a copy with an adult at either place, and sending a copy through the United States mail addressed to the customer at either the customer's place of business or residence; or

(3) If such place of residence and business cannot be ascertained, or an adult cannot be found on the premises, then by affixing a copy in a conspicuous place on the property where the failure to comply has occurred and also by delivering a copy to a person residing at the premises, if such person can be found, and also by sending a copy through the United States mail addressed to the customer at the customer's billing address and to the place where the property is situated;

(4) All notices will contain, in addition to the facts of the violation, a statement of the possible penalties for each violation, a statement informing the customer of the customer's right to a hearing on the violation, a brief summary of the appeal process specified herein, and the date and time termination will occur.

3. *Hearing.* Any customer against whom a penalty is to be levied pursuant to this section shall have a right to a hearing, in the first instance by the city water superintendent, with the right of appeal to the city public works director, on the merits of the alleged violation, upon the written request of that customer to the city clerk within 15 days of the date of notification of the violation. Penalties, including termination of water service, will be stayed

until any such hearing is conducted and a written decision is made by the city water superintendent or his or her designee.

4. *Appeal of decision of water superintendent.* A request for an appeal must be in writing and filed with the city clerk. The filing by a customer of a request for an appeal for any form of relief must be made within 15 days of the decision of the water superintendent. Filing of such a request will automatically stay the implementation of the proposed course of action, pending the decision of the public works director. No other or further stay will be granted. The appeal hearing will be scheduled to occur within a reasonable, prompt period of time following the written notice of appeal. The water user may present any evidence which would tend to show that the alleged wasteful water use has not occurred. Formal rules of evidence will not apply and all relevant evidence customarily relied upon by reasonable persons in the conduct of serious business affairs will be admissible, unless a sound objection warrants its exclusion by the city public works director. The decision of the city public works director shall be final.

5. *Reconnection.* Where water service is disconnected, as authorized above, it will be reconnected upon correction of the condition or activity and the payment of the estimated reconnection charge.

6. *Public health and safety.* Nothing contained in this article shall be construed to require the city to curtail the supply of water to any customer when, in the discretion of the city water superintendent or public works director, such water is required by that customer to maintain an adequate level of public health and safety.

7. *Reservation of rights.* The rights of the city hereunder shall be cumulative to any other rights of the city to discontinue service. All monies collected by the city pursuant to this article shall be deposited in the city water fund.

C. *Applicability.* The provisions of this article shall apply to all persons using city water, both in the outside the city, and within the city water service areas. Sections 1.150.010 through 1.150.050 of the San Buenaventura Ordinance Code shall only apply to water users within the city. Violations of subsection A. shall be punishable as specifically provided in Ordinance Code section 1.150.030

(Code 1971, § 4591)

7. CATASTROPHIC INTERRUPTION TO WATER SUPPLY

A catastrophic interruption may lead to a proclamation of a water shortage and could be any event (either natural or man-made) that causes a water shortage severe enough to classify as a Stage 4-6 water supply shortage condition.

In order to prepare for catastrophic events, the City has prepared an Emergency Response Plan (ERP) in accordance with other state and federal regulations. The purpose of the ERP is to design actions necessary to minimize the impacts of supply interruptions due to catastrophic events.

The ERP includes Ventura Water's standardized response and recovery procedures to prevent, minimize, and mitigate injury and damage resulting from emergencies or disasters of man-made or natural origin such as an earthquake, extended power outage, fire, biological or chemical contamination, or explosion.

The plan takes into account the various aspects of the City's Water System Protection Program pertaining to potential malevolent threats or actual terrorism. The information contained in the ERP is intended to guide staff and inform other emergency responding agencies and includes plans, procedures, lists, and identification of equipment, emergency contacts, etc.

In addition, the City's 2011 Water Master Plan analyzed seven different operational outage scenarios and provides an analysis of system impacts as well as long-term system improvements required to mitigate these impacts.

In a disaster, prior notice of water use restrictions may not be possible; notice will be provided by other means. Appeals shall be processed as set forth in the established Water Waste Ordinance (Exhibit 3).

8. ENFORCEMENT

Enforcement of these restrictions shall be in accordance with San Buenaventura Municipal Code, Chapter 22.170 Water Conservation, Section 22.170.010, Water waste prohibited (Exhibit 3). The provisions of the section apply to all persons using city water, both in and outside the City, and within the City water service areas.

A. Water Waste Prohibition

Prohibited actions and penalties for violating the Water Waste Ordinance are specified in the Municipal Code.

B. Mandatory Water Regulations

The Ventura City Council may choose to take actions through ordinance and resolution that establish mandatory water regulations that may include enforcement actions such as those previously implemented which includes:

A customer who does not meet the mandatory reduction above the health and safety baseline (6 HCF bimonthly use) shall pay a surcharge.

The Ventura Water General Manager, with the approval of the City Manager, may prescribe rules and regulations for the implementation of ordinance provisions.

9. WATER ENTERPRISE REVENUE IMPACTS OF REDUCED WATER SALES

Consumption reduction will impact revenues by decreasing the amount of water sold to customers. Water shortages may also impact construction activities. A reduction in construction activities will reduce water service connection fees collected by the City.

As consumption decreases, some expenditures are expected to increase. Staff costs for community education, enforcement of ordinances, monitoring and evaluation of water use, drought planning, and dealing with customer questions and complaints are expected to rise. Operations and maintenance costs may also increase because of the need to identify and quickly repair all water losses. A shift to alternative sources would change pumping, purchase, and treatment costs as different water supplies incur different purchase, treatment, and distribution costs. A summary of impacts to revenues is provided in Table 3.

If conservation incentive program is implemented the added expense needs to be incorporated into the following table.

**TABLE 3
REVENUE IMPACTS OF REDUCED WATER DEMAND**

Demand Reduction	Annual Revenue Reduction (\$ million)	% of ~\$21M Water Base Revenue
10%	-\$2.37 M	- 11%
20%	-\$4.57 M	- 22%
30%	-\$6.91 M	- 33%
40%	-\$9.49 M	- 45%
50%	-\$11.50 M	- 55%

A reduction in water revenue could be mitigated substantially through deferral or avoidance of capital fund expenditures. This would meet short-term cash flow needs, although it should only be considered on a short-term basis.

The water purchases, utility costs and chemical costs are not a linear function of the water usage reduction. However, in order to provide an estimate of the cost savings, it is assumed that if there is a ten percent reduction in usage, there will also be a ten percent reduction in associated costs. It should also be noted that if the mandatory reductions are required from December through April the wastewater revenue will be impacted for the following fiscal year.

A summary of measures to overcome revenue and expenditure impacts is provided in Table 4.

**TABLE 4
MEASURES TO OVERCOME REVENUE IMPACTS DURING SHORTAGE**

Measure	Summary of Effects
Use of Reserve Funds	Use of reserves may provide short-term rate stabilization, but would require delays in capital expenditures and rebuilding of reserves after the water shortage.
Re-evaluate Capital Expenditure Plans	Delay major construction projects for facilities as well as upgrades and replacements.
Shift Water Sources to Less Costly Supplies if Possible	Reduce costs associated with purchase, treatment, and distribution of water.
Rate Increases	Increase revenue.

It should be noted that expenditure impacts could be reduced 2-10% during mandatory conservation efforts less than 50% because of the reduction in costs associated with the treatment and deliver of potable water. Ventura Water will use the water rate model to predict the savings for the 10-50% water reductions. Rate adjustments could also be employed either solely or in conjunction with capital expenditure reductions.