Section 8: Water Shortage Contingency Planning

The Act requires water agencies to incorporate a water shortage contingency plan (WSCP) focusing on the allocation of water supplies and the management of water consumption during periods of shortage due to extended drought or a water emergency. This section describes the District’s policies and ordinances to deal with water shortages. The District purchases its entire potable water supply from the San Diego County Water Authority (SDCWA). While most of the supply is directly purchased from the SDCWA, additional supplies come from the Olivenhain Municipal Water District’s David C. McCollom Water Treatment Plant via an existing interconnection as well as a direct connection to the Claude "Bud" Lewis Desalination Plant in Carlsbad, California. The District’s water shortage contingency plan illustrates specific water supply conditions that trigger the activation of voluntary and mandatory rationing efforts. It explains what the ability is to meet projected short-term demands during extended dry periods and emphasizes some of the significant proactive measures that enhance the District’s ability to respond to interruptions in water supply should a natural or man-made disaster occur. The contingency plan outlines the planned response to failures in the infrastructure of the water system in the event of an earthquake, extensive power outage, or other catastrophic event. Finally, this section provides details about the prohibitions and penalties against specific water uses during water shortages, and evaluates potential impacts to the water funds should water sales decrease as a result of supply shortages.

8.1 Stages of Action

All water agencies are required to administer a strategy – an adopted ordinance or terms of service – to meet water waste prevention. For compliance, VWD has adopted Ordinances No. 162 and 195, which are included in Appendix E. Ordinance 162 is patterned after the conservation actions of its water wholesaler, the SDCWA, and establishes regulations to be implemented during times of declared water shortages or emergencies to conserve water. This ordinance establishes four levels of drought response with corresponding actions to be implemented in times of shortage or emergency, with increasing restriction on water use in response to worsening drought or emergency conditions, and decreasing available supplies.
• **Level 1 – Drought Watch**: With this alert, VWD will increase public outreach and take action to encourage voluntary conservation practices.

• **Level 2 – Drought Alert**: With this alert, VWD will implement mandatory conservation practices to reduce water use by up to 20 percent. These practices include limiting landscape irrigation and repairing leaks within 72 hours of notification.

• **Level 3 – Drought Critical**: With this alert, VWD will implement mandatory conservation practices to reduce water use by up to 40 percent. Additional conservation practices include the prohibition of filling pools or fountains and washing vehicles and require repair of leaks within 48 hours of notification. With minor exceptions, no new potable water services will be allowed during a Level 3 Drought alert.

• **Level 4 – Drought Emergency**: With this alert, VWD will implement mandatory conservation practices to reduce water use above 40 percent in order for VWD to have adequate supplies to meet anticipated demands. Additional conservation practices include prohibited landscape irrigation, excluding commercial growers or nurseries, and the repair of leaks within 24 hours of notification.

Table 8-1 provides a summary of the conservation practices required at the four stages of drought conditions.

<table>
<thead>
<tr>
<th>Table 8-1: Stages of Water Shortage Contingency Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage</strong></td>
</tr>
<tr>
<td>Level 1 – Drought Watch</td>
</tr>
<tr>
<td>Level 2 – Drought Alert</td>
</tr>
<tr>
<td>Level 3 – Drought Critical</td>
</tr>
<tr>
<td>Level 4 – Drought Emergency</td>
</tr>
</tbody>
</table>

Ordinance 195 was implemented in response to Governor Brown’s Executive Order No. B-29-15, directing that the State Water Resources Control Board to develop and impose restrictions on urban water users to achieve a statewide 25 percent reduction in potable urban water use.

### 8.2 Prohibitions on End Uses

Prohibitions on end uses are as defined in Ordinances 162 and 195 which are listed in Appendix E respectively. The District is currently in a Level 2 Drought Alert condition.
<table>
<thead>
<tr>
<th>Stage</th>
<th>Restrictions and Prohibitions on End Users</th>
<th>Included in which Ordinance</th>
<th>Penalty, Charge, or Other Enforcement?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Landscape - Restrict or prohibit runoff from landscape irrigation</td>
<td>162</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Landscape - Limit landscape irrigation to specific times</td>
<td>162</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Landscape - Limit landscape irrigation to specific days</td>
<td>162</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Landscape - Prohibit certain types of landscape irrigation</td>
<td>162 and 195</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Landscape - Prohibit irrigation 48 hours after rain</td>
<td>195</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Landscape - Other landscape restriction or prohibition</td>
<td>162 and 195</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>CII - Lodging establishment must offer opt out of linen service</td>
<td>162</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>CII - Restaurants may only serve water upon request</td>
<td>162</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Water Features - Restrict water use for decorative water features, such as fountains</td>
<td>162</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Other water feature or swimming pool restriction</td>
<td>162</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Other - Customers must repair leaks, breaks, and malfunctions in a timely manner</td>
<td>162 and 195</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Other - Require automatic shut of hoses</td>
<td>162</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Other - Prohibit use of potable water for construction and dust control</td>
<td>162</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Other - Prohibit use of potable water for washing hard surfaces</td>
<td>162</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Other - Prohibit vehicle washing except at facilities using recycled or recirculating water</td>
<td>162</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Landscape Irrigation**

Current restrictions on landscape irrigation include:

- Residential and commercial landscape irrigation will be limited to no more than two unassigned days per week and no more than once a week from November through May. (Excludes commercial growers and nurseries).

- Irrigation using sprinklers will be limited to no more than 8 minutes per watering station per day. (Systems using water-efficient devices are excluded).

- Prevent water waste associated with inefficient landscape irrigation, as well as flows onto non-targeted areas such as nearby properties, hardscapes, or roadways.

- Irrigate only before 10 a.m. and after 6 p.m.

- Use a hand-held hose equipped with a positive shut-off nozzle or bucket to irrigate landscapes not connected to an automatic system.
• Outdoor watering is prohibited during and up to 48 hours after a measureable rain event.

• Potable water may not be used to irrigate ornamental turf within public street right of ways, including adjacent landscape strips.

**Commercial, Industrial, and Institutional (CII)**

Current restrictions on CII water usage include:

• Serve and refill water in restaurants only upon request.

• Offer guests of commercial lodging the option of not laundering towels and linens daily.

**Water Features and Swimming Pools**

Current restrictions on water features and swimming pools include:

• Stop operation of ornamental fountains, unless re-circulated water is used.

### 8.3 Penalties, Charges, Other Enforcement of Prohibitions

The VWD takes progressive action when responding to water waste prohibitions. Violators are typically contacted first by phone and given an opportunity to voluntarily comply. Ongoing water wasters are subsequent sent a Notice of Violation, followed by a fine. Administrative fines can be levied for each violation of a provision of the ordinances as follows:

• $100 fine for first violation

• $200 fine for second violation if it occurred within one year of the prior violation

• $500 fine for each additional violation if it occurred within one year of the prior violation

• Enforcement for further violations increases in severity and may include installation of a flow-restricting device in the meter, imprisonment, a fine up to $1,000, and/or discontinuing service to the property where the violation occurred.
Additionally, the District initiated drought patrols in response to the Governor’s Executive Order per the media coverage below:


http://www.kusi.com/story/29030948/san-marcos-water-district-to-enforce-drought-regulations

In calendar year 2015 water waste complaints were compiled as follows:

January -29  
February -38  
March -28  
April -122  
May -307  
June -480  
July -255  
August -135  
September -202  
October -80  
November -22  
December -5

Twenty notices of violation were issued in 2015.

8.4 **Consumption Reduction Methods**

Consumption reduction methods based on the various stages are:

- **Level 1 – Drought Watch**: 10 percent reduction.
- **Level 2 – Drought Alert**: 20 percent reduction.
- **Level 3 – Drought Critical**: 40 percent reduction.
- **Level 4 – Drought Emergency**: greater than 40 percent reduction.
Categories of Consumption Reduction Methods

The section below includes consumption reduction methods implemented by the VWD.

- Expand Public Information Campaign – enlarge media campaign; create bill envelope snipes and inserts with conservation information; articles submitted to local newspapers; conduct water efficiency workshops for different customer sectors.
- Offer Water Use Surveys – actively reach out to high water users to offer water use surveys.
- Provide Rebates or Giveaways of Plumbing Fixtures and Devices – as offered by the Metropolitan Water District of Southern California; issue free rainbarrels.
- Provide Rebates for Landscape Irrigation Efficiency – as offered by the Metropolitan Water District of Southern California.
- Other – Implement High User Response and Letters (HURL) Program targeting highest water users.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Consumption Reduction Methods by Water Supplier</th>
<th>Additional Explanation or Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Expand Public Information Campaign</em></td>
<td>As part of ordinances, but also to meet Governor’s mandate.</td>
</tr>
<tr>
<td>1</td>
<td><em>Offer Water Use Surveys</em></td>
<td>Available at all times.</td>
</tr>
<tr>
<td>1</td>
<td><em>Provide Rebates on Plumbing Fixtures and Devices</em></td>
<td>Available at all times.</td>
</tr>
<tr>
<td>1</td>
<td><em>Provide Rebates for Landscape Irrigation Efficiency</em></td>
<td>Available at all times.</td>
</tr>
<tr>
<td>2</td>
<td><em>Increase Water Waste Patrols</em></td>
<td>Implemented after Governor’s mandate.</td>
</tr>
<tr>
<td>3</td>
<td><em>Moratorium or Net Zero Demand Increase on New Connections</em></td>
<td>Would be invoked at Level 3.</td>
</tr>
<tr>
<td>2</td>
<td><em>Implement or Modify Drought Rate Structure or Surcharge</em></td>
<td>Is available if District fails to meet reduction mandates.</td>
</tr>
<tr>
<td>2</td>
<td><em>Other</em></td>
<td>HURL Program.</td>
</tr>
</tbody>
</table>

Table 8-3: Stages of WSCP - Consumption Reduction Methods
8.5 Determining Water Shortage Reductions

Currently the VWD is using the SWRCB emergency regulation method to measure and determine actual water savings made from implementing the WSCP. The SWRCB uses 2013 water production data and requires water agencies to report monthly water production as compared to 2013. The VWD has maintained a 25 percent reduction as compared to 2013.

8.6 Revenue and Expenditure Impacts

Implementation of WSCP will reduce revenues from water sales, but not from fixed meter charges. VWD sets fixed meter charges, called Ready-To-Serve charges (RTS), to recover approximately 80 percent of VWD's fixed costs (repairs, replacement, maintenance, meter reading, billing, regulatory, safety, general and administrative, etc.). Reduced sales do not impact revenues from RTS charges. Fiscal impact from implementing WSCP is limited to water sales revenue which is mostly offset from decreased water costs since historically, VWD has imported 100 percent of its water supply.

Drought Rate Structures and Surcharges

VWD's rate structure includes higher per unit (1 unit = 748 gallons) charges in tiers of higher use to encourage conservation. VWD’s drought rate structure may be implemented when a Level 2 Drought alert is declared. The drought rate structure imposes additional tiers and higher rates in the higher tiers, escalating in correlation with the percentage of cutback from mandated supply reduction (i.e., the higher the supply reduction, the higher the rate.)

Use of Financial Reserves

VWD budgets water sales assuming compliance with any drought or supply restrictions whether encouraged through voluntary conservation or mandate. Funding for Replacement Reserves are planned for ceiling of those reserves and may be used for revenue short falls from conservation beyond the levels budgeted. Reserves that increase beyond the ceiling from favorable budget variances are transferred to rate stabilization funds.
Other Measures

During the budget and/or rate setting process, a revenue requirement is determined assuming conservation targets are achieved and reserve levels are at their ceilings. Rates are recommended to achieve that revenue requirement, but not before cost cutting measures and capital deferrals are considered to reduce the revenue requirement.

8.7 Resolution or Ordinance

The District's two ordinances 162 and 195 are included as Appendix E.

8.8 Catastrophic Supply Interruption

A catastrophic water shortage occurs when a disaster, such as earthquake, results in insufficient available water to meet the region’s needs or eliminates access to imported water supplies. For increased reliability, VWD subscribes to SDCWA’s Integrated Contingency Plan (ICP) and Emergency Storage Program (ESP). Both were developed to protect public health and safety and to potentially limit economic damage that could occur from a severe shortage of water supplies.

Integrated Contingency Plan

SDCWA’s ICP provides information necessary to respond to an emergency that causes severe damage to SDCWA’s water distribution system or impedes SDCWA’s ability to provide reliable service to its member agencies. The ICP describes the situations and incidents that will trigger the activation of SDCWA’s ICP and Emergency Operations Center. It also provides direction and strategies for responding to a crisis. SDCWA’s ICP includes:

- Authorities, policies, and procedures associated with emergency response activities
- Emergency Operations Center activities, including activation and deactivation guidelines
• Multi-agency and multi-jurisdictional coordination, particularly between SDCWA, its member agencies, and MWD in accordance with Standardized Emergency Management System and National Incident Management System guidelines
• Incident Command System management and organization and emergency staffing required to assist in mitigating any significant emergency or disaster
• Mutual Aid Agreement and covenants that outline the terms and conditions under which mutual aid assistance will be provided
• Hazard specific action plans and Incident Command System position checklists

In addition, the plan uses a step-by-step approach to emergency response planning by providing tools such as resource and information lists, personnel rosters, pertinent policies and procedures, and reference materials.

Separate from the ICP, the District has a direct connection to the Claude “Bud” Lewis Desalination Plant in Carlsbad.

8.9 **Minimum Supply Next Three Years**

CWC §10632 requires urban water suppliers to estimate the minimum water supply available during each of the next three years, based on the driest three-year historic sequence. To determine the minimum supplies potentially available to VWD, the same assumptions contained in the multiple dry-year analysis in Section 7.2 were used. VWD is currently responsible for 2.9 percent of the SDCWA’s total potable water demands. Table 8-4 contains the minimum estimated supply over the next three years, in units of million gallons, assuming the same proportion of SDCWA’s total demands.

<table>
<thead>
<tr>
<th>Available Water Supply</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4,917</td>
<td>5,202</td>
<td>5,464</td>
</tr>
</tbody>
</table>

Please note that the above minimum supplies are for years 2017, 2018 and 2019, respectively. This methodology is consistent with that used in the UWMP of VWD's wholesaler, the SDCWA, given that urban water suppliers are already well into 2016 while preparing their UWMPs. The SDCWA discussed using this approach with DWR, and consistent with what the CWC actually requires, DWR has agreed that the years 2017-2019 may be utilized. DWR asked that urban water suppliers simply include a note stating the years utilized.
It should be noted that based on current supply and storage conditions statewide, VWD is not currently forecasting this supply scenario. However, if sufficient supplies from the SDCWA are not available to meet demand projections, then VWD shall increase the drought response stage described in Section 8.1 to prohibit water waste and reduce demands to meet available supplies.