



Appendix G. VWD Water Shortage Contingency Plan



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Water Shortage Contingency Plan

Vallecitos Water District

San Marcos, California

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1 Introduction

This Water Shortage Contingency Plan (WSCP) examines Vallecitos Water District's (VWD) contingency plan in the event of a declared water emergency or enactment of more stringent restrictions on water use.

The California Urban Water Management Planning Act (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 VWD's policies and ordinances to deal with water shortages. VWD purchases its entire potable water supply from the San Diego County Water Authority (SDCWA). While the majority of the supply is from the SDCWA potable water aqueduct system, additional supply sources include water from the Olivenhain Municipal Water District's David C. McCollom Water Treatment Plant as well as a connection to the Claude "Bud" Lewis Desalination Plant in Carlsbad, California. VWD's WSCP illustrates specific water supply conditions that trigger the activation of voluntary and mandatory rationing efforts and explains the ability to meet projected short-term demands during extended dry periods. The WSCP emphasizes some of the significant proactive measures that enhance VWD'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 because of supply shortages.

In 2018, two long-term conservation bills, Senate Bill (SB) 606 and Assembly Bill (AB) 1668, were signed into law by Governor Jerry Brown. The two bills amend portions of the California Water Code (CWC) including §10632, which is related to water shortage contingency planning. Among other changes, the amended CWC requires agencies to incorporate an annual water supply and demand assessment under its Urban Water Management Plan (UWMP). It also specifies the adoption of six standard water shortage levels. This WSCP discusses VWD's compliance with new regulations, as outlined in §10632 (a)(2) and §10632.1 of the CWC, and steps taken by VWD's regional supply wholesaler, SDCWA, to address an extended drought and water emergency.

2 Annual Water Supply and Demand Assessment

The new CWC §10632(a)(2) requires that urban water suppliers conduct an annual water supply and demand assessment (Annual Assessment). This chapter describes the procedures used to 1) conduct the Annual Assessment, and 2) prepare and submit an Annual Assessment Report to the state. In addition, this chapter outlines key inputs to conduct the Annual Assessment, the decision-making process for determining water

supply reliability, and the ability/flexibility for VWD to use shortage response actions not included in the WSCP as applicable.

The VWD Board of Directors, in accordance with the provisions of the CWC, will determine if a supply shortage exists and declare any foreseen water shortage level based on the results of the Annual Assessment, which will then be included in the Annual Assessment Report submitted to the state no later than July 1, beginning in 2022. The evaluation is conducted to determine if a shortage declaration is needed, and at what level. The Annual Assessment Report will document any anticipated shortage, any triggered shortage response actions, associated compliance and enforcement actions, and communication actions. More information on shortage response actions is included in Section 4, Shortage Response Actions. Reasonable alternative actions can be used to address identified water shortages, provided descriptions of alternative actions are submitted with the Annual Assessment Report.

2.1 Decision Making Process

Each year VWD will use the following steps to determine, and subsequently report to the state, its water supply reliability.

- SDCWA announces member agency allocation determination for current year and any carryover or emergency storage supplies.
- VWD will determine available local supplies, exclusive of imported water supply, and also total available supplies.
- VWD will review known infrastructure constraints (including water quality conditions limiting local sources).
- VWD reviews and estimates current and projected water demands.
- VWD compares supply and demand and makes a determination of the water supply reliability for the current year and one dry year.
- VWD prepares and submits Annual Assessment Report to the state.

Evaluation criteria for VWD's supplies, demands, and water shortage levels will include SDCWA's determination on regional supplies for its member agencies, local groundwater and surface water availability, storage, infrastructure constraints, and recent water demand trends.

2.2 Current and Projected Demands

The Annual Assessment will use VWD's recent demand data and projections (adjusted by previous year active consumption) which considers demand, weather, population growth, and other influencing factors for the current year and following years.

2.3 Available and Projected Water Supply

VWD will evaluate the current year available supply and one dry year available supply in its Annual Assessment. The available water supply evaluation will consider hydrological and regulatory conditions. Available supply from each water source will consider

emergency storage allocations and imported and purchased water supplies as determined by SDCWA. SDCWA considers member agencies’ local water supplies first before determining allocations of imported water to each member agency.

2.4 Infrastructure Constraints

VWD’s existing water supply infrastructure includes pipelines, storage tanks, and pump stations. VWD will evaluate existing water supply and capacities and any constraints for the current year and for one dry year. Infrastructure constraints may consider supply capabilities in the current year, such as shut-downs due to maintenance, construction impacts, and water quality impacts. Once constraints have been identified, VWD will determine whether the total quantified water supply should be adjusted to account for these identified constraints.

3 Water Shortage Levels

All water agencies are required to administer a strategy – an adopted ordinance or terms of service – to meet water waste prevention. For compliance, VWD had adopted Ordinances No. 162 and No. 195 which established regulations to be implemented during times of declared water shortages or emergencies to conserve water. The VWD WSCP, developed as part of the 2020 UWMP process, redefined and updated the reduction goals to establish six levels of drought response. Table 1 presents the shortage levels and corresponding reductions 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.:

Table 1. Water Shortage Levels

Water Shortage Level	Percent Reduction
Stage 1: Standard Operating Condition	10
Stage 2: Drought Watch Condition	20
Stage 3: Board Declared Emergency Action	30
Stage 4: Drought Critical Condition	40
Stage 5: State and Board Declared Extreme Emergency Action	50
Stage 6: State and Board Declared Extreme Emergency Action	> 50

4 Shortage Response Actions

Shortage response actions included in this WSCP are a mix of prohibitions on end use, consumption reduction methods, supply augmentation, and operational change measures. Table 2 provides a summary of voluntary and mandatory prohibitions and consumption reduction methods that are implemented within the VWD service area to meet mandated water use restrictions. Customers can select the specific water conservation measures/actions that are most appropriate for their setting; however, customers must

abide by water waste prohibitions, water use reductions are mandatory, and monetary penalties may be levied on customers who do not meet reduction goals.

Table 2. Restrictions and Prohibitions on End Users

Stage	Restrictions and Prohibitions on End Users	Penalty, Charge, or Other Enforcement?
2-6	Landscape - Restrict or prohibit runoff from landscape irrigation	Yes
2-6	Landscape - Limit landscape irrigation to specific times	Yes
2-6	Landscape - Limit landscape irrigation to specific days	Yes
2-6	Landscape - Prohibit certain types of landscape irrigation	Yes
2-6	Landscape - Prohibit irrigation 48 hours after rain	Yes
2-6	Landscape - Other landscape restriction or prohibition	Yes
2-6	CII - Lodging establishment must offer opt out of linen service	Yes
1-6	CII - Restaurants may only serve water upon request	Yes
2-6	Water Features - Restrict water use for decorative water features, such as fountains	Yes
2-6	Other water feature or swimming pool restriction	Yes
2-6	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Yes
2-6	Other - Require automatic shut of hoses	Yes
2-6	Other - Prohibit use of potable water for construction and dust control	Yes
2-6	Other - Prohibit use of potable water for washing hard surfaces	Yes
2-6	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Yes

4.1 Drought Response Plan

VWD’s established drought levels are explained in the following sections. Table 1 provides a summary of VWD’s drought response levels, which align with the SDCWA model drought response plan.

- **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 5 days of notification.
- **Level 3 – Drought Alert:** With this alert, VWD will implement mandatory conservation practices to reduce water use by up to 30 percent. These practices include additional limitations on landscape irrigation and repairing leaks within 4 days of notification.
- **Level 4 – 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 72 hours of notification. With minor exceptions, no new potable water annexations will be allowed during a Level 4 Drought condition.

- **Level 5 – Drought Critical:** With this alert, VWD will implement mandatory conservation practices to reduce water use by up to 50 percent. Additional conservation practices include prohibition on outdoor landscape irrigation, 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 5 drought condition.
- **Level 6 – Drought Emergency:** With this alert, VWD will implement mandatory conservation practices to reduce water use above 50 percent 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.

5 Determining Water Shortage Reductions

Currently, VWD is using the State Water Resources Control Board (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. VWD has maintained a 25 percent reduction as compared to 2013.

Table 3 and the section below includes consumption reduction methods implemented by 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 rain barrels.
- **Provide Rebates for Landscape Irrigation Efficiency** – as offered by the Metropolitan Water District of Southern California.
- **Increase Water Waste Patrols** – implement a Water Waste Patrols.
- **Other** – Implement High User Response and Letters (HURL) Program targeting highest water users.

Table 3. Consumption Reduction Methods

Stage	Consumption Reduction Methods by Water Supplier	Additional Explanation or Reference
1-6	Expand Public Information Campaign	As part of ordinances, but also to meet Governor's mandate.
1-6	Offer Water Use Surveys	Available at all times.
1-6	Provide Rebates on Plumbing Fixtures and Devices	Available at all times.
1-6	Provide Rebates for Landscape Irrigation Efficiency	Available at all times.
2-6	Increase Water Waste Patrols	Implemented after Governor's mandate.
4-6	Moratorium or Net Zero Demand Increase on Annexations or New Connections	Would be invoked at Level 4.
2-6	Implement or Modify Drought Rate Structure or Surcharge	Is available if District fails to meet reduction mandates.
2-6	Other	HURL Program.

6 Compliance and Enforcement

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:

- First violation: \$100 fine
- Second violation: \$200 fine if it occurred within 1 year of the prior violation.
- Each additional violation: \$500 fine if it occurred within 1 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, VWD will initiate drought patrols, if enacted by the Governor's Executive Order.

7 Revenue and Expenditure Impacts

Implementation of the WSCP will reduce revenues from water sales, but not from fixed meter charges. VWD sets fixed meter charges, called Ready-To-Serve charges, 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 Ready-To-Serve charges. Fiscal impact from implementing WSCP is limited to water sales revenue.

7.1 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 may implement a drought rate structure when a Level 2 drought alert is declared. The drought rate structure has the ability to determine whether to impose 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.)

7.2 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 is planned for ceiling of those reserves and may be used for revenue short falls from conservation beyond the levels budgeted. Reserves that surpass favorable budget variances are transferred to rate stabilization funds.

7.3 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 highest. Rates are recommended to achieve that revenue requirement; however, not before cost cutting measures and capital deferrals are considered to reduce the revenue requirement.

8 Catastrophic Supply Interruption Planning

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.

8.1 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 Metropolitan Water District 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.

8.2 SDCWA Water Shortage and Drought Response Plan

SDCWA, in conjunction with its member agencies, developed a Water Shortage and Drought Response Plan (WSDRP) in 2006, which was subsequently updated in 2012, to guide water shortage and drought management activities if the region faces supply shortages due to drought conditions. The goal of the WSDRP is to provide a balanced, flexible, systematic approach to identifying regional actions necessary to reduce the impacts that occur from water shortages. The WSDRP includes three stages: voluntary supply management, supply enhancement, and mandatory cutbacks. During each of the stages, SDCWA may implement voluntary or mandatory drought contingency measures to prepare and respond to drought conditions. The 2012 update to the WSDRP revised the regional supply allocation methodology for guiding decisions when normal demands cannot be met.

The WSDRP also includes provisions whereby SDCWA would implement and utilize supplies governed by the Emergency Storage Project (ESP) during a prolonged drought or other water shortage situation where imported and local supplies do not meet 75 percent of SDCWA’s member agencies urban demands. The ESP is a system of reservoirs, pipelines, and other facilities designed to store and move water around the County of San Diego in the event of a natural disaster. A natural disaster, such as an earthquake, could potentially disrupt water service in San Diego, especially because the pipelines that carry imported water to San Diego County from Metropolitan cross several major fault lines on their way to San Diego County. The ESP was completed in late 2014, providing 90,100 acre feet of stored water for emergency purposes to meet the region’s needs through at least 2045.

9 Communication Protocol

VWD, along with SDCWA and other member agencies, regularly engage in communication and outreach with the public on water supplies, water efficiency, and water conservation. Updated communication plans are necessary should supply conditions change as VWD is required to implement stages of the WSCP.



VWD communicates and coordinates with SDCWA during normal water supply scenarios and will continue to coordinate with SDCWA during drought conditions or times of limited water supply allocations to provide consistent communication and messaging to its customers. The communication protocol will align with strategies developed by SDCWA for each water shortage level, as presented in the SDCWA WSCP.

9.1 Strategies for Communication

During normal water supply conditions, VWD will continue to promote water conservation tactics and water efficiency programs using standard ongoing communication protocols. When water shortage levels are triggered, VWD will increase communication to reduce water use using methods that include measures within VWD's conservation program and as outlined in Table 4.

Table 4. Communication Outline

Water Shortage Level	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Demand Reduction Target	Up to 10%	Up to 20%	Up to 30%	Up to 40%	Up to 50%	Over 50%
	Update messaging to reflect conditions, district response, and needed actions from the public; coordinate with other agencies as appropriate	Update campaign and messaging to generate immediate actions/behaviors by public; coordinate with other agencies as appropriate	Update campaign and messages to raise awareness for more severe water-saving actions/behaviors by public; coordinate with other agencies as appropriate	Update campaign and messages to raise awareness for higher level water-saving actions/behaviors by public; coordinate with other agencies as appropriate	Update campaign and messages to reflect extreme or emergency condition and likely focus water use on health/safety need; coordinate with other agencies as appropriate	Update campaign and messages to reflect extreme or emergency condition and likely focus water use on health/safety need; coordinate with other agencies as appropriate
		Include increased conservation messaging on website and in standard outreach efforts.	Update elected officials, other key civic and business leaders of shortage	Conduct specialized outreach to reduce discretionary outdoor water use while minimizing landscape damage.	Promote available water assistance resources for vulnerable populations; specialized outreach to affected industries	Promote available water assistance resources for vulnerable populations; specialized outreach to affected industries
District Communications	Promote available rebates, classes, and workshops	Actively promote rebates, classes, and workshops Targeted outreach to high water users	Actively promote rebates, classes, and workshops Outreach to key homeowner association building managers and landscape companies about restrictions and need for increased conservation	Actively promote rebates, classes, and workshops Specialized outreach and assistance to homeowners, landscape professionals, large-scale water users and high water users	Actively promote rebates, classes, and workshops Consider alternate emergency homepage	Actively promote rebates, classes, and workshops Implement emergency homepage
		Targeted outreach to specific customer classes	Targeted outreach to specific customer classes	Targeted outreach to specific customer classes	Targeted outreach to specific customer classes	Targeted outreach to specific customer classes

10 Legal Authorities

VWD has the legal authority to implement and enforce its WSCP. California Constitution Article X, Section 2 and Water Code Section 100 provides that water must be put to beneficial use, the waste or unreasonable use or unreasonable method of use of water shall be prevented, and the conservation of water is to be exercised with a view of the reasonable and beneficial use thereof in the interest of the people and the public welfare. Sections of Water Code Chapter 3 commencing with Section 350 of Division 1, provide the authority for the governing body of a water agency to declare a water shortage and to adopt and enforce water conservation restrictions. (Wat. Code §§ 350-359, 375-378.0.) If necessary, VWD shall declare a water shortage emergency in accordance with Water Code Chapter 3 of Division 1. Once having declared a water shortage, VWD is provided with broad powers to implement and enforce regulations and restrictions for managing a water shortage.

11 Monitoring and Reporting

VWD monitors how effective the combination of shortage response actions in each water shortage level through metered customer demand data. VWD's water supplies are metered prior to entering the distribution system and at individual customer connections. VWD will compare meter data with water use in prior months and during non-drought years to determine specific percentage goals for water consumption associated with the drought response levels have been achieved. If the goals are not being met, VWD may choose to implement additional shortage response actions. VWD also reports total monthly production and water use to the SWRCB.

12 WSCP Refinement Procedures

The WSCP will be re-evaluated at least every five years in coordination with the urban water management plan update, but the frequency of the re-evaluations could increase based on the needs of VWD. Re-evaluations will be based on lessons learned, new statutory requirements, continued local supply development, or other factors.

13 Special Water Feature Distinction

This WSCP evaluates decorative and recreational water features separately from pools or spas. However, VWD does not currently serve recycled water for use in recreational or decorative water features.

14 Plan Adoption, Submittal, and Availability

A public hearing, conducted by the VWD, was held on June 2, 2021, as a video conference. Members of the public were able to participate via a webinar link or telephone connection to listen and/or view the meeting proceedings and provide public comments and input on the draft WSCP. Following adoption of the WSCP, VWD will submit the plan to DWR and, no later than 30 days after filing the WSCP, VWD will make the WSCP available to the public.