Water Shortage Contingency Plan

North Tahoe Public Utilities District

Tahoe Vista, California
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1 Introduction

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

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 the District's compliance with new regulations, as outlined in §10632 (a)(2) and §10632.1 of the CWC, and steps taken 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 the District to use shortage response actions not included in the WSCP, as applicable.

The District, 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. The evaluation is conducted by the District 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. Reasonable alternative actions can be used to address identified water shortages, provided that descriptions of alternative actions are submitted with the Annual Assessment Report.

2.1 Decision Making Process

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

- District will determine available local supplies and also total available supplies.
- District will review known infrastructure constraints (including water quality conditions limiting local sources).

- District reviews and estimates current and projected water demands.
- District compares supply and demand and makes a determination of the water supply reliability for the current year and one dry year.
- District prepares and submits Annual Assessment Report to the state.

Evaluation criteria for the District's supplies, demands, and water shortage levels will include 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 the District'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

The District 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 local surface water storage and emergency storage allocations, groundwater production from the previous year and potential projected groundwater production.

2.4 Infrastructure Constraints

The District's existing water supply infrastructure includes a water treatment plant, pipelines, storage tanks, pump stations, and groundwater wells. The District 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, the District will determine whether the total quantified water supply should be adjusted to account for these identified constraints.

3 Water Shortage Levels

Per District Water Ordinance, Section 8 (Water Conservation), the District has six stages available to declare depending on conditions (Table 3-1). Stages of water conservation measures, use requirements, and restrictions are described in detail in the Water Ordinance. Increasing stages correspond with increasing levels of required water conservation, use, and restrictions as formally declared by the Board at a publicly noticed meeting. Each increasing stage level also includes all conservation measures, use requirements, and restrictions of all previously declared lower level stages.

The District operates in Water Conservation Stage 1 under normal conditions, unless otherwise directed by the state or as otherwise determined by the District Board of Directors. The District Water Ordinance, Section 8 (Drought Conditions), enables the

Board to make such declarations. Customers are required to comply with the most current conservation stage declared by the District, or other government agencies, whichever is more restrictive.

Each step (beginning with Stage 1) implements increased conservation requirements. Reduction goals are summarized in Table 3-1 and described in detail below:

Table 3-1. 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 5-1. Restrictions and Prohibitions on End Users – Retail Only

Stage	Restrictions and Prohibitions on End Users*	Additional Explanation or Reference (Optional)	Penalty, Charge, or Other Enforcement?
1	Landscape – Restrict or prohibit runoff from landscape irrigation		Yes
1	Other – Require automatic shut of hoses		Yes
1	Other – Prohibit use of potable water for washing hard surfaces		Yes
1	Water Features - Restrict water use for decorative water features such as fountains		Yes
1	Landscape - Limit landscape irrigation to specific times	Not within 48 hours of precipitation	Yes
1	Landscape – Other landscape restriction or prohibition	Not in public right-of-way	Yes
1	Landscape – Other landscape restriction or prohibition	New construction: Any inconsistent with Building Standards	Yes
1	CII - Restaurants may only serve water on request		Yes
1	CII - Lodging establishment must offer opt out of linen service		Yes

Table 5-1. Restrictions and Prohibitions on End Users – Retail Only

Stage	Restrictions and Prohibitions on End Users*	Additional Explanation or Reference (Optional)	Penalty, Charge, or Other Enforcement?
2	Other water feature or swimming pool restriction	No filling or refilling	Yes
2	Other – Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
2	Other	No FH use	Yes
2	Landscape – Limit landscape irrigation to specific times	Not during hottest part of day	Yes
2	Landscape – Limit landscape irrigation to specific days		Yes
3	Landscape – Prohibit all landscape irrigation		Yes
3	Landscape – Other landscape restriction or prohibition	With hand held only	Yes
3	Other	No new plantings	Yes
3	Other	Rationing	Yes

*These are the only categories that will be accepted by the WUEdata online submittal tool.
Notes:
See Water Ordinance, Chapter 8 (Attachment 8-1).

4.1 Stage 1: 10 Percent Reduction Goal

1. The customer shall maintain the private service lateral, from the water service connection, in good repair.
2. Any leak or abnormal use in plumbing and/or irrigation systems, including running toilets, or any leak in any receptacle used to store water for any purpose, shall be repaired when found; in any case leak shall be repaired within 10 days of District's notice to repair.
3. Irrigation resulting in application of, or runoff onto, sidewalks, walkways, roadways, parking lots, structures, any non-irrigated area, or adjacent properties is prohibited.
4. Any use of water that results in flooding or runoff into gutters, streets or onto adjacent property is prohibited.
5. Automatic shutoff valves or nozzles shall be used whenever a hose is used for cleaning or clearing of vehicles, walkways, patios, tennis courts, decks, driveways, parking areas, or other improved areas, whether paved or unpaved.
6. Automatic shutoff valves or nozzles shall be used whenever water is used in connection with construction activity.
7. Decorative water features that do not recirculate water are prohibited.
8. Written authorization from the District shall be obtained prior to use of any fire hydrant for any purpose other than fire suppression or emergency aid.

9. Water pressure shall not exceed 60 psi within any structure.
10. Irrigation systems shall be winterized and discontinued from operation by November 1st each year.
11. Any new irrigation system installed shall be equipped with rain sensing device halting irrigation during and within 48 hours after measurable precipitation.
12. New non-turf landscaping, including bedding plants and trees, shall be on drip, micro sprinkler, or micro sprayer irrigation systems. Overhead watering shall only be allowed for turf areas.
13. Landscaping may not be irrigated: (1) between the hours of 9:00 AM and 6:00 PM, (2) during, or within 48 hours after, measurable precipitation, and/or (3) when air temperature is less than 40 degrees Fahrenheit.

4.2 Stage 2: 20 Percent Reduction Goal

1. Water consumption by each customer, as measured by the District's meter, shall be reduced by 20 percent.
2. No irrigation shall occur on Saturday.
3. Properties with an even number street address may only irrigate on Monday, Wednesday, and Friday.
4. Properties with an odd number street address may only irrigate on Tuesday, Thursday, and Sunday.
5. Irrigation of non-turf areas that exclusively utilizes drip systems, including micro sprinklers and micro sprayers, or a hose with an automatic shutoff nozzle, shall be exempt from designated irrigation days.
6. Water shall not be applied to hard surfaces for any reason, except as required for pavement resurfacing or sealing, or health and safety reasons.
7. No filling or refilling of swimming pools.
8. Water consumption and allowed uses shall be reduced as specifically prescribed for individual customers based on historic: consumption, type of use, time of use, or any other relevant factors.
9. All visitor accommodations/businesses shall wash guest linens only on request and/or after checking out. A placard or notice stating such shall be displayed in each guest room.
10. All public entities shall display informational material, placards, and/or decals, provided by the District, in places visible to all customers.
11. The owner and/or manager of each hotel, motel, restaurant, convention center, and other visitor-serving facility shall display informational water conservation materials, placards, and/or decals, provided by the District, in places visible to all customers.

4.3 Stage 3: 30 Percent Reduction Goal

1. Water consumption by each customer, as measured by the District's meter, shall be reduced by 30 percent.
2. No irrigation shall occur on Saturday, Sunday, or Wednesday.
3. Properties with an even number street address may only irrigate on Monday and Thursday.
4. Properties with an odd number street address may only irrigate on Tuesday and Friday.
5. Irrigation of non-turf areas that exclusively utilizes drip systems, including micro sprinklers and micro sprayers, will be allowed only Monday through Friday, and shall be prohibited on Saturdays and Sundays.
6. All food service and drinking establishments shall serve drinking water only on request and shall provide a placard at each table, and/or language on their menu, stating such.
7. Other specific water reduction mandate, and/or use restrictions as defined and designated by the Board when Stage 3 action is declared.

4.4 Stage 4: 40 Percent Reduction Goal

1. Water consumption by each customer, as measured by the District's meter, shall be reduced by 40 percent.
2. The use of water for other than domestic and commercial non-irrigation use is prohibited.
3. Irrigation of landscaping of any type is prohibited, except that irrigation of public facilities may be permitted pursuant to review, conditioning, and approval by the District.
4. The application of water to hard surfaces is prohibited.
5. Use of decorative water features is prohibited.

4.5 Stage 5: 50 Percent Reduction Goal

Water consumption by each customer, as measured by the District's meter, shall be reduced by 50 percent.

4.6 Stage 6: Greater than 50 Percent Reduction Goal

The District may implement mandatory water rationing using rolling outages, or other methods, should the situation require. Affected customers will be notified via public outreach, local media, written notice posted at the property, mail, and/or personal contact.

5 Determining Water Shortage Reductions

The District's expected (targeted) savings are provided in Water Ordinance Chapter 8.

The District monitors how effective the combination of shortage response actions in each water shortage level is with meters. The District meters both water supplies entering the distribution system, and water consumed by individual customers. The District can compare this meter data with water use in prior months and during non-drought years to determine if it is achieving specific percentage goals for water consumption associated with the drought response levels. If the goals are not being met, the District can implement additional shortage response actions. The District is fully metered and reads all meters monthly.

Table 6-1. Stages of Water Shortage Contingency Plan – Consumption Reduction Methods

Stage	Consumption Reduction Methods by Water Supplier*	Additional Explanation or Reference (Optional)
1	Provide rebates on plumbing fixtures and devices	
1	Provide rebates for landscape irrigation efficiency	
1	Reduce system water loss	
2	Expand public information campaign	
2	Increase water waste patrols	
3	Moratorium or net zero demand increase on new connections	

*These are the only categories that will be accepted by the WUEdata online submittal tool.
Notes:

6 Penalties

Once an offense to the above noted water waste restrictions is confirmed, the District utilizes the below stepped system with increasing enforcement actions as required. The customer is given 5 days (with the exception between the 4th and Last Action, which is 2 days) to correct their water waste issue(s) before the District elevates the customer/property to the next step.

- Initial Engagement: Friendly "education based" letter (mailed 1st class) noting violation, potential for fines, and ultimately water will be shut off if not addressed.
- 2nd Action: Warning letter No. 1 (certified mail) with stronger message noting violation and potential for fines.
- 3rd Action: Warning letter No. 2 (certified mail) noting fines have begun ($100/day).
- 4th Action: Warning letter No. 3 (Federal Express Next Day) noting fines have increased ($250/day).
- Last Action: Water shut off.

The District's enforcement and patrols increases consistent with the severity of the water condition(s) and increasing stages of action.

7 Revenue and Expenditure Impacts

The District operates on two distinctly separated Water Enterprise accounting platforms. Each is addressed below.

7.1 Water Capital Funds

Capital is primarily funded through any grants received and a fixed flat rate line item on customer's bills, the "Water System Replacement Fees." As this "System Replacement Fee" is a fixed rate, with a steady revenue stream, any reduction in consumption billing does not affect capital. Capital also receives revenue through connection fees; however, these are typically a minor amount and do not warrant the effort of developing a separate drought-related rate structure.

7.2 Water Operations Funds

Annual operations expenses are funded by the customers through their monthly bills. The funds (bills) are primarily comprised of two components: a fixed base rate, and a consumption charge once the customer incurs overages above their monthly allowed (i.e., free of charge) consumption amount (depending on service meter size). The fixed base rate provides the large majority of revenue. This, combined with the rate structure with an allowed volume as part of the base rate, does not translate into the consumption component as being a major part of the water operations revenue stream. The District did notice a reduction in the consumption component revenue during the drought years of 2012 – 2016; however, it was not significant enough to warrant developing a separate drought-related rate structure to compensate for this reduction.

In all cases, the District maintains reserves to provide a buffer, allowing consistent attention to the District's systems in the event of variable revenue.

8 Catastrophic Supply Interruption Planning

The District has a number of elements in place in an effort to ensure a maintained supply. Together these provide: redundancy, support, and/or alternatives to engage as applicable in the event they are needed. These are described below.

8.1 Standby Generators

All of the District's water stations (supply sources and booster pumps) that rely on power to operate have either a permanent standby generator or transfer switch and plug for a portable unit.

8.2 Emergency Interties

The District has emergency interconnection capabilities with adjacent water systems. In the event of an emergency on either side, these may be activated to move where needed.

8.3 Mutual Aid Agreement

Established to formalize abilities to shift resources (Equipment, Personnel, Materials, Supplies, etc.) from one agency to the other as needed in the event of an emergency. A copy is provided in Appendix B.

8.4 Emergency Response Plan

The District's Emergency Response Plan (ERP) identifies the District's emergency planning, organization, and response policies. The ERP includes a concept of recovery operations, a hazard analysis, responsibilities, and departmentalized standard operating procedures for emergency response. Because several of the hazards identified in the ERP could result in a catastrophic interruption of water supplies, the ERP provides the actions that the District would implement to minimize the impacts of supply interruption, including emergency interconnections with Tahoe City Public Utility District, Incline Village General Improvement District, Fulton Water Company, and Agate Bay Water Company.

9 Legal Authorities

The District 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 us 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, the District shall declare a water shortage emergency in accordance with Water Code Chapter 3 of Division 1. Once having declared a water shortage, the District is provided with broad powers to implement and enforce regulations and restrictions for managing a water shortage.

10 Monitoring and Reporting

The District monitors how effective the combination of shortage response actions in each water shortage level through metered customer demand data. The District's water supplies are metered prior to entering the distribution system and at individual customer connections. The District 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, the District may choose to implement additional shortage response actions.

11 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 the District. Re-evaluations will be based on lessons learned, new statutory requirements, continued local supply development, or other factors.

12 Special Water Feature Distinction

The District evaluated decorative and recreational water features separately from pools or spas. However, the District does not currently serve recycled water for use in recreational or decorative water features.

13 Communication Protocol

The District regularly engages in communication and outreach with the public on water supplies, water efficiency, and water conservation. However, effective communication plans are necessary should supply conditions change and the District is required to implement stages of the WSCP.

13.1 Strategies for Communication

During normal water supply conditions, the District will continue to promote water conservation tactics and water efficiency programs using standard ongoing communication protocols. When water shortage levels are triggered, the District will increase communication to reduce water use using methods that include measures within the District's conservation program and as outlined in Table 9-1.

Table 9-1. Communication Outline

Demand Reduction Target	Water Shortage Level					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Up to 10%	Up to 20%	Up to 30%	Up to 40%	Up to 50%	Over 50%
District Communications	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 more severe and 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 need to 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 need to 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 impacted industries	Promote available water assistance resources for vulnerable populations; specialized outreach to impacted industries
	Promote available rebates, classes, and workshops	Actively promote available rebates, classes, and workshops	Actively promote available rebates, classes, and workshops	Actively promote available rebates, classes, and workshops	Actively promote available rebates, classes, and workshops	Actively promote available rebates, classes, and workshops
		Targeted outreach to high water users	Outreach to key HOA's building managers, landscape companies about restrictions and need for increased conservation	Specialized outreach and assistance to homeowners, landscape professionals, large-scale water users and high water users	Consider alternate emergency homepage	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

13.2 Catastrophic Communication

In the event of a natural disaster, infrastructure failure, or other situation that requires regional water use to be quickly prioritized for or limited to essential public health and safety needs, the District will immediately deploy or enhance appropriate communication strategies and tactics from WSCP Levels 1 through 6 as needed. They will consider additional strategies and tactics to reflect the need for urgent, emergency-driven water conservation.

14 Plan Adoption, Submittal, and Availability

A public hearing, conducted by the District, was held on May 11, 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 at the public Board meeting on June 8, 2021, the District will submit the plan to DWR and, no later than 30 days after filing the WSCP, the District will make the WSCP available to the public.