

Chapter 4 – Drought Response Measures

This chapter lays out a comprehensive plan for how the SNWA and its member agencies will work together to implement proactive drought response measures to ensure appropriate demand reductions occur during periods of drought. Experience has shown that the most effective approach to accomplish these goals is to coordinate mitigation response actions between the SNWA Board, local purveyors and the community in a timely manner.

This plan anticipates what can be done in the early stages of drought and moves through increasingly more complex drought levels and possible actions. Some drought response measures require minimal customer effort. Measures become more stringent as drought progresses. All drought measures apply to all qualities of water, whether recycled, reclaimed, raw or potable.

In the event any measure in this plan conflicts with a use of water reasonably required to comply with an existing law, that use shall be considered exempt.

The following subsections describe tools and techniques that can assist the community in modifying water demands to meet available supplies. Because the result from a particular measure may vary depending on specific conditions, additional measures may be required to achieve needed effects. For this reason, the chapter is not meant to be exhaustive, but is intended as a framework to help purveyors and the community better coordinate efforts to achieve the levels of conservation response necessary during times of drought.

4.1 Landscape Watering Restrictions – Mandatory Seasonal Scheduling

General Provisions. Each purveyor is responsible for developing watering restrictions that apply to their respective jurisdiction. Prior to the implementation of this plan, each jurisdiction developed time of day watering restrictions that apply to their respective jurisdictions. These restrictions prohibit sprinkler watering from 11 a.m. to 7 p.m. from May 1 to Sept. 30. For the purposes of the Drought Plan all current time of day restrictions apply. In addition, day of the week watering restrictions have been created and implemented. These restrictions are described in Table 4. If drought conditions warrant, landscape watering restrictions beyond those outlined in the matrix may be imposed by the jurisdictions.

During Drought Watch, all current watering restriction exemptions apply. These include hand watering at any time on any day, watering a new landscape or new plantings for 30 days from the date of planting or installation and irrigation by commercial gardens or plant nurseries licensed in Clark County. In addition, member agencies may provide a three-year watering schedule exemption for commercial and residential properties that utilize smart controllers. These customers would be exempt from the mandatory

watering schedule (day of week and number of days per week). Time of day restrictions would still apply. Permanent implementation of this exemption will be evaluated during a three-year study.

Table 4. Day of the Week Watering Restrictions

	Drought Watch	Drought Alert
Winter (November – February)	One Assigned Day per Week	One Assigned Day per Week
Spring (March – April)	3 Assigned Days per Week + Sunday optional	3 Assigned Days per Week
Summer (May – August)	Any Day	Any Day
Fall (September– October)	3 Assigned Days per Week + Sunday optional	3 Assigned Days per Week

Community Use Recreational Turf Areas. Public and private community use recreational turf areas (for example, athletic parks) are permitted to water turf areas twice per week during the months of November through February.

Golf Courses. Golf courses are required to comply with water budgeting policies in lieu of specific watering schedules.

4.2 Other Outdoor Water Use Restrictions

Surface, Building and Equipment Washing (excluding motor vehicles). During Drought Watch and Drought Alert, all surface, building and equipment washing is prohibited unless the water is discharged to a sanitary sewer through approved methods or contained on site.

Vehicle Washing. During Drought Watch and Drought Alert, washing of personal vehicles on residential properties is limited to not more than once per week per vehicle and requires a positive shut-off nozzle. There is no limitation on washing frequency if using the guidelines for commercial vehicles or with high-pressure, low volume sprayers using less than 10 gallons per vehicle. Commercial vehicles may only be washed at a commercial facility where water is discharged to the sanitary sewer through approved

methods or with the use of a high-pressure, low volume sprayer using less than 10 gallons per vehicle.

4.3 Landscape Development Codes

Landscape development shall be limited during drought. In the case of permits issued prior to the adoption of these restrictions, the development rules at the time of permitting shall apply. The following landscape development codes apply during Drought Watch:

Residential Restrictions. New installations of ornamental turf shall be prohibited in common areas of residential neighborhoods. This restriction shall not apply to public or private community parks.

Non-Residential Restrictions. No new turf installations in non-residential developments, except by issuance of a permit from the governing jurisdiction. No permit will allow for over 50 percent of the turf allowed under non-drought conditions.

Each planning jurisdiction will take steps to notify the public of the potential landscape development impacts of a change in drought condition prior to a drought stage declaration. This notification is intended to alert communities of any impending changes well in advance to any change in drought stage.

The following landscape development restrictions apply during Drought Alert:

Residential Restrictions.

- New turf installations are prohibited in residential front yards (except where jurisdictions provide provisions allowing the substitution of turf that would otherwise be allowed in back yards). This turf shall not exceed 50% of the landscapeable area.
- New turf installation in residential back yards shall not exceed 50% of the landscapeable area.
- Multi-family residences allowed new turf up to 50% of the turf limitations under non-drought conditions.
- During the months of September through April, a 30-day exemption on watering day restrictions will be made for new landscape installations.

Non-Residential Properties. The restrictions defined in Drought Watch shall continue to apply.

4.4 Mist Systems for Human Comfort

Residential mist systems are not restricted under Drought Watch and Drought Alert. Commercial use is allowed in Drought Watch and Drought Alert only during the months of May, June, July and August, and only between noon and midnight.

4.5 Conservation Provisions for Golf Course Irrigation

In lieu of assigned watering days or regulations on watering time, golf courses will be subject to water budgets, with appropriate surcharges applied to any water used over the budgeted amounts. For Drought Watch, the annual water budget is 6.5 acre-feet of water per acre. For Drought Alert, the annual water budget is 6.3 acre-feet of water per acre. Courses that exceed their water budget will have significant financial penalties assessed to the water use in excess of budgeted amounts (see Table 4). The surcharges will be assessed on an annual basis and will be in addition to the price paid for water.

For the purpose of applying this policy, golf courses are water budgeted based upon acre-feet of water (including potable, raw, reuse and recycled water) for each acre currently being irrigated. The irrigated acreage includes lakes and ponds existing within a golf course, and lakes and ponds serving in total or in part as a golf course irrigation reservoir. Once measured, the irrigated acreage shall remain fixed, thus creating an incentive for golf courses to convert unneeded turf to other styles of water efficient landscaping. However, if a golf course expands its course by increasing the number of playing holes, a new irrigated acreage will be determined.

Table 4. Water Budget Financial Penalties for Golf Courses

Drought Watch			
Percentage of budget	101 to 120 percent	121 to 140 percent	Over 140 percent
Surcharge to apply to water use in excess of budget	2.0 times the highest rate paid for water within budget	4.0 times the highest rate paid for water within budget	8.0 times the highest rate paid for water within budget
Drought Alert			
Percentage of budget	101 to 120 percent	121 to 140 percent	Over 140 percent
Surcharge to apply to water use in excess of budget	2.0 times the highest rate paid for water within budget	5.0 times the highest rate paid for water within budget	9.0 times the highest rate paid for water within budget

In the event a golf course uses multiple sources of water provided at different rates, the water budgeting surcharge rate will be calculated proportionately. Each water purveyor will develop and implement its own process for billing and collection of water budget penalties. In addition, all golf courses are required to develop and implement a plan to maximize outdoor water use efficiency.

4.6 Conservation Provisions for Schools, Parks and Government Facilities

Conservation provisions outlined in this plan also apply to schools, parks and governmental facilities. Under both Drought Watch and Drought Alert, these facilities are subject to tiered pricing structures and are required to comply with mandatory landscape watering restrictions. In addition, if these facilities have more than five acres of turf, they must conduct a self-assessment of water conservation potential and implement a plan to maximize outdoor water use efficiency.

Member agencies may provide a three-year watering schedule exemption for properties that utilize smart controllers (expires April 2010). These customers would be exempt from the mandatory watering schedule (day of week and number of days per week). Time of day restrictions would still apply. Permanent implementation of this exemption will be evaluated during a three-year study.

4.7 Man-Made Lakes

All man-made lakes with over one acre of surface area, where all or part of the water used is water delivered by an SNWA member agency, is subject to these provisions. Under Drought Watch and Drought Alert, lakes that serve, in whole or part, as a functional reservoir for a golf course are included in the calculation of a golf course water budget. All other man-made lakes shall pay drought surcharges on all fill water during Drought Watch and Drought Alert.

4.8 Restrictions on Operation of Ornamental Fountains and Water Features

All fountains and water features owned or operated by any person holding an account with an SNWA member agency are subject to drought restrictions (these are listed in the matrix following this chapter). This includes the use of SNWA agency water that has been recycled or reprocessed by the customer or agency.

As a general rule, the following uses are exempt:

- Fountains and water features supplied by privately-owned water rights, unless restricted by the code of the applicable jurisdiction.
- Fountains and water features of less than 200 square feet surface area at single family residences during Drought Watch.
- Fountains and water features of less than 25 square feet surface area at single family residences during Drought Alert.
- Fountains or water features that are necessary and functional components serving other allowable uses (for example, storage ponds on a golf course or aeration devices).

- Indoor water features, or features with the majority of the total water volume contained indoors or underground. If practical alternatives exist for separating indoor and outdoor components, they shall be separated and managed accordingly.
- Recreational water parks, both public and private.
- Fountains and water features at resorts as defined by the governing jurisdiction.
- Fountains or water features necessary to sustain aquatic animals, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of drought.

Residential and commercial fountains or water features that have adequately completed (to the standards of the appropriate governing jurisdiction) turf removal activities, paid an appropriate fee, or some combination of both, may also be granted an exemption. The specific conversion standards and/or fees will be defined by the respective SNWA purveyor member or applicable jurisdiction. However, at a minimum, any turf removed prior to the adoption of the Drought Plan and declaration of drought status cannot receive credit for a conversion in order to maintain a fountain or water feature. In addition, any turf that was removed after the adoption of the Drought Plan and declaration of drought status, and that received a rebate through the SNWA Water Smart Landscapes rebate program, cannot receive credit for a conversion in order to maintain a fountain or water feature. Any fees collected will be utilized by the jurisdictions to fund future turf conversions or other conservation related activities.

4.9 Drought Surcharges and Rate Incentives

Drought surcharges are temporary pricing measures intended to encourage reduction in water consumption during drought conditions. Drought surcharges are a pricing strategy based on the economic law of demand that states as the price of a resource increases, the demand for the resource decreases.

Drought surcharges apply to all customer classes in conjunction with the purveyor's existing rate structure; however, purveyors may also structure surcharges based upon type of use. SNWA member agencies work together to ensure that rates accomplish the goal of balancing resources with customer demands.

The water purveyors have developed drought surcharges in their respective jurisdictions to achieve the regional water use reduction goals. Given the possible alternatives, the SNWA and member agencies work together to ensure reasonable equity among all jurisdictions in the development of rates and surcharges. The intent is to continue to provide affordable water to meet basic needs while creating incentives for reducing waste and overuse.

Drought surcharges may be modified as needed based upon the community's performance in meeting water demand reduction goals.

4.10 Water Waste Enforcement

Water waste is governed by city and county ordinances and water purveyor policy. All jurisdictions have regulations for water waste penalties. These penalties are the same for all jurisdictions and are shown below in Table 5 and Table 6.

Meter Size	1st Violation	2nd Violation	3rd Violation	4th Violation	5th Violation
1" and less	\$20	\$40	\$80	\$160	\$320
Over 1" but less than 3"	\$40	\$80	\$160	\$320	\$640
3" and greater	\$80	\$160	\$320	\$640	\$1,280

Meter Size	1st Violation	2nd Violation	3rd Violation	4th Violation	5th Violation
1" and less	\$40	\$80	\$160	\$320	\$640
Over 1" but less than 3"	\$80	\$160	\$320	\$640	\$1,280
3" and greater	\$160	\$320	\$640	\$1,280	\$2,560

4.11 Incentive Programs

To help achieve further water efficiency gains during drought conditions, SNWA offers a number of incentive programs to promote outdoor conservation, including the Water Smart Landscapes program and the Irrigation Clock rebate program. The Water Smart Landscapes program provides incentives for residents and businesses to replace ornamental turf with water efficient landscaping.

The SNWA will continue to work with its member agencies to identify projects or activities to further promote conservation and water efficiency.

4.12 Public Involvement and Awareness

The SNWA has created a public awareness program to solicit public support and cooperation for the effective and prudent use of water during drought conditions. Public education efforts include development and implementation of a coordinated outreach campaign targeting the entire community, including specialized outreach to government organizations, businesses, youth and the Hispanic community. This outreach is achieved with newsletters, media coverage, bill inserts, local displays, advertising and the creation

of partnership programs with businesses and industries. These techniques promote communication with residents, organizations and the people that they serve.

4.13 Drought Critical

Drought Critical is the most serious stage of drought. Restrictions for this stage will depend on resource needs and will be developed to achieve the greatest level of water savings. The restrictions will be specifically defined and incorporated into this Drought Plan prior to any declaration of Drought Critical.

Matrix

The following matrix summarizes drought response measures under the various drought stages. The SNWA will continue to advise its member agencies on drought conditions and responses, and makes decisions based on the best possible data available. Each member agency is committed to taking all actions within its authority to implement these drought measures within its geographic area or jurisdiction as provided in this Drought Plan. Drought Critical is absent from the matrix; as noted above, restrictions for this stage will be developed and incorporated into the Drought Plan at a later date.

Component	Drought Watch	Drought Alert
Landscape Watering Restrictions <i>(See pp.17)</i>	Mandatory seasonal watering schedules for sprinklers: <ul style="list-style-type: none"> • 3 assigned days per week + Sunday optional (Mar-Apr and Sept-Oct) • 1 assigned days per week winter (Nov-Feb) Increased enforcement of existing time of day restrictions.	Mandatory seasonal watering schedules for sprinklers: <ul style="list-style-type: none"> • 3 assigned days per week (Mar-Apr and Sept-Oct) • 1 assigned day per week winter (Nov-Feb) Increased enforcement of existing time of day restrictions. Member agencies may provide a three year exemption to customers that use smart controllers (expires April 2010).
Surface, building and equipment washing <i>(See pp.18)</i>	Prohibited unless water is discharged to sanitary sewer through approved methods or contained on site.	Prohibited unless water is discharged to sanitary sewer through approved methods or contained on site.
Vehicle washing <i>(See pp.18)</i>	Positive shut-off nozzle required for residential use. Commercial vehicle washing prohibited except: <ol style="list-style-type: none"> 1) where water is captured to sanitary sewer through approved methods, or 2) commercial, high-pressure processes using less than 10 gallons per vehicle. 	Positive shut-off nozzle required for residential use. Commercial vehicle washing prohibited except: <ol style="list-style-type: none"> 1) where water is captured to sanitary sewer through approved methods, or 2) commercial, high-pressure processes using less than 10 gallons per vehicle.

Component	Drought Watch	Drought Alert
<p>Landscape development codes* (<i>See pp.19</i>)</p> <p><i>* Applies to all new building permits issued during a drought declaration</i></p>	<p>Each jurisdiction will notify the public of the potential impacts under Drought Alert condition.</p> <p>Turf prohibited in new commercial and non-residential properties except under permit. Under no circumstances may the permit allow for over 50% of the turf allowed under non-drought conditions.</p>	<p>New turf installations are prohibited in residential front yards (except where jurisdictions provide provisions allowing the substitution of turf that would otherwise be allowed in bark yards).</p> <p>New turf installation allowed in residential back yards up to a maximum of 50% of the landscapeable area.</p> <p>Multi-family residences allowed new turf up to 50% of the turf limitations under non-drought conditions.</p> <p>During the months of September through April, a 30-day exemption on watering day restrictions will be made for new turf installation.</p>
<p>Mist systems for human comfort (<i>See pp.19</i>)</p>	<p>Commercial use allowed only under the following conditions:</p> <ul style="list-style-type: none"> • Months of May, June, July and August only; and • Between noon and midnight only. 	<p>Commercial use allowed only under the following conditions:</p> <ul style="list-style-type: none"> • Months of May, June, July and August only; and • Between noon and midnight only.

Component	Drought Watch	Drought Alert
<p>Water budgeting for golf courses. Includes reclaimed water. (See pp.20 for table outlining water budgets)</p>	<p>Subject to water budget of 6.5 acre-feet of water per acre. Budgets shall be calculated based upon the current irrigated acreage. Overuse surcharges shall apply.</p> <p>Required to develop and implement a plan to maximize outdoor water use efficiency.</p>	<p>Subject to water budget of 6.3 acre-feet of water per acre. Budgets shall be calculated based upon the current irrigated acreage. Increased overuse surcharges shall apply.</p> <p>Required to develop and implement a plan to maximize outdoor water use efficiency.</p>
<p>Public parks, schools and governmental facilities (See pp.21)</p>	<p>Required to abide by mandatory landscape watering restrictions.</p> <p>If more than five acres of turf, must conduct a self-assessment of water conservation potential and implement a plan to maximize outdoor water use efficiency.</p>	<p>Required to abide by mandatory landscape watering restrictions.</p> <p>Member agencies may provide a three year exemption to customers that use smart controllers (expires April 2010).</p> <p>If more than five acres of turf, must conduct a self-assessment of water conservation potential and implement a plan to maximize outdoor water use efficiency.</p>
<p>Man-made lakes (See pp.21)</p> <p>(All man-made lakes with over one acre of surface area, where all or part of the water used is water delivered by an SNWA agency, will be subject to these provisions)</p>	<p>Lakes which serve in total or part as a functional reservoir for a golf course shall be included in the calculation of a golf course water budget.</p> <p>All other man-made lakes shall pay drought surcharges on <u>all</u> fill water.</p>	<p>Lakes which serve in total or part as a functional reservoir for a golf course shall be included in the calculation of a golf course water budget.</p> <p>All other man-made lakes shall pay drought surcharges on <u>all</u> fill water.</p>
<p>Fountains and Ornamental water features (less than one acre surface area) (See pp.21)</p>	<p>Use prohibited. Exemptions provided as allowed by jurisdictional governmental bodies. (See section 4.8)</p>	<p>Use prohibited. Exemptions provided as allowed by jurisdictional governmental bodies. (See section 4.8)</p>

Component	Drought Watch	Drought Alert
Water rates and surcharges (See pp.22)	<p>All SNWA water purveyors shall assess surcharges predicted to reduce demand in a quantity deemed necessary to meet the expendable supply of water.</p> <p>Surcharges may be adjusted as deemed appropriate based upon community conservation performance.</p>	<p>All SNWA water purveyors shall assess surcharges predicted to reduce demand in a quantity deemed necessary to meet the expendable supply of water.</p> <p>Surcharges may be adjusted as deemed appropriate based upon community conservation performance.</p>
Water waste enforcement (See pp.22)	<p>Mandatory violation/penalties after first warning.</p> <p>Increase enforcement.</p>	<p>Mandatory violation/penalties after first warning.</p> <p>Increase enforcement.</p> <p>Increase water waste penalties.</p>
Strengthen incentive programs (See pp.23)	<p>The SNWA will assess the effectiveness of existing conservation incentives and strengthen them as appropriate, depending on projected water demands and the level of conservation being achieved by the community.</p>	<p>The SNWA will assess the effectiveness of existing conservation incentives and strengthen them as appropriate, depending on projected water demands and the level of conservation being achieved by the community.</p>