

Prohibition of Activities and Mandatory Actions During Drought Emergency – Informative Digest (Emergency Regulation Digest (Gov. Code , § 11346.1, subd. (b)))

FINDING OF EMERGENCY

The State Water Resources Control Board (State Water Board or Board) finds that an emergency exists due to severe regional drought conditions in much of the state and that adoption of the proposed emergency regulation is necessary to address the emergency and adjust current restrictions in response to updated conditions. Winter 2016 saw improved hydrologic conditions in parts of California. While the state has experienced some much-needed snow and rainfall in the 2016 water year, statewide precipitation is 91% of average for April 12, 2016 and statewide snowpack is 61% of average as of April 26, 2016. The snowpack level along with substantially reduced groundwater levels and ongoing impacts to ecosystems demonstrate that severe drought conditions have not abated. Additionally the distribution of 2016 precipitation, with more rain and snow in Northern California as compared to Central and Southern California, means that large portions of the state continue to face water supply impacts, especially if this winter was a short reprieve in a longer drought.

On January 17, 2014, Governor Edmund G. Brown, Jr. declared a drought state of emergency. On April 25, 2014, the Governor signed an Executive Order (April 2014 Proclamation) stating, among other things, “...*that severe drought conditions continue to present urgent challenges: water shortages in communities across the state, greatly increased wildfire activity, diminished water for agricultural production, degraded habitat for many fish and wildlife species, threat of saltwater contamination of large fresh water supplies conveyed through the Sacramento-San Joaquin Bay Delta, and additional water scarcity if drought conditions continue into 2015.*”

On December 22, 2014, Governor Brown issued [Executive Order B-28-14](#), which extended the suspension of the California Environmental Quality Act for certain activities contained in the January 2014 and April 2014 Proclamations, including the State Water Board adoption of emergency regulations pursuant to Water Code section 1058.5, through May 31, 2016. On March 17, 2015, the Board adopted an expanded emergency conservation regulation prohibiting certain irrigation practices, restricting certain commercial activities, and ordering all urban water suppliers to implement mandatory restrictions on outdoor irrigation. The emergency regulation ordered larger urban water suppliers, i.e., those providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually in a retail capacity, to provide monthly data on water production, enforcement, and outdoor water conservation measures being implemented.

On April 1, 2015, Governor Brown signed Executive Order B-29-15, directing the State Water Board to impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 2016, as compared to the amount used in 2013. The Governor instructed the State Water Board to consider the relative per

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capita water usage of each supplier's service area and to require those areas with high per capita use to achieve proportionally greater reductions than those with low use. The order mandates that the Governor's January 17, 2014 Proclamation, April 25, 2014 Proclamation, Executive Order B-26-14, and Executive Order B-28-14 remain in full force and effect, except as modified.

Executive Order B-29-15 also directs the State Water Board to require that commercial, industrial, and institutional properties implement water efficiency measures consistent with the reduction targets. The order instructs the State Water Board to prohibit irrigation with potable water of ornamental turf on public street medians, and to prohibit irrigation of landscapes with potable water outside newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission. On May 5, 2015 the State Water Board adopted a revised emergency regulation to address the actions called for in Executive Order B-29-15.

Executive Order B-36-15 calls for an extension of urban water use restrictions until October 31, 2016, should drought conditions persist through January 2016. The urban water use restrictions in effect as of May 18, 2015 would have expired February 13, 2016 without extension. The Board, by Resolution No. 2016-0007, extended its Drought Emergency Water Conservation regulation, with modifications, on February 2, 2016. The updated and extended emergency regulation, which was responsive to Executive Order B-36-15, took effect February 11, 2016.

Because Executive Order B-36-15 directs the State Water Board to extend restrictions to achieve statewide reductions in urban potable water usage based on drought conditions through January 2016, and because in many years a significant portion of the state's rainfall and snowpack occur in February and March, "resolved" paragraph 5 of Resolution 2016-0007 directs State Water Board staff "to monitor and evaluate available data on precipitation, snowpack, reservoir storage levels, and other factors and report back to the Board in March and April, 2016 and, if conditions warrant, bring a proposal for rescission or adjustment of this regulation to the Board no later than the second regularly-scheduled May 2016 Board meeting." (Resolution No. 2016-0007, "Resolved" ¶ 5.)

On May 9, 2016, Governor Brown issued [Executive Order B-37-16](#) (EO B-37-16) directing actions aimed at using water wisely, reducing water waste, and improving water use efficiency. The Executive Order, in part, directs the State Water Board to extend the emergency regulation for urban water conservation through the end of January 2017, and make adjustments in recognition of the differing water supply conditions across the state.

Authority for Emergency Regulations

Water Code section 1058.5 grants the State Water Board the authority to adopt emergency regulations during a period when the Governor has issued a proclamation of emergency based upon drought conditions. The State Water Board may adopt regulations under such circumstances to: “prevent the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion, of water, to promote water recycling or water conservation, to require curtailment of diversions when water is not available under the diverter’s priority of right, or in furtherance of any of the foregoing, to require reporting of diversion or use or the preparation of monitoring reports.”

Emergency regulations adopted under Water Code section 1058.5 may remain in effect for up to 270 days. Per Water Code section 1058.5, subdivision (b), any findings of emergency the State Water Board makes in connection with the adoption of an emergency regulation under the section are not subject to review by the Office of Administrative Law (OAL).

Government Code section 11346.1, subdivision (a)(2) requires that, at least five working days prior to submission of the proposed emergency action to OAL, the adopting agency provide a notice of the proposed emergency action to every person who has filed a request for notice of regulatory action with the agency. After submission of the proposed emergency regulations to OAL, OAL shall allow interested persons five calendar days to submit comments on the proposed emergency regulations as set forth in Government Code Section 11349.6.

The information contained within this finding of emergency provides the information necessary to support the State Water Board’s emergency rulemaking under Water Code section 1058.5. It also meets the emergency regulation criteria of Government Code section 11346.1 and the applicable requirements of section 11346.5.

Evidence of Emergency

The U.S. Drought Monitor is an indicator for drought with respect to unmanaged uses of water including non-irrigated agriculture, and indicates wildfire risk. As of April 19, 2016, the U.S. Drought Monitor classifies 75 percent the state of California as experiencing severe, extreme or exceptional drought, with 49 percent designated as extreme or exceptional drought. This compares to 93 percent designated as severe, extreme, and exceptional drought a year ago on the same date. The U.S. Drought Monitor both shows improvement and highlights that a large portion of the state remains in drought by this metric.

Last year the warm and relatively dry weather conditions decimated the snowpack in California’s mountains, leading to greater reliance on already low reservoirs and groundwater basins. Consequently, the 2016 water year started with significant water

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deficits from which the state as a whole has yet to recover. Below is information that demonstrates the disparate conditions across the state:

Reservoirs

Major Northern California water reservoirs are near average or have above average water storage for this time of year, while many Southern California reservoirs are significantly below average. Current storage levels in key reservoirs, as of April 25, 2016, reflect this trend. Shasta Lake, California's and the Central Valley Project's largest reservoir, is at 92 percent of its 4.5 million acre-feet (MAF) capacity (108 percent of its historical average for this date). Lake Oroville, the State Water Project's principal reservoir, is at 95 percent of its 3.5 MAF capacity (118 percent of its historical average for this date). Folsom Reservoir is at 84 percent of its 1 MAF capacity (115 percent of average for this date). On the other hand, San Luis Reservoir is at 48 percent of its 2 MAF capacity (54 percent of average for this date). New Melones Reservoir is at 26 percent of its 2.4 MAF capacity (42 percent of average for this date). New Don Pedro Reservoir is at 67 percent of its 2 MAF capacity (91 percent of average for this date). Pine Flat is at 51 percent of its 1 MAF capacity (84 percent of average for this date). Isabella is at 15% of its 0.6 MAF capacity (37% of average for this date). Cachuma Lake is at 14 percent of its 0.2 MAF capacity (17% of average for this date). Castaic Reservoir is at 51 percent of its 0.3 MAF capacity (56% of average for this date). These percentages show that some reservoirs remain significantly below average for this date.

Precipitation and Snowpack

According to the Department of Water Resources, in normal years, the snowpack supplies about 30 percent of California's water needs as it melts in the spring and early summer. As of April 26, 2016, the Sacramento Region cumulative precipitation is 121 percent of average for this date (8-Station Index), San Joaquin precipitation is 105 percent of average for this date, and Tulare Lake Region is 95 percent of average for this date. While these levels are encouraging, there are still large deficits to make up. The statewide summary of snowpack is 61 percent of average for this date, ranging from 67 percent of average in the Northern and Central Sierra and 47 percent of average in the Southern Sierra. Furthermore, the timing of some of the precipitation has led to several reservoirs in the state operating for flood control purposes, which means that not all the precipitation the state has received has translated into stored water available for later use.

Groundwater

During dry years, groundwater contributes up to 46 percent (or more) of the statewide annual supply. Even an extremely wet winter, however, will not raise groundwater levels to pre-drought elevations after four consecutive dry years in many areas because of the significant deficits and because groundwater generally does not recharge from rainfall as quickly as surface storage. Groundwater impacts include overdraft, loss of storage capacity, seawater intrusion, land subsidence, depletion of interconnected surface waters, and water quality degradation. From January 2014 to November 2015 the number of households reporting water supply shortages (e.g., dry wells) doubled from

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1,500 reported incidents to over 3,000 and anecdotal information suggests higher numbers.

NOAA now predicts that the El Niño/Southern Oscillation (ENSO) is transitioning to ENSO-neutral this spring and early summer 2016, and there is an increasing chance of La Niña during the second half of 2016. It is imperative that we continue to conserve, while we monitor conditions and adapt requirements as appropriate based on water supply conditions.

Need for the Regulation

To address the on-going severity of the drought emergency, Governor Brown issued [Executive Order B-37-16](#) on May 9, 2016 that, in part, directs the State Water Board to extend the emergency regulation for urban water conservation through the end of January 2017. It also directs the State Water Board to adjust its emergency water conservation regulation in recognition of the differing water supply conditions across the state. This Executive Order follows [Executive Order B-36-15](#) that directed the State Water Board to extend urban water use restrictions until October 31, 2016, should drought conditions persist through January 2016. Drought conditions persisted and on February 2, 2016 the State Water Board adopted the extended and revised emergency regulation to ensure that urban water conservation continues in 2016.

Emergency regulations adopted pursuant to Water Code section 1058.5 have a time limit of 270 days, which meant that the May 2015 Emergency Regulation had to be extended prior fully knowing hydrologic conditions for the 2016 water year, which is generally known by April 1. The State Water Board in Resolution No. 2016-0007 directs staff to “continue working with stakeholders on further refinement of these emergency water conservation regulations to be considered in tandem with an assessment of where the current winter precipitation leaves us.” (Resolution No. 2016-0007, ¶ 19.)

Winter 2016 saw improved hydrologic conditions in parts of California. More rain and snow fell in Northern California as compared to Central and Southern California; yet, due to California’s water conveyance systems, concerns over supply reliability have eased compared to last year in much of urban California. Consequently, the unprecedented mandatory demand-driven conservation standards in place since June 2015 can transition to individualized conservation standards that suppliers define based on their unique water supply and demand conditions. However, some mandatory conservation standards are still needed in case this winter was a short reprieve in a longer drought.

The proposed Emergency Regulation adjusts current restrictions in response to these improved hydrologic conditions, whereby the entire May 2015 emergency regulation tiered conservation standard system, including the adjustments that took effect in March 2016, would be superseded for suppliers that use the new proposed water supply reliability self-certification method. These changes continue to help prevent the waste

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and unreasonable use of water and promote water conservation during a period when the Governor has issued a proclamation of emergency based upon drought conditions.

While the State Water Board is not, through this rulemaking, declaring any particular use or practice a waste or unreasonable use of water, it is necessary that all reasonable efforts be taken to prevent the waste or unreasonable use of water based on the continuation of current drought conditions. As the California Supreme Court has long held, “what may be a reasonable beneficial use, where water is present in excess of all needs, would not be a reasonable beneficial use in an area of great scarcity and great need. What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time.” (*Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463, 1479 (*Light*), quoting *Tulare Dist. v. Lindsay Strathmore Dist.* (1935) 3 Cal.2d 489, 567.) The Supreme Court has further clarified that “although, as we have said, what is a reasonable use of water depends on the circumstances of each case, such an inquiry cannot be resolved *in vacuo* isolated from statewide considerations of transcendent importance. Paramount among these we see the ever increasing need for the conservation of water in this state, an inescapable reality of life quite apart from its express recognition in [Article X, Section 2.]” (*Light, supra*, 226 Cal.App.4th at 1479, quoting *Joslin v. Marin Mun. Water Dist.* (1967) 67 Cal. 2d 132, 138.)

Description and Effect of Proposed Regulation

The proposed Emergency Regulation would modify the existing February 2016 Emergency Regulation to allow suppliers to define an individualized conservation standard based on their unique water supply and demand conditions. Each water supplier would be required to evaluate its supply portfolio and self-certify the accuracy of its information; the State Water Board would assign each supplier a mandatory conservation standard equal to the percentage deficiency the supplier identifies in its supply in compliance with certain specified assumptions. Suppliers that do not submit a water reliability certification and supporting information in compliance with the identified process and assumptions would retain their current (March 2016) conservation standard in almost all cases. Additionally, certain statewide requirements on small suppliers and businesses would be lifted. The new conservation standards would take effect for June 2016 and remain in effect until the end of January 2017.

The proposed Emergency Regulation (see [Staff Proposal for Extended Emergency Regulation for Urban Water Conservation, May 9, 2016](#)) would allow each supplier to base a new, mandatory conservation standard on its water supply reliability under a set of supply and demand assumptions over the next three years. Suppliers that would face a shortage after a third dry year would be assigned a conservation standard equal to the amount of their shortage. Water supply reliability after the 2018-19 winter would be calculated as follows:

- The supply projection for the next three years would be based on current supply conditions plus an assumed three-year hydrology mirroring the 2012-13, 2013-

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14, and 2014-15 water years. (A water year runs from October 1 through the following September 30).

- Demand over the same period would be based on each supplier's average total potable water production for 2013 and 2014.
- Suppliers would factor into their calculations all of their water sources that are capable of being treated to potable standard during the three-year projected period.
- Suppliers' conservation standards would be calculated as a percentage and rounded to the nearest whole percentage point.
- Suppliers would self-certify the accuracy of their conditions and provide their analysis and supporting data. The State Water Board would post information provided by suppliers on its website and assign each supplier, as a mandatory conservation standard, reductions equal to the supplier's projected percentage deficiency in supply at the end of the third dry year.
- Wholesale water suppliers would be required to make projections about how much water they would deliver to retail water suppliers under the three-dry-years scenario.

The proposed emergency regulation modifies the February 2016 Emergency Regulation (see [technical fact sheet on February 2016 Emergency Regulation](#)) and maintains a number of the same requirements that apply currently, except as noted below. The proposed emergency regulation:

- Lifts the prior conservation requirements for small suppliers but maintains the current one-time report; however, it now occurs in December 2016 instead of this September. Small suppliers are encouraged to maintain conservation measures.
- Lifts the prior statewide requirements for commercial properties pertaining to drinking water and laundered towels and linens. Eating and drinking establishments and the hospitality industry are encouraged to maintain conservation measures.
- Requires self-supplied commercial, institutional, and industrial entities to target conservation at a level equal to the conservation standard required of the nearest urban water supplier.

The proposed emergency regulation would continue these prohibitions: irrigating with potable water of ornamental turf on public street medians; irrigating with potable water outside of newly-constructed homes and buildings not in accordance with emergency regulations or other requirements established in the California Building Standards Code; using potable water to wash sidewalks and driveways; allowing runoff when irrigating with potable water; using hoses with no shutoff nozzles to wash cars; using potable water in decorative water features that do not recirculate the water; and irrigating outdoors during and within 48 hours following measureable rainfall.

The prior conservation standards, including the credits and adjustments, would only continue to apply if a supplier does not participate in the new self-certification system. For suppliers choosing to continue with their current conservation standard, the

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proposed emergency regulation retains prior requirements, including credits and adjustment that became effective March 1, 2016. (see [Fact Sheet: Extending the Emergency Water Conservation Regulation, January 15, 2016](#)). There is one exception - the reserved four percent conservation standard, which was based on certain areas of the state not experiencing drought conditions, would no longer apply, as the new structure addresses local supply conditions more directly. This means that the entire May 2015 emergency regulation tier system, including the adjustments that took effect in March 2016, would be superseded for suppliers that use the new water supply reliability self-certification method.

Finally, the proposed emergency regulation retains penalties for homeowners' associations or community service organizations that block, stifle, or threaten homeowners from reducing or eliminating the watering of vegetation or lawns during a declared drought emergency in violation of existing law. It also maintains reporting requirements and enforcement tools to ensure compliance with the provisions of the regulation.

All of these requirements are intended to safeguard urban water supplies in the event of continued drought, minimize the potential for waste and unreasonable use of water, and achieve a statewide potable water usage reduction ordered by Governor Brown. It is both reasonable and prudent to maintain urban water supplies to the maximum extent feasible, to provide local agencies with the necessary flexibility to meet the health and safety needs of Californians during the drought emergency, to provide for reasonable modest adjustments in response to insights gained in response to stakeholder input, and to allow individual urban water suppliers to self-certify the level of available water supplies they have assuming three additional dry years, and the level of conservation necessary to assure adequate supply over that time. .

California has been subject to multi-year droughts in the past. Climate science indicates that the Southwestern United States is becoming drier, increasing the likelihood of severe and prolonged droughts. Drought conditions have necessitated curtailment of surface water diversions, and many groundwater basins around the state are already in overdraft conditions that will likely worsen due to groundwater pumping this summer, if reservoirs remain low. Many water supply systems face a present or threatened risk of inadequate supply. Should drought conditions persist into 2017 and beyond, more water supply systems will experience shortages, presenting a great risk to the health and safety of the people supplied by those systems. Maintaining urban water supplies through enhanced conservation will reduce the risks to health and safety and negative impacts to the State's economy.

Each of the specific prohibitions on water uses and other end user requirements are necessary to promote water conservation to maintain adequate supplies during the drought emergency, which cannot be done if water is being used in a wasteful or unreasonable manner. These requirements affect practices that use excessive amounts of water or where more efficient and less wasteful alternatives are available. These practices are particularly unreasonable during a drought due to the need to

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conserve limited water supplies to meet health and safety needs. Exceptions to meet immediate health and safety concerns or to comply with state or federal permit requirements are available, however.

A prohibition on the irrigation with potable water of ornamental turf on public street medians remains necessary to promote water conservation, minimize the potential for waste and unreasonable use, and address the drought emergency. Irrigating ornamental turf on street medians with potable water cannot be considered necessary or reasonable during drought conditions. Ornamental turf on street medians does not provide for domestic use, sanitation, or fire protection, which are the primary needs that public water supply distributors must meet during drought periods. (Wat. Code, § 354). It is not the intent of this rule, however, to prohibit reasonable targeted water application to trees to protect their health. Healthy urban trees provide multiple health and safety benefits, such as providing shade and reducing the urban heat island effect, thereby reducing the impacts from extreme heat days.

The proposed regulation continues to prohibit irrigation with potable water of landscapes outside of newly constructed homes and in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission, the agency responsible for building standards. This prohibition promotes water conservation, minimizes the potential for waste and unreasonable use, and addresses the drought emergency by requiring technologies that reduce runoff, overspray and evaporation. The rule encourages new construction to plan for this drought and for future droughts by installing water efficient irrigation systems. Because efficient irrigation outside new buildings uses less potable water than many current practices, this prohibition regarding new construction provides an opportunity for reduction of potentially wasteful practices.

Reducing potable water use supplied by urban water suppliers, especially where local water supply deficiencies exist, continues to be necessary to promote conservation, minimize the potential for waste and unreasonable use, and address the drought emergency. Mandatory restrictions have proven to be effective at reducing water use as shown through implementation of the May 2015 Emergency Regulation. This approach allows suppliers discretion as to how they meet their reduction targets. It gives urban water suppliers flexibility to work with their customers and identify and make reductions from the least essential and the most wasteful practices and areas, like outdoor ornamental landscape irrigation, while protecting paramount uses, like domestic water supply, sanitation, and fire protection.

The proposed regulation continues to include a compliance relief mechanism for the handful of urban water suppliers with significant commercial agricultural operations within their service area.

Suppliers that do not submit a water reliability certification and supporting information to the State Water Board in compliance with the proposed regulation would retain their current conservation standard in almost all cases so the proposed emergency regulation retains those requirements. The May 2015 Emergency Regulation groups

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urban water suppliers based on residential gallons per capita per day (R-GPCD) water usage, and sets different conservation standards for each grouping based on that relative use, which promotes water conservation and equity by ensuring that those with the highest levels of residential per capita water usage make greater reductions. A tier structure also promotes equity by recognizing past conservation gains; communities that already reduced their R-GPCD to low levels are rewarded with lower conservation standards. The February 2016 proposed emergency regulation allows credits and adjustments under certain conditions to qualifying suppliers to reduce their conservation standard by up to eight percentage points. Credits and adjusted became effective March 1, 2016.

Due to improved hydrologic conditions and to be more consistent with new supply reliability-based conservations standards allowed in the proposed emergency regulation, smaller urban water suppliers and self-supplied commercial, industrial and institutional users would no longer be required to either reduce potable water usage by 25 percent or reduce outdoor watering of ornamental landscapes to no more than two days per week. Instead, the proposed emergency regulation maintains the requirement for small suppliers to submit a one-time report, which is now due by December 2016 instead of this September. Additionally, the proposed emergency regulation requires self-supplied commercial, institutional, and industrial entities to target conservation at a level equal to the conservation standard set for the nearest urban water supplier. All are encouraged to maintain conservation measures and do their part to meet the Governor's call for a statewide reduction in potable urban water use and reduce potentially wasteful or unreasonable uses of water during this drought emergency.

The proposed regulation continues to include a requirement that urban water suppliers with more than 3,000 service connections provide monthly information to the State Water Board on: potable water production figures, estimates of R-GPCD, details of outdoor use restrictions, local compliance and enforcement actions, and information on commercial, industrial and institutional water use. This is necessary so that the State Water Board can track the effectiveness of the proposed regulation and urban water conservation actions and take enforcement action where appropriate. Such monitoring reports will document the effectiveness of existing conservation efforts and inform whether further actions are necessary to address the drought emergency.

The statewide effect of the changes in the proposed emergency regulation as compared to the February 2016 emergency regulation is expected to reduce water savings, especially in regions of the state that have sufficient reliable water supplies to meet their local water demand should drought conditions persist for an additional three years. At the minimum, it is expected that the statewide conservation from June 2016 through January 2017 with water supply reliability-based conservation standards will reach 10 percent, which was the level of water savings achieved between June 2014 and January 2015, before mandatory conservation standards came into effect. It is likely that due to increased public drought awareness of drought conditions and water-saving measures already in place the statewide conservation will be greater. The changes in the proposed regulation are reasonable given that some parts of the state no longer are

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currently experiencing drought conditions, yet they ensure a reasonable and practical assessment of local conditions, with appropriate caution, should additional rain and snow this winter be a short reprieve in a longer drought.

Estimate of Water Savings from Proposed Regulation

The Governor's April 1, 2015 Executive Order called for a statewide 25 percent reduction in potable urban water use as compared to 2013. On November 13, 2015, Governor Brown issued Executive Order calling for an extension of urban water use restrictions until October 31, 2016, should drought conditions persist, and directing the State Water Board to consider modifying the restrictions on water use. On May 9, Governor Brown issued [Executive Order B-37-16](#) directing actions aimed at using water wisely, reducing water waste, and improving water use efficiency. The Executive Order, in part, directs the State Water Board to extend the emergency regulations for urban water conservation through the end of January 2017.

At the time that the State Water Board adopted the existing water conservation emergency regulation, many California urban water suppliers were already implementing significant water conservation measures. Data collected pursuant to the May 2015 emergency regulation show that a statewide mandatory conservation program, using a statewide tiered approach, was effective at achieving additional water savings as compared to local voluntary conservation. Approximately 1.3 MAF of water has been saved between June 2015 and March 2016 (most recent data available) by the 90 percent of the population served by an urban water supplier; this equates to 23.9 percent cumulative statewide water savings as compared to the same months in 2013. Preliminary review of the data contained in the required smaller supplier reports supports that the smaller suppliers, those serving 3,000 or fewer customers and 3,000 or fewer acre-feet of water per year, have achieved similar percentage savings by implementing the current emergency regulation.

At the time of extension of the existing emergency regulation in February 2016, the State Water Board anticipated approximately 0.7 million acre-feet of net water saved through October 31, 2016, and attributable to the emergency regulation with conservation standard modifications capped at 8 percentage points.

Using similar methodology, and considering the possible changes to supplier conservation standards based on self-certification of supply that may reduce water savings, if approved, the State Water Board expects large urban water suppliers and their customers will save between 0.46 and 0.97 million acre-feet of water between June 2016 and January 2017, as compared with the same months in 2013, with additional and likely proportionately commensurate savings by the smaller suppliers and their customers.

The State Water Board expects that most water savings would continue to come from reduction in or elimination of irrigation of ornamental landscapes with potable water. The requirement that urban water suppliers meet their specified conservation standard would, in some cases, entail restrictions on use by other customer classes, including

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residential indoor use or commercial, industrial and/or institutional uses. Giving suppliers the flexibility to identify where and how they can best achieve their required savings maximizes their ability to do so by targeting the least essential and most wasteful practices, as different communities have different water needs and values.

Many studies have analyzed the response of urban populations to mandatory use restrictions imposed during drought conditions. Multiple studies conclude that mandatory use restrictions are more effective than voluntary conservation measures because areas that have imposed mandatory use restrictions have achieved greater use reductions than areas that imposed only voluntary measures, controlling for other variables. The amount of conservation achievable through mandatory restrictions varies. Studies show conservation savings of up to 29 percent. For example, a study conducted on the effects of water demand management policies of eight California water agencies during the period from 1989-1996, which included three years of drought (1989-1991), found that rationing and use restrictions were correlated with use reductions of 19 percent and 29 percent, respectively. The study's authors concluded:

In general, relatively moderate (5-15%) reductions in aggregate demand can be achieved through modest price increases and "voluntary" alternative [Demand-Side Management] policy instruments, such as public information campaigns. However, to achieve larger reductions in demand (greater than 15%), policymakers will likely need to consider either relatively large price increases, more stringent mandatory policy instruments (such as use restrictions), or a package of policy instruments.

A recent study from UCLA on use reductions in Los Angeles during the 2007-2009 drought reached similar conclusions:

Our results indicate that mandatory restrictions are most effective at reducing water consumption for [Single-Family Residential] households. The greatest impact of measures resulted from the combination of mandatory watering restrictions and the price increase, which led to a water reduction of 23% in July/August 2009, while voluntary restrictions led to only a 6% reduction in water use.

In addition, a study of Virginia's severe 2002 drought found that mandatory use restrictions, coupled with an aggressive information and enforcement campaign, led to a 22 percent reduction in use.

Additional Benefits of Proposed Regulation

The State Water Board has determined that additional benefits will be realized should it adopt the proposed updated regulation. These benefits include the following:

- Continuity of the existing water conservation program and all its benefits during a declared drought emergency until the emergency is lifted.
- Improved equity with adjustments that allow suppliers to define an individualized conservation standard on their specific water supply and demand conditions.

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- Continued incentives to eliminate ornamental turf will generate additional economic activity, such as investments in drought-tolerant landscaping.
- Increased water quality in receiving waters due to lower runoff volumes.
- More effective tracking of total urban water use.
- Reduced potential for severe economic disruption due to water shortages if the next few years are dry years.
- Reduced potential for waste and unreasonable use of water.
- Continued drought awareness and shared sense of responsibility among urban water users, including community service organization and homeowners' associations.
- More understandable drought-related potable urban water conservation messaging, as different areas of the state have different water supply situations and a supplier-identified, supply resiliency-based conservation standard approach is easier to visualize for water customers than a demand-based approach to mandatory conservation.

These benefits will offset some of the fiscal impacts to water suppliers when benefits and costs are viewed from a statewide perspective. Therefore, these benefits provide additional justification for adopting the proposed regulations.

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Informative Digest

Summary of Existing Laws and Regulations

Modification and readoption of the February 2016 emergency regulation reflects improved hydrologic conditions in parts of California. More rain and snow fell in Northern California as compared to Central and Southern California; yet, due to California’s water conveyance systems, concerns over supply reliability have eased. Consequently, the state-identified demand-driven conservation standards in place since June 2015 are no longer needed where supply shortfalls are not anticipated. However, conservation standards are still needed in case this winter was a short reprieve in a longer drought. The proposed emergency regulation would allow suppliers to define an individualized mandatory conservation standard on their specific water supply and demand conditions, and for those suppliers that do not submit a water reliability certification and supporting information in compliance with the regulation, it ensures that current restrictions remain in effect without any lapse until rain and snowfall are sufficient to place the state in a condition where mandatory restrictions are no longer necessary, or until 270 days from the regulation’s effective date, whichever comes first.

Absent the existing emergency regulation, there is no statewide prohibition on specific water uses to promote conservation. There is also no law or regulation requiring urban water suppliers to make specific potable water use reductions or report the amount of water they produce to the state. The proposed emergency regulation would extend the May 2015 emergency regulation that constituted the first statewide directive to urban water users to undertake specific actions to respond to the drought emergency and the first statewide directive that set enforceable conservation performance standards for urban water suppliers; consequently, the proposed emergency regulation is consistent and compatible with existing regulations on this subject. Additionally, homeowners’ associations for common interest developments currently are statutorily barred from prohibiting low-water use landscaping or artificial turf and from fining residents who reduce their outdoor irrigation during drought emergencies. (Civ. Code, § 4735, see also *id.*, §§ 4080, 4100, 4110, 4150, and 4185.) The Governor’s April 25, 2014 Executive Order similarly declared “any provision of the governing document, architectural or landscaping guidelines, or policies of a common interest development ... void and unenforceable to the extent it has the effect of prohibiting compliance with the

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water-saving measures contained in this directive, or any conservation measure adopted by a public agency or private water company....” (Proclamation of a Continued State of Emergency, April 25, 2014, Ordering ¶ 4.) The proposed regulation neither differs from nor conflicts with an existing comparable federal statute or regulation.

Description and Effect of Proposed Regulation

The proposed emergency amendment and readoption of section 863 sets forth the State Water Resources Control Board’s (State Water Board or Board) findings of a drought emergency. The proposed emergency amendment and readoption of section 864 directs individuals and homeowners’ associations statewide to refrain from engaging in certain activities and contains other commercial sector restrictions to promote conservation to meet the drought emergency. Proposed section 864.5 directs urban water suppliers to meet specified conservation standards and allows each urban water supplier to base a new, mandatory conservation standard on its water supply reliability under a set of supply and demand assumptions over the next three years and to report information to the State Water Board. The proposed emergency amendment and readoption of section 865 maintains the current system of mandatory conservation standards for those suppliers that do not use the new system identified in section 864.5, along with certain existing reporting requirements. The proposed emergency amendment and readoption of section 866 provides the State Water Board with emergency enforcement tools to ensure that water suppliers and users are on track to achieve their required savings throughout the effective period of the regulation.

Proposed Emergency Regulation Section 863

Proposed section 863 sets forth the State Water Board’s findings of drought emergency, noting the Governor’s adoption of multiple emergency proclamations pertaining to drought conditions, the persistence of drought conditions, the dry nature of the preceding four years, and the likelihood that drought conditions will continue, even with increased precipitation in 2015-16, given the severe water deficit of the preceding years.

Proposed Emergency Regulation Section 864

Proposed section 864 maintains the current prohibitions on several activities, except where necessary to address an immediate health and safety need or to comply with a term or condition in a permit issued by a state or federal agency, to promote conservation. The section maintains prohibitions on: the application of water to outdoor landscapes in a manner that causes visible runoff; the use of a hose to wash an automobile except where the hose is equipped with a shut-off nozzle; the application of water to hardscapes; the use of potable water in non-recirculating ornamental fountains; the application of potable water to outdoor landscapes during or within 48-hours after measurable rainfall; the irrigation of ornamental turf on public street medians with potable water; and the irrigation with potable water outside of newly constructed homes and buildings that is inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development. This section lifts the prior prohibition on serving water except

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when requested in restaurants and bars and requires the operators of hotels and motels to offer patrons the option of not having their towels and linens washed daily. Under this section, commercial, industrial and institutional users not served by either type of water supplier regulated by section 865 to target conservation at a level equal to the conservation standard set for the nearest urban water supplier; these entities no longer must either limit the number of days they water outdoor turf and ornamental landscapes to no more than two days per week or reduce their total potable water production by 25 percent as compared to 2013. Finally, this section maintains penalties for homeowners' associations or community service organizations impeding homeowners from reducing or eliminating the watering of vegetation or lawns during a declared drought emergency, as described in existing Civil Code provisions.

Proposed Emergency Regulation Section 865

Proposed section 865, unlike existing section 865, allows each urban water supplier to base a new, mandatory conservation standard on its water supply reliability under a set of supply and demand assumptions over the next three years. Suppliers that would face a shortage after a third dry year would be assigned a conservation standard equal to the amount of their shortage. Suppliers that do not submit a water reliability certification and supporting information would retain their current conservation standard in almost all cases.

Proposed section 865 maintains the existing conservation standards, along with changes that may have resulted from the February 2016 Emergency Regulation for those suppliers that do not develop a self-certified conservation standard. Consequently, the section directs urban water suppliers to meet specified conservation standards and to report specific information to the State Water Board.

Proposed section 865 continues conservation standards, for suppliers that do not self-certify, for all urban water suppliers to be initially allocated across eight tiers of increasing levels of R-GPCD water use, with adjustment for certain localized conditions. This approach considers the relative per capita water usage of each water suppliers' service area and requires that those areas with high per capita use achieve proportionally greater reductions than those with low use, while lessening the disparities in reduction requirements between agencies that have similar levels of water consumption but fall on different sides of dividing lines between tiers. Suppliers are assigned a base conservation standard that ranges between eight percent and 36 percent based on their R-GPCD for the months of July - September, 2014. These three months reflect the amount of water used for summer outdoor irrigation, which provides the greatest opportunity for conservation savings.

Proposed Section 865 continues credits and adjustments to urban water suppliers' conservation standards that consider regional climate differences; urban growth; and investments made toward creating new, local, drought-resilient sources of potable water supply. These adjustments and credits are already in place for many water suppliers as of March 1, 2016.

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Proposed section 865 continues to provide compliance relief mechanisms for the handful of urban water suppliers with significant commercial agricultural operations in their service area.

Proposed section 865 no longer continues the reserved four percent conservation standard, which was based on certain areas of the state not experiencing drought conditions, would no longer apply, as the new structure proposed in section 864.5 addresses local supply conditions more directly.

Finally, proposed section 865 eliminates the current conservation requirement for smaller urban water suppliers, defined as any distributor of a public water supply, whether publicly or privately owned and including a mutual water company. However, smaller urban water suppliers continue to submit a one-time report. The due date of the report is now December 15, 2016 and the report includes total potable water production, by month, and any actions taken by the supplier to encourage or require its customers to conserve water.

Proposed Emergency Regulation Section 866

Proposed section 866 provides the State Water Board with continued emergency enforcement tools to ensure that water suppliers and users are on track to achieve their required savings throughout the effective period of the regulation.

The State Water Board will continue to assess compliance with self-certified conservation standards, or with existing conservation standards for those suppliers that do not self-certify, using the suppliers' monthly reported data. Each month, State Water Board staff will reassess compliance based on the supplier's water savings. For suppliers that do not self-certify, compliance will be measured on a cumulative basis, the supplier's conservation savings are added together from one month to the next and compared to the amount of water used during the same months in 2013. The State Water Board will continue to work with water suppliers along the way that are not meeting their targets to implement actions to get them back on track. The State Water Board will continue to use informational orders to request information from suppliers not meeting their conservation standards and, as appropriate, conservation orders that direct specific actions to correct non-compliance. Both conservation orders and informational orders issued by the Board would remain subject to reconsideration by the Board. Violations would be subject to enforcement pursuant to Water Code section 1846. Either of these types of orders issued under a prior version of the regulation, along with any cease and desist orders and administrative civil liabilities issued or initiated under a prior version of the regulation, would continue to remain valid and enforceable.

Authority and Reference Citations

For Section 863

Emergency Regulations Digest (Gov. Code , § 11346.1, subd. (b))

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References: Cal. Const., Art., X § 2; Wat. Code, §§ 102, 104, 105, 275; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463.

For Section 864

Authority: Wat. Code, § 1058.5.

References: Cal. Const., Art., X § 2; Civil Code, §§ 4080, 4100, 4110, 4150, 4185, and 4735; Wat. Code, §§ 102, 104, 105, 275, 350, 10617; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463.

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Authority: Wat. Code, § 1058.5.

References: Cal. Const., Art., X § 2; Wat. Code, §§ 102, 104, 105, 275, 350, 1846, 10617, 10632; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463.

For Section 866

Authority: Wat. Code, § 1058.5.

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Mandate on Local Agencies or School Districts

The State Water Board has determined that adoption of sections 863 and 864 does not impose a new mandate on local agencies or school districts. The sections are generally applicable law.

The State Water Board has further determined that adoption of section 864.5, 865 and 866 do not impose a new mandate on local agencies or school districts, because the local agencies affected by the section have the authority to levy service charges, fees, or assessments sufficient to pay for the mandate program or increased level of service. (See Gov. Code, § 17556, subd. (d); *Connell v. Sup. Ct.* (1997) 59 Cal.App.4th 382.)

Suspension of California Environmental Quality Act

On April 24, 2014, the Governor issued an executive order addressing the drought emergency, which, among other things, suspended the California Environmental Quality Act (CEQA) as applied to the State Water Board's adoption of emergency regulations to "prevent the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water, to promote water recycling or water conservation, and to require curtailment of diversions when water is not available under the diverter's priority of right."

On December 22, 2014, Governor Brown issued Executive Order B-28-14, which extended the suspension of CEQA and Water Code section 13247 contained in the January 17, 2014 and April 25 Proclamation through May 31, 2016. On November 13, 2015 the Governor again extended this suspension by Executive Order B-36-15. The proposed emergency regulation falls under this suspension.

Public Agency and Government Fiscal Impact Analysis

Summary

Ongoing and new potable water conservation will result in reduced water use by the customers of urban water suppliers, which in turn will result in reduced water sales and lost revenue for suppliers. This loss in revenue will be a function of the amount of water conserved (and therefore not sold) and the unit price that water would have sold for. California Urban Water Supplier water rates are primarily comprised of a fixed and a variable component. The variable portion of the rate is based on the volume of water used by the customer and generally the fixed portion does not change with use. The variable portion of the rate therefore represents the unit cost of lost revenue. Though urban water suppliers have the authority to adjust their rates such that they recover the amount of revenue necessary for them to operate, this analysis assumes that, for the near-term, suppliers' revenue shortfalls will not be recovered immediately, and therefore are considered potential fiscal impacts of the proposed emergency regulation.

Urban water suppliers in California are comprised of governmental agencies, investor owned utilities that are regulated by the California Public Utilities Commission, and privately owned mutual water companies. Costs to investor owned utilities and mutual water companies need not be considered for the purposes of estimating the fiscal impacts of the proposed regulation on local agencies. It is estimated that water suppliers that are local agencies will incur approximately 85 percent of the total costs to urban water suppliers.

In addition to lost revenue from reduced water sales, urban water suppliers will also incur costs associated with enhanced conservation and administrative programs and activities such as water production reporting as required by the proposed emergency regulation. Local governments may also see lower tax revenues from impacts the regulation may have on commercial, industrial and institutional users, but it is not anticipated that suppliers will focus on activities that would have tax revenue impacts if there are other water uses that can be reduced without such impacts. There are not anticipated to be any other nondiscretionary costs or savings imposed on local agencies besides the costs and revenue losses identified in this document.

Implementation of the proposed emergency regulation will result in additional workload for the State Water Board. Based on experience implementing the existing emergency regulation, the State Water Board estimates that two additional PYs (at a cost of \$254,000) will be needed to implement the updated emergency regulation. There is no separate cost or savings in federal funding to the state.

Fiscal Impacts: Water Supplier Revenue Losses and Compliance Costs

Fiscal impacts presented below are estimated impacts attributable to implementation of the proposed regulation after accounting for what water suppliers likely would have saved if the drought were to continue, but in the absence of the proposed regulation.

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Fiscal impacts are comprised of revenue losses and compliance costs. California Urban Water Supplier water rates are primarily comprised of a fixed and a variable component. The variable portion of the rate is based on the volume of water used by the customer and generally the fixed portion does not change with use. The variable portion of the rate therefore represents the unit cost of lost revenue, and the estimated decreased sales revenue is a function of the average variable water rate and the amount of decreased sales volume.

The net fiscal impacts would be absorbed by water suppliers as fiscal deficits in the short run, but would ultimately be passed along to water customers through higher service charges and rates. In the near-term, the analysis assumes water suppliers do not immediately adjust their rates in response to the decrease in water sales.¹

This analysis provides an estimate of fiscal impacts for two scenarios of achieved statewide water conservation rate.

- **Scenario 1: Statewide Water Savings of 21 percent.** Under this scenario, none of the 410 urban water suppliers subject to the new emergency regulation opts to self-certify supply reliability, and all suppliers retain their current conservation standards through January 31, 2017. Based on the conservation standards currently in effect, the State Water Board previously projected statewide water savings from June 2016 through January 2017 at 21 percent compared to the water use for the same period in 2013.
- **Scenario 2: Statewide Water Savings of 10 percent.** Under this scenario, conservation standards are assigned to suppliers based on the water supply reliability assessment and self-certification process. Water savings from June 2014 through January 2015 amounted to 9.6% compared to water use during the same period in 2013. Considering additional actions taken by suppliers and customers since then, including increased customer education and toilet and lawn replacement rebate programs, and the long-term conservation gains resulting from those actions, at the minimum it is expected that the statewide conservation level with self-certifications will reach 10 percent. It is likely that due to increased drought awareness and water-savings measures currently in place the statewide conservation will be greater, however 10 percent conservation rate is considered to be the lower end for purposes of estimating potential fiscal impacts of the proposed emergency regulation.

¹ This assumption is consistent with findings from a survey of retail water suppliers conducted by ACWA and CMUA, which found that only eight percent of surveyed water suppliers adjusted their rates in direct response to the drought. The overwhelming majority reported they would adjust their rates according to already adopted plans and schedules. Eventually, however, water suppliers will have to adjust their rates to recoup the revenue losses associated with the proposed regulation in order to restore their balance sheets.

Data and Calculations

Estimate of Water Savings from the Proposed Emergency Regulation

The State Water Board will continue to assess compliance with conservation standards based on the percentage water savings realized by urban water suppliers compared to the amount of water used during the same months in 2013. Using data from urban water supplier reports for June 2015-January 2016, as submitted by April 21, 2016,² the baseline statewide total potable water production in January and June through December 2013 was 4.623 million acre feet.

A review of the State Water Board's May 2014 survey results and a select group of Water Shortage Contingency Plans indicated that 53 out of 268 water suppliers responding to the survey had already formally invoked their Water Shortage Contingency Plans and implemented both mandatory restrictions on outdoor water use and prohibitions on runoff into streets and gutters. These 53 urban water suppliers represent approximately 10 million retail customers, which accounts for about 38 percent of the survey response by retail population. For this fiscal impact analysis, the Board assumes that these 53 urban water suppliers are already implementing conservation measures that are commensurate with the requirements of the proposed emergency regulation. The Board also assumes that all 268 of the survey respondents collectively are representative of the urban water supplier conservation actions being taken statewide. Based upon these assumptions, 62 percent of urban water use would be affected by adoption of the proposed regulation while conservation savings attained by 38 percent of urban water users are not attributable to the proposed regulations.

Determination of Average Water Rates

Data were compiled from a 2013 Water Rate Survey prepared by published by Raftelis Financial Consultants, Inc. and the California-Nevada Section of the American Water Works Association to develop a statewide average estimate for the variable portion of urban water rates. The 2013 Rate Survey included information on the average fixed and variable water rates for 46 California Counties based on survey responses from 216 urban water suppliers statewide. The average rate (variable portion only) for each represented county was weighted by county population to determine a statewide average rate of \$ 1,086.77 per acre-foot of water sold.

Compliance costs cover added expenses incurred from reporting requirements, and implementation and administration of conservation programs during the proposed regulation period. These costs are expected to range between \$50 and \$100 per acre-foot. The fiscal impact analysis uses \$75 per acre-foot for these costs.

Table 1 summarizes results for the entire State. Under Scenario 1, where suppliers retain their current conservation standard through January 2017, fiscal impacts are estimated at \$699 million, of which \$594 million would accrue to local governmental

² Data available at http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/2016may/uw_supplier_data050316.xlsx

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entities and \$105 million would accrue to investor-owned and mutual water companies. Approximately 94 percent of the fiscal impact is associated with lost sales revenue. The remaining impact is associated with expenditures by water suppliers to comply with the conservation requirements. Total water saved under Scenario 1 is projected to be approximately 971,000 acre-feet, as compared to the same period in 2013.

Scenario 2 results in smaller fiscal impacts, based on less water saved. Under this scenario, estimated fiscal impacts are less than half those under Scenario 1, at \$333 million. Total water savings under Scenario 2 are 509,000 acre-feet less than under Scenario 1, totaling 462,000 acre-feet of water saved during the course of the proposed regulation.

Table 1: Summary of Fiscal Impacts of Proposed Regulation

	Scenario 1: 21% Statewide Water Savings	Scenario 2: 10% Statewide Water Savings
Total Urban Water Savings (acre-feet) <i>(Compared to 2013 Baseline)</i>	971,000	462,000
Savings Attributable to Regulations (acre-feet) <i>(62% of Total Urban Water Savings)</i>	602,000	287,000
Fiscal Impacts to Suppliers in Mil \$		
Revenue Losses (\$1086.77/acre foot)	654	312
Compliance Costs (\$75/acre foot)	45	21
Total Implementation Cost	699	333
Fiscal Impact by Local Entity in Mil \$		
Public Water Agencies (local government) <i>(85% of Total Cost to Suppliers)</i>	594	283
Investor-Owned and Mutual Water Companies	105	50
Statewide Fiscal Impact in Dollars		
Per Capita	18.02	8.58

The fiscal impact estimates shown in Table 1 are not measuring the total revenue losses, costs or savings water suppliers are expected to incur during the drought. First, the estimates in Table 1 only cover the period from June 1, 2016 to February 26, 2017,³ not the full duration of the drought. Second, the fiscal impact estimates do not account for the savings in energy and chemical costs due to decreased operating expenses associated with not conveying, pumping, treating, and distributing water. Third, the

³ Pursuant to Water Code section 1058.5, an emergency regulation can last up to 270 days unless repealed earlier or readopted. Most of the fiscal impacts attributable to the proposed emergency regulation are based on reduced water use and the corresponding revenue shortfalls, which would only apply through January 31, 2017, but the proposed regulation does include some requirements, including reporting, that could remain in effect for the entire 270 days from the effective date of the regulation.

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analysis does not account for the avoided cost of supply augmentation that could be necessary if not for the conservation savings generated by the proposed regulations. Finally, as described above, this analysis does not account for potential fiscal impacts attributable to the drought but not to the proposed regulation.

The underlying assumptions used in this analysis and the prior analysis of the current regulation closely match revenue losses reported by water suppliers surveyed by the Association of California Water Agencies (ACWA) and the California Municipal Utilities Association (CMUA). The Board's prior analysis for its existing emergency regulation estimated the average loss in gross revenue per acre-foot would range between \$850 and \$975 per acre-foot. The median loss per acre-foot reported by the ACWA/CMUA survey respondents was \$780 per acre-foot and the mean loss was \$960 per acre-foot.

The fiscal impacts to local government shown in Table 1 are non-reimbursable costs under Government Codes 17500 et seq. Local revenue losses, which comprise about 90 percent of the fiscal impact, are not reimbursable under state law. Costs incurred by public water agencies to comply with the proposed regulation extension also are not reimbursable under state law because the public water supply agencies have existing authority to recover such costs from their customers.⁴

Discussion of Additional Economic Impacts⁵

In the longer run, the cost of the proposed regulation will be determined by weather conditions in 2016 and 2017. Significant uncertainties are associated with policies predicated on unknown futures. The proposed regulation is intended to address potential vulnerabilities, not probabilistic expectations. Thus, the proposed regulation must be evaluated against the reasonable possibility of continued drought conditions. In such a situation, extending the current regulation would help offset what would likely be even greater economic and fiscal impacts in the event the drought continues. If the drought continues, water saved as a result of the extension of mandatory conservation standards will become increasingly valuable. Under these circumstances, estimated 2016/2017 costs would be offset by similar or even greater costs that would be avoided next year. That is, if the drought continues, the proposed regulation will have helped to safeguard the state's future water supplies, thereby forestalling potentially dramatic economic consequences.

An example of the potential challenge facing California comes from Australia, which experienced persistent and severe drought across most of its continent between 2002 and 2012. Lasting 10 years, the "Big Dry" had profound impacts on Australia's

⁴ Per Government Code Section 17556, subdivision (d), costs incurred by a local agency to comply with a state mandate are not reimbursable if the "local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service. This subdivision applies regardless of whether the authority to levy charges, fees, or assessments was enacted or adopted prior to or after the date on which the statute or executive order was enacted or issued."

⁵ An economic impacts analysis is not required by Government Code Section 11346.5, subdivision (a)(6). However, the State Water Board has chosen to include this section to demonstrate the Board's careful consideration of the full societal impacts of the emergency regulation.

economy.⁶ Water curtailments imposed early in the drought in 2002-03 cut 1.6 percent from the gross domestic product (GDP) growth rate. Lower production in non-agricultural industries accounted for nearly 40 percent of the slowdown in GDP growth. Employment growth slowed by 0.8 percent, average wages fell by 0.9 percent, and exports dropped by 5 percent. Over the full course of the drought half a percentage point may have been shaved from Australia's GDP growth rate. A half-point reduction in GDP growth is significant; if this were to occur in California, cumulative state output would be reduced by close to half a trillion dollars over the same 10-year span of time. These costs would not necessarily be attributable to regulatory action in response to the drought, however, so much as to the fact that reduced water availability during a severe drought has significant economic impacts.

If wet and moderate temperature conditions return this year and next, the proposed regulation's water saving benefits will be relatively less valuable. However, even in this circumstance some of the proposed regulation's elements will increase water supply resiliency. For example, permanently replacing water-dependent landscaping with drought tolerant plots; retiring less water-efficient appliances and replacing them with water wise ones; and imposing new conservation-oriented water rate structures could serve to structurally reduce water demand and create new tools to address water scarcity as it emerges. As stated by the World Wildlife Fund,

*Tackling water scarcity in such a way that reduces long-term risks to a range of stakeholders can have multiple pay-offs in relation to a range of government policy priorities on poverty reduction, economic growth, food security and trade...*⁷

In addition, imposing statewide conservation requirements will forestall the adverse consequences of allowing agencies and water users to inadequately respond to water scarcity, and "free ride" on the actions of other more prudent agencies and water users. Quantifying the economic costs imposed by free riding on more prudent planning is beyond the scope of this analysis. However, based on experience from past droughts, the potential impacts next year and in the future from failing to impose prudent planning could be quite large.

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⁶ Further discussion of Australia's drought impacts can be found in a report by M.Cubed, et al., *Executive Order B-29-15 State of Emergency Due to Severe Drought Conditions: Economic Impact Analysis*, Prepared for the State Water Resources Control Board, May 2015.

⁷ WWF, "Understanding Water Risks," http://awsassets.panda.org/downloads/understanding_water_risk_iv.pdf, March, 2009.

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