Prohibition of Activities and Mandatory Actions During Declared 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 regional drought conditions in parts of the state and uncertainty regarding future conditions following five years of historic drought, and that adoption of the proposed emergency regulation is necessary to address the existing emergency and extend current restrictions in response to current conditions.

California has been dealing with the effects of an unprecedented drought for the last five years. So far this winter, California has experienced significant snow and rainfall, causing many of the state's reservoirs to shift to flood-control operations; however, some reservoirs remain critically low and groundwater storage remains depleted in many areas due to the continued impact of prolonged drought. Precipitation cannot be counted on to continue, and snowpack levels, while above average for the current time of year, are subject to rapid reductions as seen in 2016 and before. The full picture of the state's hydrologic water conditions for 2016/2017 remains unclear and subject to a number of variables at least through the end of the spring.

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 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 February 2016 Emergency Regulation offered modest adjustments to the initial supplier conservation standards to help respond to concerns about differences in climate across the state; growth experienced by urban areas; and significant investments that have been made to create new, local, drought-resilient sources of potable water supply. The updated and extended emergency regulation, which was responsive to Executive Order B-36-15, took effect February 11, 2016.

On May 9, 2016, Governor Brown issued Executive Order B-37-16 (EO B-37-16). It notes that while California has suffered through a severe multi-year drought, and that Californians have responded to the drought by conserving at unprecedented levels, severe drought conditions persist in many areas of the state. Issues of limited drinking water supplies, diminished water for agricultural production and environmental habitat, and severely-depleted groundwater basins have persisted, despite better precipitation during the 2015-16 water year. The Executive Order calls out four directives to help the state transition to permanent, long-term improvements in water use, including: using water more wisely, eliminating water waste, strengthening local drought resilience, and improving agricultural water use efficiency and drought planning. The State Water Board responded to this directive by updating the Emergency Regulation in May 2016 to include the self-certification process described below that recognizes supplier-specific supply conditions and drought levels.

On May 18, 2016, the State Water Board adopted Resolution No. 2016-0029 to amend and re-adopt the February 2016 Emergency Regulation. The amendments primarily focused on replacing the state-developed, demand-driven standards with locally

developed conservation standards based upon each agency's specific water supply reliability conditions (see Fact Sheet: *Staff Proposal for Extended Emergency Regulation for Urban Water Conservation, May 9, 2016*). The regulation requires individual urban water suppliers to self-certify the level of available water supplies they would have assuming three additional dry years, and the level of conservation necessary to assure adequate supply over that time. Under the regulation, urban water suppliers are required to reduce potable water use by a percentage equal to their projected shortfall in the event of three more dry years.

Barring readoption, the current regulation will expire automatically on February 28, 2017. Governor Brown's January 2014 drought declaration remains in effect. The State Water Board is proposing to continue the existing prudent and appropriate drought restrictions until the Governor determines the state's readiness to leave drought conditions. California has undergone more than five years of extreme drought with several of those years being the worst on record, including a snowpack in 2015 that was the smallest in 500 years.

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 January 31, 2017, the U.S. Drought Monitor classifies 50 percent of California, in southern and central California, as having drought conditions with 20 percent of California having severe or extreme drought. The U.S. Drought Monitor both shows significant improvement and highlights that a large portion of the state remains in drought by this metric.

Significant rain and snow is causing many of the state's reservoirs to shift to flood-control operations; however, some reservoirs remain critically low and groundwater storage remains depleted in many areas due to the continued impact of prolonged drought.

The 2017 water year started with significant water deficits from which the state as a whole has yet to recover. Below is information that demonstrates the disparate conditions across the state:

Reservoirs
As of February 2, 2017 nearly a quarter of reservoirs tracked on the Department of Water Resources Daily Reservoir Storage Summary are less than half-full. Most of these reservoirs are in Southern California. Listed are current storage levels in selected reservoirs, as of February 2, 2017: Shasta Lake, California's and the Central Valley Project's largest reservoir is at 77 percent of its 4.5 million acre-feet (MAF) capacity (114 percent of its historical average for this date). Lake Oroville, the State Water Project's principal reservoir, is at 79 percent of its 3.5 MAF capacity (120 percent of its historical average for this date). San Luis Reservoir is at 85 percent of its 2 MAF capacity (107 percent of average for this date). New Melones Reservoir is at 43 percent of its 2.4 MAF capacity (139 percent of average for this date). New Don Pedro Reservoir is at 88 percent of its 2 MAF capacity (127 percent of average for this date). Pine Flat Lake is at 62 percent of its 1 MAF capacity (130 percent of average for this date). Lake Isabella is at 38 percent of its 0.6 MAF capacity (126 percent of average for this date). Cachuma Lake is at 12 percent of its 0.02 MAF capacity (16 percent of average for this date). Lake Perris is at 38 percent of its 0.05 MAF capacity (47 percent of average for this date). Some reservoirs, in particular smaller ones, 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 February 2, 2017, the Sacramento Region cumulative precipitation is 198 percent of average for this date (8-Station Index), San Joaquin precipitation is 206 percent of average for this date, and Tulare Lake Region is 208 percent of average

for this date. While these levels are very encouraging, there are still large deficits to make up. The statewide summary of snowpack is 171 percent of average for this date, ranging from 145 percent of average in the Northern Sierra, 174 percent of average in the Central Sierra and 198 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. Snowpack levels, while above average for the current time of year, are subject to rapid reductions. The state's hydrologic water conditions for 2016/2017 remains unclear and subject to a number of variables at least through the end of the spring.

Groundwater

During dry years, groundwater contributes up to 46 percent of the statewide annual supply, and even more in extreme drought. During an average year California's 515 alluvial groundwater basins and subbasins contribute approximately 38 percent toward the State's total water supply. Even an extremely wet winter, however, will not raise groundwater levels to pre-drought elevations after five 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. Many municipal, agricultural, and disadvantaged communities rely on groundwater for up to 100 percent of their water supply needs. From January 2014 to November 2015 the number of households reporting water supply shortages (e.g., dry wells) doubled from 1,500 reported incidents to over 3,000 and anecdotal information suggests higher numbers.

Regional impacts include water shortages, over-drafted groundwater basins and land subsidence, dying trees and increased wildfire activity, diminished water for agricultural production, degraded habitat for many fish and wildlife species, and an increased threat of saltwater intrusion.

Precipitation and cool weather cannot be counted on to continue, and snowpack levels, while above average for the current time of year, are subject to rapid reductions as seen in 2016 and before. The full picture of the state's hydrologic water conditions for 2016/2017 remains unclear and subject to a number of variables at least through the end of the spring.

Need for the Regulation

To address the changing but on-going 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. This 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 directed 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 eased compared to the previous year in much of urban California. Consequently, the unprecedented mandatory demand-driven conservation standards in place since June 2015 transitioned to individualized conservation standards that suppliers defined based on their unique water supply and demand conditions.

The full picture of the state's hydrologic water conditions for 2016/2017 remains unclear and subject to a number of variables at least through the end of the spring. The proposed regulation amends and extends current requirements and allows urban water suppliers that did not previously submit a stress test the opportunity to do so. It also allows urban water suppliers to resubmit its stress test if the supplier experienced a change in its baseline water supply condition. If an urban water supplier chooses to submit a new stress test, it must be submitted to the State Water Board by March 15, 2017. Continuing the current standards helps prevent waste and unreasonable use of water and promotes 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 amends and readopts the May 2016 Emergency Regulation and maintains a number of the same requirements that apply currently, except as noted below. The proposed emergency regulation:

- Allows an urban water supplier to resubmit its water reliability assessment (stress test) by March 15, 2017, if that supplier experienced a change to its baseline water supply conditions.
- Allows an urban water supplier to submit a water reliability stress test by March 15, 2017, if it did not do so before.
- Prohibits any city, county, or city and county from imposing fines prohibited by section 8627.7 of the Government Code.
- Does not require additional small supplier reporting. Small suppliers are encouraged to maintain conservation measures and report leaks.

A key feature of the May 2016 regulation is that it allowed suppliers to define an individualized conservation standard based on the supplier's unique water supply and demand conditions. Each urban water supplier was able to evaluate its supply portfolio and self-certify the accuracy of its information; the State Water Board assigned each supplier a mandatory conservation standard equal to the percentage deficiency the supplier identified in its supply in compliance with certain specified assumptions. Suppliers that did not submit a water reliability certification and supporting information in compliance with the identified process and assumptions retained their March 2016 conservation standard in almost all cases. For those urban water suppliers not submitting or resubmitting a water supply stress test, the supplier's conservation standard in place on June 1, 2016, would remain in effect. For a supplier with a new conservation standard through the proposed regulation, it would become effective on March 1, 2017. Conservation standards would be in effect for 270 days or until the State Water Board finds that, "due to changed conditions it is no longer necessary for the regulation to remain in effect," whichever comes first. (Wat. Code, § 1058.5.)

The proposed regulation does not change the water supply reliability assessment or "stress test" currently in place under the existing emergency regulation. As in the May 2016 regulation, a mandatory conservation standard is based on a supplier's water supply insufficiency under a set of supply and demand assumptions over the next three years. Suppliers that would face a shortage after a third dry year are assigned a conservation standard equal to the amount of their shortage. Water supply reliability after the 2018-19 winter continues to be calculated as follows:

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

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

- Demand over the same period is based on each supplier's average total potable water production for 2013 and 2014.
- Suppliers 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 are based on any identified deficiency and are calculated as a percentage and rounded to the nearest whole percentage point.
- Suppliers self-certify the accuracy of their conditions and provide their analysis and supporting data. The State Water Board posts information provided by suppliers on its website and assigns 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 are required to make projections about how much water they would deliver to retail water suppliers under the three-dry-years scenario.

The prior conservation standards, including the credits and adjustments, continue to apply for suppliers that do not participate in the self-certification system.

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; irrigating outdoors during and within 48 hours following measureable rainfall; and serving drinking water other than upon request in eating or drinking establishments. The proposed regulation would also continue the requirement that operators of hotels and motels provide guests with the option of choosing not to have towels and linens laundered daily and that they prominently display notice of this option. It also maintains reporting requirements and enforcement tools to ensure compliance with the provisions of the regulation.

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. The propose regulation also adds a similar penalty for cities, counties, or cities and counties, for violations of similar statutory prohibitions.

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 amend and extend the mandatory conservation standards in recognition of the fact that some parts of the state have sufficient water to

meet current demand, while other regions do not and still need to maintain higher levels of conservation. For all regions it is necessary to promote appropriate conservation practices and work towards making conservation a California way of life. All changes are being made in response to current hydrologic conditions in California, the Governor's Executive Order B-37-16 and prior Executive Orders, and stakeholder input.

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 or reoccur next year 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. This 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 declared drought due to the need to 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.

The proposed regulation continues to prohibit serving water except 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. This prohibition and requirement promotes water conservation and a shared sense of responsibility among urban water users as well as out-of-state guests, minimizes the potential for waste and unreasonable use, and addresses the drought emergency by affecting practices that use water unnecessarily or where more efficient and less wasteful practices are available. 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 an alternative compliance mechanism for the handful of urban water suppliers with significant commercial agricultural operations within their service area.

Suppliers that do not submit a water supply reliability certification and supporting information to the State Water Board in compliance with section 864.5 of 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 grouped urban water suppliers based on residential gallons per capita per day (R-GPCD) water usage, and set 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 emergency regulation allowed 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.

The proposed emergency regulation continues to require that self-supplied commercial, institutional, and industrial entities target conservation at a level equal to the conservation standard set for the nearest urban water supplier or limit the number of

days they water outdoor turf and ornamental landscapes to no more than two days per week. 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 May 2016 regulation required small suppliers to submit a one-time report in December 2016 with monthly water production information and actions taken by the supplier to encourage or require its customers to conserve. Considering current water supply conditions are improved in much of the state, this information can reasonably be provided through separate, pre-existing annual reporting, which will streamline reporting for small suppliers.

The proposed emergency regulation is expected to achieve similar water savings as compared to the May 2016 emergency regulation. The state's 409 urban water suppliers reported savings from June 2015 through November 2016 of 2.35 million acre-feet of water, which equates to a 18-month cumulative savings of 22.6 percent relative to the 2013 baseline. Furthermore, water savings and compliance with the May 2016 Emergency Regulation remain positive. The supply reliability-based regulation that went into effect in June 2016 resulted in many suppliers having a zero percent conservation mandate, and nearly all of those suppliers are in compliance by having water production levels below 2013 levels (the baseline year for the emergency regulation). Thirty-four percent of suppliers reporting in November 2016 achieved water savings between 10 and 20 percent compared to the same month in 2013; these suppliers serve more than 14.5 million people. Forty-four percent of suppliers, serving more than 13.2 million Californians, reported water savings of 20 percent or more. The changes in the proposed regulation are reasonable given that some parts of the state no longer are currently experiencing drought conditions, yet they ensure a reasonable and practical assessment of local conditions, with appropriate caution, while hydrologic conditions for this year remain uncertain.

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 and subsequent emergency regulations 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 2.35 MAF of water has been saved between June 2015 and November 2016 (most recent data available) by the 90 percent of the population served by an urban water supplier; this equates to 22.6 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 it considered amendment and extension of the prior emergency regulation in May 2016, the State Water Board anticipated between 0.46 and 0.97 million acre-feet of water saved between June 2016 and January 2017, as compared with the same months in 2013, attributable to the emergency regulation with an option to set conservation standards based on self-certification of supply. Urban water suppliers reported 0.74 MAF of water saved between June 2016 and November 2016.

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 may, in some cases, entail restrictions on use by other customer classes, including residential indoor use or commercial, industrial and/or institutional uses. Giving suppliers the flexibility to identify where and how they can best achieve any 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 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 readopt the proposed amended 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.
- 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.
- Increased drought awareness and shared sense of responsibility among urban water users as well as out-of-state guests at California hotels, motels, restaurants and bars.

- 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 readopting the proposed regulations.

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Informative Digest

Summary of Existing Laws and Regulations

Modification and readoption of the May 2016 emergency regulation reflects that California is still experiencing severe drought in portions of the state. Although precipitation levels from October through December have been well above average in Northern California, parts of the state continue to be under drought conditions. Severe drought conditions over multiple years have decreased water levels in many of California's reservoirs and groundwater basins, and reduced flows in the state's rivers. Rains so far in parts of California this water year are above normal for this date. In some regions, however, the drought continues to present challenges including water shortages, over-drafted groundwater basins and land subsidence, dying trees and increased wildfire activity, diminished water for agricultural production, degraded habitat for many fish and wildlife species, and an increased threat of saltwater intrusion. Hydrologic conditions for the water year are not yet known, making it prudent to prepare for continued drought and consider adjustments when hydrologic conditions are better known this spring. The proposed emergency regulation would allow suppliers to keep their current conservation standard, based on their specific water supply and demand conditions, while those suppliers that did not already submit a water reliability certification and supporting information in compliance with the May 2016 emergency regulation would have another opportunity to do so. It also would allow suppliers to submit an updated reliability certification if there has been a change in their supply baseline. Overall, it ensures that current restrictions remain in effect without any lapse for an additional 270 days from the regulation's effective date or until the Board finds that, due to changed conditions, it is no longer necessary for the regulation to remain in effect, whichever comes first. (Wat. Code, § 1058.5.)

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 without considerable time delay. The State Water Board's May 2015 emergency regulation 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. The State Water Board has extended and amended the regulation since May 2015 to respond to updated conditions as appropriate. 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, as are cities, counties, or

cities and counties. (Civ. Code, § 4735; see also *id.*, §§ 4080, 4100, 4110, 4150, and 4185; Gov. Code, § 8627.7.) 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 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, homeowners' associations, and cities, counties, and cities and counties 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 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 avail themselves of 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 any 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 drought conditions that formed the basis of the Governor's emergency proclamations continue to exist in portions of the state, and the fact that snowpack and reservoir conditions for the end of the water year remain subject to significant change.

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. Proposed section 864 retains the prohibition on serving water except 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 a water supplier regulated by section 864.5 or 865 are directed to continue to target conservation at a level equal to the conservation standard set for the nearest urban water supplier. This section, as proposed, 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. Finally, proposed section 864 prohibits any city, county or city and county from imposing fines as prohibited by section 8627.7 of Government Code for failure to water a lawn or for having a brown lawn.

Proposed Emergency Regulation Section 864.5

Proposed section 864.5 allows urban water suppliers to base a mandatory conservation standard on their own water supply reliability situation under a set of supply and demand assumptions over the next three years through a supply reliability assessment (stress test). Suppliers would be (or continue to be) assigned a conservation standard equal to the amount of their shortage, if any, after a third dry year, expressed as a percentage. Suppliers that did not submit a water reliability certification and supporting information retain their demand-based conservation standard in almost all cases. The proposed regulation allows suppliers that did not previously submit a stress test the opportunity to do so. It also allows an urban water supplier to resubmit its stress test if there has been a change in its baseline water supply condition. If an urban water supplier chooses to submit a new stress test, it must be submitted to the State Water Board by March 15, 2017.

Like the May 2016 regulation, section 864.5 still requires, among other requirements, urban water suppliers to assume that no temporary change orders that increase the availability of water to any urban water supplier are issued in the next three years. Permittees and licensees may petition the Board for temporary urgency changes to their permits or licenses under section 1435, et seq. of the Water Code. Because the Board issues temporary change orders in response to specific petitions if certain conditions are met, it would be premature for water supply forecasts to assume that future petitions will be filed or granted. However, requiring this conservative assumption does not mean that future approvals will not or should not be granted, or that past approvals should not have been granted. The regulation does not consider the merits of past temporary change orders, which were lawfully issued based on the information available at the time.

Proposed Emergency Regulation Section 865

Proposed section 865 maintains the existing demand-based 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 in compliance with the regulation. 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 identifies conservation standards for urban water suppliers that do not comply with proposed section 864.5. Initially conservation standards were allocated across eight tiers of increasing levels of R-GPCD water use, with adjustment for certain localized conditions. This approach considered 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 were 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 were in place for many water suppliers as of March 1, 2016.

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

Finally, proposed section 865 eliminates additional drought reporting by smaller urban water suppliers, defined as any distributor of a public water supply, whether publicly or privately owned and including a mutual water company. Annual reporting by small suppliers already occurs through the other State Water Board programs. Small suppliers are encouraged to maintain conservation measures and report leaks.

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 conservation standards imposed pursuant to proposed section 865 for those suppliers that do not comply with proposed section 864.5, 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 receive a conservation standard pursuant to proposed section 864.5, 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

Authority: Wat. Code, § 1058.5.

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; Gov. Code, § 8627.7; Wat. Code, §§ 102, 104, 105, 275, 350, 10617; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463.

For Section 864.5

Authority: Wat. Code, § 1058.5.

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For Section 865

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.

References: Cal. Const., Art., X § 2; Wat. Code, §§ 100, 102, 104, 105, 174, 186, 187, 275, 350, 1051, 1122, 1123, 1825, 1846, 10617, 10632; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463.

Mandate on Local Agencies or School Districts

The State Water Board has determined that readoption of section 863 does not impose a new mandate on local agencies or school districts. The section is generally applicable law.

The State Water Board has further determined that readoption of section 864. 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 and Executive Order B-29-15. On November 13, 2015 the Governor again extended this suspension by Executive Order B-36-15 until the drought state of emergency is terminated. 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 up to one additional PY (at a cost of $127,000) 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 under current conditions in the absence of the proposed regulation.

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 a range of achieved statewide water conservation. Based on the water conservation rate achieved under the emergency conservation regulation currently in effect, the State Water Board projects statewide water savings from February through October 2017 at 18.6 percent compared to the water use for the same period in 2013. With some fluctuation in conservation performance expected, the statewide water savings could range from 15 percent up to 20 percent.

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-November 2016, as submitted by December 20, 2016,[2] the baseline statewide total potable water production from February through October 2013 was 5.31 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

[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.

[2] Data available at http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/docs/2017jan/uw_supplier_data010417.xlsx

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 readoption 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, where suppliers maintain their current conservation performance through October 2017. Fiscal impacts are estimated at between $575 million and $766 million, of which $489 million to $651 million would accrue to local governmental entities and between $86 million and $115 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 between approximately 0.797 million and 1.062 million acre-feet, as compared to the same period in 2013.

The fiscal impact estimates shown in Table 1 are not measuring the total revenue losses, costs or savings water suppliers are expected to incur due to drought conditions. First, the estimates in Table 1 only cover the period from February 1, 2017 to October 31, 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

[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 October 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.

decreased operating expenses associated with not conveying, pumping, treating, and distributing water. Third, the 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 drought conditions but not to the proposed regulation.

Table 1: Summary of Fiscal Impacts of Proposed Regulation

	15% Statewide Water Savings	20% Statewide Water Savings
Total Urban Water Savings (acre-feet) *(Compared to 2013 Baseline)*	789,028	1,064,038
Savings Attributable to Regulations (acre-feet) *(62% of Total Urban Water Savings)*	494,778	659,703
Fiscal Impacts to Suppliers in Mil $		
Revenue Losses ($1086.77/acre foot)	538	717
Compliance Costs ($75/acre foot)	37	49
Total Implementation Cost	575	766
Fiscal Impact by Local Entity in Mil $		
Public Water Agencies (local government) *(85% of Total Cost to Suppliers)*	489	651
Investor-Owned and Mutual Water Companies	86	115
Statewide Fiscal Impact in Dollars		
Per Capita	14.81	919.75

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 Impacts[5]

In the longer run, the cost of the proposed regulation will be determined by weather conditions in 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 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 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

[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.

[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.

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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