

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

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 drought conditions and that adoption of the proposed emergency regulation is necessary to address the emergency. California is currently in the fourth year of a significant drought resulting in severe impacts to California's water supplies and its ability to meet all of the demands for water in the State. 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 CEQA 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 orders 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, excluding wholesalers, 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.

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

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.

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 or in response to drought conditions that exist, or are threatened, in a critically dry year immediately preceded by two or more consecutive below normal, dry, or critically dry years. 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 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 and 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 currently classifies almost the entire state of California as experiencing severe to exceptional drought conditions. In most years, California

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

receives about half of its precipitation in the months of December, January and February, with much of that precipitation falling as snow in the Sierra. Only a handful of large winter storms can make the difference between a wet year and a dry one. In normal years, the snowpack stores water during the winter months and releases it through melting in the spring and summer to replenish rivers and reservoirs. However, warm and relatively dry weather conditions this year have reduced the amount of snowpack in California's mountains. As of April 27, 2015, Sacramento Region cumulative precipitation was 76 percent of average for that date (8-Station Index). However, most of that precipitation fell as rain, and Northern Sierra snow water content remained extremely low, at only 1 percent of normal for that date. Similarly, Central and Southern Sierra snowpack is at 6 and 4 percent of normal, respectively. This is California's lowest Sierra snow water content in recorded history. Due to the continuing dry conditions, on April 3, and April 17, 2015, the State Water Board issued Orders of Curtailment of Surface Water Diversions in the Antelope Creek and Deer Creek Watersheds respectively. On April 23, Notices of Curtailment of Water Right Diversions were issued in the Scott River Watershed. Again, on April 23, Notices of Curtailment of Surface Water Diversions were issued to water right holders in the San Joaquin River Watershed.

In this fourth year of record dry conditions, storage in California's reservoirs is below average levels. Current storage levels in key reservoirs reflect this trend. Shasta Lake, California's and the Central Valley Project's (CVP) largest reservoir, is at 59 percent of its 4.5 million acre-feet (MAF) capacity (69 percent of its historical average for this date). Lake Oroville, the State Water Project's (SWP) principal reservoir, is at 51 percent of its 3.5 MAF capacity (63 percent of its historical average for the date). Folsom Reservoir is at 59 percent of its 1 MAF capacity (80 percent of average for this date). New Melones Reservoir is at 21 percent of its 2.4 MAF capacity (33 percent of average for this date). New Don Pedro Reservoir is at 41 percent of its 2 MAF capacity (57 percent of average for this date).

Local, state, and federal water agencies across California have limited supplies due to the drought. In response, those agencies have taken various actions, including reducing or eliminating contract water deliveries and implementing mandatory and voluntary conservation efforts.

Need for the Regulation

To address the increasing severity of the drought emergency, Governor Brown directed the State Water Board to impose restrictions on water suppliers to achieve a statewide 25 percent reduction in potable urban water usage through February 2016, compared to the amount used in 2013. In this fourth year of exceptional drought, immediate action is needed to meet the Governor's directive, to prevent the waste and unreasonable use of water, and to conserve remaining water supplies. Data collected by the State Water Board under the existing emergency regulation demonstrate that urban water conservation efforts should be increased to minimize the risk of severe supply

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

shortages should drought conditions persist. Without adequate reserves, water suppliers will be unable to address the drought emergency. The emergency regulation quickly and effectively implements and enforces mandatory water conservation measures to help preserve the State's supplies during the ongoing drought emergency. The proposed regulation will help prevent the waste 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 based on the severity of the current drought conditions that all reasonable efforts be taken to prevent the waste or unreasonable use of water. 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 regulation, as updated, consists of four main types of requirements: a prohibition on certain irrigation practices; an order that all urban water suppliers, as defined, reduce their total potable water production by a defined percentage; an order that other distributors of public water supply, as defined, reduce potable water consumption; and an order for all self-supplied commercial, industrial, and institutional water users to reduce potable water usage. The proposed regulation also includes reporting requirements and new tools to ensure compliance.

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 the 25 percent 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. April 2015 surveys revealed the lowest Sierra snow water content in California's recorded history. 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

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

severe and prolonged droughts. Drought conditions have already forced the State Water Board to curtail 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. Many water supply systems face a present or threatened risk of inadequate supply. Should drought conditions persist into 2016, 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 the 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 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 is 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 such severe 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 prohibits 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 (BSC), the agency responsible for building standards. Coordination with the BSC is necessary to implement Executive Order B-29-15's directive to prohibit irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or microspray systems. This requirement meets the definition of a building standard under section 18909 of the Health and Safety Code. 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 uses less potable water than many current practices, this prohibition regarding new construction provides an opportunity for reduction of potentially wasteful practices.

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

Reducing potable water use supplied by urban water suppliers is necessary to promote conservation, minimize the potential for waste and unreasonable use, and address the drought emergency because mandatory restrictions have proven to be effective at reducing water use. The proposed regulation allows suppliers discretion as to how they meet their reduction targets. This 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 includes alternative compliance for the handful of urban water suppliers with significant commercial agricultural operations within their service area. Each urban water supplier that provides 20 percent or more of its total potable water production for commercial agricultural use meeting the definition of Government Code section 51201, subdivision (b) may subtract the amount of water supplied for commercial agricultural use from its potable water production total, provided that the supplier complies with the Agricultural Water Management Plan requirement of paragraph 12 of the Governor's April 1, 2015 Executive Order.

Grouping urban water suppliers based on residential per capita daily water usage (R-GPCD), and setting different conservation standards for each grouping based on that relative use, promotes water conservation and equity by ensuring that those with the highest levels of residential per capita water usage make greater reductions. Tiering also promotes equity by recognizing past conservation gains, setting lower conservation standards for communities that have already reduced their R-GPCD to low levels. The regulation provides for the handful of communities not experience surface water shortage to apply for a lower conservation standard. All Californians need to do their part to bring their water use to reasonable levels that reflect the severity of this drought.

Smaller urban water suppliers and self-supplied commercial, industrial and institutional users also are being required to do their part to meet the Governor's call for a statewide 25 percent reduction in potable urban water use and reduce potentially wasteful or unreasonable uses of water during this drought emergency. It is necessary and appropriate that these suppliers and users either reduce potable water usage by 25 percent or reduce outdoor watering of ornamental landscapes to no more than two days per week. The alternative limit on outdoor water use is anticipated to promote largely equivalent levels of conservation as the 25 percent performance standard because outdoor irrigation accounts on average for 44 percent of urban water use, because outdoor irrigation is generally more discretionary than other types of use, and because studies have shown that urban landscapes are often over-watered. It is important to note that in some areas of the state, irrigation of outdoor ornamental landscapes can account for as much as 80 percent of the water use. Limiting the number of days per week of outdoor irrigation increases conservation and reduces the likelihood of over-irrigation and visible runoff. Giving these smaller suppliers and self-supplied users two different options allows them to identify and make reductions from the least essential and the most wasteful practices considering their general size and financial limitations compared to larger suppliers.

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

The requirement for urban water suppliers with 3,000 or more service connections to provide the State Water Board with monthly potable water production figures, estimates of residential gallons per capita per day (R-GPCD), details of outdoor use restrictions, local compliance and enforcement actions, and information on commercial, industrial and institutional water use is necessary so that the State Water Board can track the effectiveness of the proposed regulation and urban water conservation actions. Such monitoring reports will document the effectiveness of existing conservation efforts and inform whether further actions are necessary to address the drought emergency.

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. Based on aggregated monthly reports from California's 411 urban water suppliers, 2013 urban potable water use for the 90 percent of the population served by an urban water supplier was approximately 5.2 million acre feet statewide. While the Board does not have comparable data on the 10 percent of the population served by small water suppliers, and water use by self-supplied commercial, institutional, and industrial users, it is assumed that their use is equivalent to the population served. Accordingly, total 2013 urban water use is estimated at approximately 5.8 million acre-feet. Therefore, a 25 percent reduction in such use would equate to savings of approximately 1.45 million acre-feet of water. However, since the Board's is uncertain of the usage and savings likely to be achieved by small water suppliers and self-supplied commercial, institutional, and industrial users, the Board has been using 1.3 million acre-feet as a conservative savings estimate based solely upon reductions by urban water suppliers.

The State Water Board expects that most of this savings would come from reduction in or elimination of irrigation of ornamental landscapes with potable water, which currently is estimated to consume around 44 percent of statewide urban use. The requirement that urban water suppliers meet their specified conservation standard would, 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 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.

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. Based on the most recent data submitted pursuant to the existing emergency water conservation regulation, current conservation efforts have already lead to an approximately nine percent reduction in total potable urban water use as compared to 2013. This shows both that significant reductions have already been made by current conservation efforts and that the state as a whole still has much to do in attaining the 25 percent reduction. Some communities have made greater conservation gains than others and won't have as far to go to reach

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

their specified conservation standard, but it is expected that all suppliers will do their part to achieve the statewide savings.

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. Conservation savings of up to 29 percent have been observed. 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. At the time of adoption of the existing emergency regulation, the State Water Board anticipated up to a 20 percent reduction in outdoor water use, totaling 0.48 million acre-feet, as calculated below.

- Total urban water use for outdoor irrigation: 3.9 MAF
- Urban water use for outdoor irrigation affected by the proposed regulation:
 $3.9 \times 0.62 = 2.4$ MAF
- Estimated conservation savings from adoption of the proposed regulation:
 $2.4 \times 0.2 = 0.48$ MAF

Based on data collected pursuant to the existing emergency regulation, approximately 0.38 MAF of water was actually saved between August 2014 and March 2015 as compared to the same period in 2013. This savings, however, was realized by all urban

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

water suppliers, including those that were not required to make changes pursuant to the regulation (i.e., those that already had the same or similar requirements in place at the time the regulation was adopted). Thus, it is reasonable to attribute only approximately 62 percent of the 0.38 MAF of water savings to actions associated with the existing emergency regulation. This equates to approximately 0.24MAF of water saved through January 2015 as a result of adoption of the existing water conservation emergency regulation. As noted above, the State Water Board expects to achieve the called-for 1.3 million acre-feet of conservation due to the proposed emergency regulation through the end of February 2016.

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:

- 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 2016 is another dry year.
- 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.

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

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Informative Digest

Summary of Existing Laws and Regulations

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 existing emergency regulation constitutes the first statewide directive to urban water users to undertake specific actions to respond to the drought emergency and the first statewide directive setting enforceable conservation performance standards for urban water suppliers; consequently, the proposed regulation is consistent and compatible with existing regulations on this subject. 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) findings of drought emergency. The proposed emergency amendment and readoption of section 864 directs individuals statewide to refrain from engaging in certain activities and contains other commercial sector restrictions to promote conservation to meet the drought emergency. The proposed emergency amendment and readoption of section 865 directs urban water suppliers to meet specified conservation standards and to report

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

information to the State Water Board. The proposed emergency adoption of section 866 provides the State Water Board with additional 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 three years, and the likelihood that drought conditions will continue.

Proposed Emergency Regulation Section 864

Proposed section 864 prohibits 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 prohibits 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 not delivered by drip or microspray systems. This section also prohibits 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. Finally, under this section, commercial, industrial and institutional users not served by either type of water supplier regulated by section 865 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.

Proposed Emergency Regulation Section 865

Proposed section 865 directs urban water suppliers to meet specified conservation standards and to report specific information to the State Water Board. Section 865 groups the larger urban water suppliers by R-GPCD and requires the suppliers in each group to meet a specified percentage conservation standard during the months of June 2015 through February 2016, as compared to the same months in 2013. Those suppliers whose R-GPCD are lower and therefore have less ability for dramatic reductions without impacting indoor uses required for human health and safety have relatively lower conservation standards, though all suppliers are assigned some level of required reductions to meet the Governor's call for a 25 percent statewide reduction in potable urban water use and to minimize the potential for waste and unreasonable use of water. This section provides alternative compliance mechanisms for the handful of urban water suppliers with significant commercial agricultural operations in their service area. This section also requires smaller urban water suppliers, defined as any distributor

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

of a public water supply, whether publicly or privately owned and including a mutual water company, but not meeting the definition of urban water suppliers in water code section 10617, to either limit the number of days that outdoor watering of turf and ornamental landscapes is allowed to no more than two days per week or to reduce their total potable water production by 25 percent as compared to 2013.

Proposed Emergency Regulation Section 866

Proposed section 866 provides the State Water Board with additional 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. A conservation order would be an enforceable order by the Board requiring the recipient to take specified actions immediately. An informational order issued by the Board would require the recipient to submit additional information relating to water production, water use or water conservation. Both conservation orders and informational orders issued by the Board would be subject to reconsideration by the Board. Violations would be subject to enforcement pursuant to Water Code section 1846.

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

For Section 865

Authority: Wat. Code, § 1058.5.

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

For Section 866

Authority: Wat. Code, § 1058.5.

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

References: Cal. Const., Art., X § 2; Wat. Code, §§ 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 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 865 and 866 does 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.)

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 Resources Control 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. The proposed emergency regulation falls under this suspension.

Public Agency and Government Fiscal Impact Analysis

Summary

Ongoing and increased urban water conservation will result in reduced water use by the customer, which in turn will result in reduced water sales and lost revenue for urban water 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.

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 costs of the proposed regulation on local agencies. It is estimated that water suppliers that are local agencies will incur approximately 85% 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 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.

Implementation of the proposed updated 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.

Fiscal Impacts to Public Water Supply Agencies

Net Revenue Losses

The proposed regulation's fiscal impact is the net revenue losses incurred by water agencies due to the effective percentage reduction in deliveries plus the reporting costs incurred by those agencies. The net revenue loss is equal to the product of the amount of required savings and the water price less variable cost, again, plus required reporting costs. The net revenue losses 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. Table 1 summarizes the net revenue loss estimate excluding reporting costs. For purposes of analyzing impacts on public agencies separately from investor-owned utilities and mutual companies, the impacts on those two groups are shown separately. State Water Board data on water sales shows that public agencies

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

delivered about 85 percent of water sold in 2013 and revenues have been allocated proportionately on usage.

Table 1. 2015 Statewide Net Revenue Impacts

Statewide Impacts	
Total Statewide AF Savings Compared to 2013	1,300,000
Statewide AF Saved in 2014 by Local Actions	500,000
Statewide AF Saved through the Emergency Regulation	800,000
Utility Net Revenue Loss (\$) ¹	\$500 to \$600 million
Public Agencies Net Revenue Loss	\$425 to \$510 million
¹ Impacts rounded to nearest \$100 million.	

Data and Calculations

The baseline for this analysis is the effective water conservation percentage for each urban supplier in 2015 assuming continued conservation at 2014 levels. The fiscal effect is dominated by shortfalls in water agency net revenues due to the effective conservation requirements. This net revenue shortfall is conservatively assumed to be uncompensated by an increase in charges to water users during the effective period of the regulation. Price increases or service charges would be required to ensure the water agency remains revenue neutral. Given the inelastic demands for water used in this report, if water price increases were used to obtain conservation, the price increases needed to hold the agency revenue neutral might not be large enough to meet the conservation goals; some additional rationing or mandatory conservation would still be required.

Eventually, water suppliers would pass the net revenue loss onto their customers to raise money to pay fixed costs, debt service, overhead and similar expenses. At this time, consumer’s discretionary income might be reduced. Both the net revenue losses and the consumer surplus losses ultimately will be borne by water users, since water utilities will have to adjust their service charges and rates over time to recover the forgone net revenue. This revenue would have gone to pay fixed enterprise costs. Municipal water service is extremely capital intensive and the majority of revenue is used to pay the fixed costs of plant, equipment, and workforce. Because most urban water suppliers in California recover a significant percentage of their fixed costs through their volumetric rates, a reduction in the sale of water will create a fiscal imbalance unless service charges and rates are adjusted to recover the forgone net revenue. The analytic approach relies on the following logic:

1. Calculate 2015 effective water conservation percentage for each water agency, defined as the mandated conservation percentage relative to 2013, less the percent conservation achieved in 2014 relative to 2013.

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

2. The additional quantity of water savings required times the retail commodity rate, less variable costs of potable water production is the loss in water net revenue. This is a fiscal impact and an economic cost.¹
3. Calculate the resulting loss in consumer surplus; this is an economic cost with uncertain fiscal effects. Some of this loss represents consumer costs paid to reduce water use, but some is also the disutility or unhappiness of consumers who must sacrifice some of their enjoyment of their water.
4. For institutional water users primarily composed of government agencies, the cause-and-effect response to mandatory shortage is not the same as for households or commercial and industrial customers. For many institutional users, landscape water use might be reduced. While agencies could lay off staff or reduce spending on other operational inputs in response to temporary shortage, the need for agencies to maintain staffing and service levels set through agency budgeting processes suggests that the short-term economic effects of shortage would be limited. Additionally, public sector agencies are often unable to reduce payroll or staff levels, and may be more likely to run temporary budget deficits or to seek a temporary budget augmentation to offset cost increases.

To undertake these analytical steps, State Water Board data was used for the amount of water savings achieved by suppliers from June 2014 to February 2015, compared to 2013, for the same period.² That is, the proposed regulation's fiscal effects do not include savings achieved in 2014 relative to 2013, based on the assumption that the 2014 savings levels would continue in 2015 even without the proposed regulation. These data do not include March through May production, and it is assumed that the proposed regulation will lead to water supply reductions through February 2016.

It was assumed that without the proposed regulation, savings achieved by water suppliers in 2014 would have continued into 2015. As a result, the proposed regulation's impact would be the "Conservation Standard" less the "Percent Saved (Jun-14 - Feb-15, compared to 2013, gallons)." The analysis did not include any additional water supply cuts, beyond the "Percent Saved (Jun-14 - Feb-15, compared to 2013, gallons)" that

¹ In mandatory shortages lost revenues are equal to reduced end user water expenditures. End users do not pay the cost of water they are not allowed to use, but they also do not receive the benefit of the water they would have bought. Therefore the net welfare effect is the lost water revenue plus the lost consumer surplus of end users. However, since most water utilities are public agencies, they will be made fiscally whole at some future date to be determined by those individual agencies. Even investor-owned utilities, which in California operate under a revenue adjustment mechanism designed to maintain revenue neutrality, are likely to recover the lost revenues in future rates.

² California Water Boards, "Urban Water Suppliers and Proposed Regulatory Framework Tiers to Achieve 25% Use Reduction"; http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/docs/emergency_regulations/urban_water_supplier_tiers.pdf

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

would be caused by the drought in June 2015 through February 2016, even without the proposed regulation.³

Additional information on expected 2015 use, and sector-specific consumption, was extracted from the California Department of Water Resources' Urban Water Management Plans (UWMP) database, which includes sector data for 363 agencies – for which costs by sector can be calculated – with no sector data available for 48 agencies. There are 11 agencies in the UWMP database that are not on the Board's list; some of these are wholesale providers.

The analysis also relied on Black and Veatch (B&V) 2006 water rate data, which provided typical commodity charges and monthly service costs. If a supplier had no commodity charge it was assumed to be \$1 per hundred cubic feet (CCF).⁴ These rates were updated to 2015 dollars using the nominal rate increase factors from Table 2 below. For agencies for which no B&V rate data were available the following default water prices were used:

Table 2: Default Rate Increases and Water Prices by Region

	Nominal rate increases, 2006 to 2014	Default price, \$/AF
San Francisco Bay	2.00	\$1,500
South Coast	1.80	\$1,200
Central Coast	1.80	\$2,000
Others	1.14	\$500

Water rate data for some more-affected agencies were obtained directly from their rate structure information. The agencies with current data in the analysis are:

- Carlsbad Municipal Water District
- Coachella Valley Water District
- Contra Costa Water District
- City of Corona
- Cucamonga Valley Water District
- Desert WA
- Eastern Municipal Water District
- Elsinore Valley Municipal Water District
- City of Fullerton

The revenue loss was adjusted to remove variable cost savings assumed to be \$200 per acre-foot in most regions, and \$250 per acre-foot in the South Coast, Central Coast and Bay Area. These cost savings are reduced energy and operating expenses associated with not conveying, pumping, treating and distributing the water. The

³ It is probable that some water suppliers would have undertaken more conservation in 2015 than they did in 2014. Water supplier drought management plans typically are defined in terms of stages of use restriction. Stages of use restriction are triggered by prevailing supply and storage conditions. Given the lack of rainfall this winter it is reasonable to expect that some water suppliers (perhaps even many) would have moved into a higher use restriction stage this summer, regardless of the proposed regulation. However, it was not possible to assess this within the timeframe of this study.

⁴ A CCF is the standard "billing unit" used by most urban water agencies, equal to 748 gallons.

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

resulting net revenue loss is equal to the product of the amount of required savings and the water price less variable cost. It is unaffected by the shape of the demand curve for water, i.e., how responsive water demand is to changes in rates does not affect this calculation.

Reporting Costs

The estimated cost of reporting as would be required by the proposed emergency regulation was determined by multiplying the total number of urban water suppliers that would be required to submit monthly water production reports by the estimated average time to compile and submit water production information and by an average staff cost per hour. Based on information collected by the State Water Board pursuant to the existing emergency regulation there are 411 urban water suppliers that are subject to the reporting requirements. The maximum amount of time to prepare and submit the water production data is estimated to be 4 hours per urban water supplier per month. The estimated average total hourly staff costs of urban water supplier staff required to complete the certification form is \$65 per hour or \$260 per monthly report. For smaller distributors of a public water supply the proposed regulation requires a one-time report. This report is estimated to take the same amount of time to prepare as the reports filed monthly by the urban water suppliers. i.e. \$260. Based on the best available information the Board estimates that 2674 distributors of a public water supply would be required to file the one-time report. Therefore, the additional reporting cost to those suppliers is estimated to be $\$260 * 2674 = \$695,240$.

If adopted, the term of the proposed emergency regulation would be 270 days or almost 9 months. Therefore, the total maximum reporting costs to urban water suppliers as a result of the proposed regulation is estimated at \$961,740 (411 urban water suppliers multiplied by the \$260 cost per monthly report multiplied by 9 months). Accordingly, the estimated reporting cost for both urban water suppliers and the smaller distributors of a public water supply is \$961,740 plus \$695,240, for a total of \$1,656,980.

Total Implementation Cost

The total estimated cost of implementing the proposed regulation is \$511,656,980, which is the sum of estimated lost revenues to urban water suppliers and the estimated reporting costs as described above.

Discussion of Additional Economic Impacts⁵

No one knows how the future will unfold. While the state may return to “normal,” or even above average, hydrologic water conditions in 2016, such an outcome is far from certain. The proposed regulation is intended to address potentially significant economic vulnerabilities - risks - rather than statistical or probabilistic expectations. If the drought

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 and the attached economic analysis report to demonstrate the Board’s careful consideration of the full societal impacts of the emergency regulation.

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

and high temperatures continue in California, water saved as a result of the order will become increasingly valuable. Under these circumstances, costs estimated to be associated with the proposed regulation this year could be more than exceeded by greater adverse impacts next year if the proposed regulation had not been issued. That is, if there is a fifth, or even sixth, year of water scarcity the proposed regulation will have safeguarded the state's future water supplies, thereby forestalling potentially dramatic economic consequences. From this perspective the proposed regulation serves to reduce the long-term risk of even more significant water curtailments, a potentially valuable insurance policy. Said differently, the proposed regulation provides an "option value" of enlarging the scope for future actions to address the possibility of an ongoing drought.⁶

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.⁷ 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 next year, 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...*⁸

⁶ Quantifying the value of this option would require a deeper analytic assessment than is possible within the time frame provided for this economic analysis.

⁷ Further discussion of Australia's drought impacts are in Appendix A.

⁸ WWF, "Understanding Water Risks,"

http://awsassets.panda.org/downloads/understanding_water_risk_iv.pdf, March, 2009.

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

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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