What Can We Learn From How the State Responded to the Last Major Drought?

Summary

For the second consecutive year, the state is experiencing extremely low rates of precipitation. As we prepare for what could be an extended period of dry conditions, it is helpful to review how the state responded to the last major drought. Such information can inform—and thereby potentially improve—the state's current and ongoing response to developing conditions. In this report, we summarize the major activities, spending, and policy actions undertaken by the state to respond to the severe drought that occurred from 2012 through 2016. We also describe current conditions, and highlight some key lessons the Legislature can learn from previous efforts to help guide its response to the emerging drought. (We will provide our analysis of the Governor's May Revision drought spending proposals in a future document.)

LAO

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STATE EXPERIENCED MAJOR DROUGHT LAST DECADE

Severe Drought Lasted From 2012 Through 2016. California's most recent drought included the driest consecutive four-year stretch since statewide precipitation record-keeping began—2012 through 2015—with 2014 representing the third driest year on record. The effects of these trends were compounded by higher than normal temperatures. Warmer temperatures contribute to the severity of drought conditions by leading to more precipitation falling as rain rather than snow, faster melting of winter snowpack, greater rates of evaporation, and drier soils. Annual statewide temperatures exceeded the historical average every year during the last drought, and 2015 and 2014 were, respectively, the first and second warmest years on record.

Drought Impacts Were Widespread, but Varied by Sector. The severity of the drought's impacts varied significantly across the state because of differences in both water needs and access to alternative water sources. For example, while the drought led to a decrease in deliveries from the state and federal water systems and a corresponding decline in agricultural production, farmers and ranchers were able to moderate impacts somewhat by employing short-term strategies, such as fallowing land, purchasing water from others, and—in particular—pumping groundwater. In contrast, some rural residential communities—mainly in the Central Valley—struggled to identify alternative water sources upon which to draw when their domestic wells went dry. Multiple years of warm temperatures and dry conditions also had severe effects on environmental settings across the state, including degrading habitats for fish, water birds, and other wildlife; promoting conditions that resulted in bark beetles killing millions of trees; and contributing to more prevalent and intense wildfires. For urban communities, the primary drought impact was a state-ordered requirement to use less water, including mandatory constraints on the frequency of outdoor watering.

MAJOR RESPONSE ACTIVITIES AND SPENDING

State Spent $3.3 Billion for Drought Response Activities, Mostly for Longer-Term Water Supply Projects. Figure 1 on the next page summarizes the state funding provided in response to the drought from 2013-14 through 2016-17. As shown, of the $3.3 billion in total appropriations, about two-thirds—$2.2 billion—was for activities to increase water supplies. In most cases, the types of activities funded in this category—such as grants to local entities to build infrastructure like water recycling or wastewater treatment plants or facilities to remediate contaminated groundwater—were not to provide immediate drought assistance. Rather, because these projects typically take several years to complete, they were more likely to enhance long-term supplies and build greater resilience for subsequent droughts. In contrast, the spending in other categories—emergency response ($734 million), water conservation ($287 million), and environmental protection ($78 million)—was more targeted for addressing and ameliorating urgent drought effects on people, agriculture, and the environment.

State Funded Wide Variety of Emergency Response Activities. Emergency response spending spanned numerous efforts, with enhanced fire protection activities—such as for additional firefighters and equipment—representing the largest category ($384 million). During the drought period, the state experienced four wildfires that ranked among the top 20 for greatest area burned in California, and two fires that were among the state's 20 most destructive. This was partly due to extremely dry conditions combined with a

large number of dead and dying trees across the state, particularly in the southern Sierra region. (As shown in the figure, the state also provided $41 million to remove some of those trees.) The second largest emergency response spending category ($115 million) was for addressing drinking water emergencies affecting thousands of households—mostly in disadvantaged communities in the southern San Joaquin Valley—for whom domestic wells went dry or became contaminated as groundwater levels dropped due to heavy rates of agricultural pumping. For example, the State Water Resources Control Board (SWRCB) provided emergency funding to more than 180 mostly small water systems for projects such as connecting with another system or drilling new or deeper wells. (In addition to the drought spending shown in the figure, the state provided additional funding to address drinking water shortages in 2017-18 and 2018-19.)

Water Conservation Spending Intended to Reduce Water Usage. As shown in the figure, the state allocated a total of $287 million to increase water conservation and efficiencies across both the urban and agricultural sectors, as well as at state facilities and wildlife refuges. While such efforts were intended help ameliorate water shortages in the 2012 to 2016 drought, they also will provide some ongoing benefits for the current and future droughts. This is because many of the expenditures—such as for rebates to remove residential lawns and grants to improve the efficiency of agricultural irrigation systems—have resulted in permanent reductions in water usage. For example, the Department of Water Resources (DWR) estimates that state rebate programs for urban households and businesses saved over 201 billion gallons of water, including by converting nearly 605,000 square feet of grass to more drought-tolerant landscapes and installing over 155,000 water saving devices. As evidence of these effects, statewide urban water usage in 2020 remained significantly below 2014 levels.

Spending for Environmental Protection Was to Address Urgent Conditions for Fish and Wildlife. Most of the $78 million in environmental protection spending was to respond to emergency conditions affecting fish

Figure 1

State Drought Response Appropriations

2013-14 Through 2016-17 (In Millions)

Activity	Amount
Water Supply	
Support groundwater management and cleanup	$843
Improve/increase water recycling, wastewater treatment, stormwater management, and desalination	609
Fund Integrated Regional Water Management projects	473
Improve drinking water infrastructure	311
Subtotal	($2,235)
Emergency Response	
Expand/enhance fire protection	$384
Address emergency drinking water needs	115
Provide food and other assistance to drought-affected communities and farmworkers	99
Conduct statewide drought assistance, monitoring, and response	55
Remove and dispose of dead trees	41
Monitor/enforce water rights and conservation regulations	20
Various other activities	21
Subtotal	($734)
Water Conservation	
Increase urban water efficiency and conservation	$126
Increase agricultural water efficiency and conservation	110
Fund innovative water efficiency technologies	30
Conduct conservation outreach and public messaging	23
Increase water efficiency at state facilities and wildlife refuges	28
Subtotal	($287)
Environmental Protection	
Emergency fish and stream activities	$70
Eradicate water hyacinth	4
Study and model flows	3
Subtotal	($78)
Total	**$3,334**

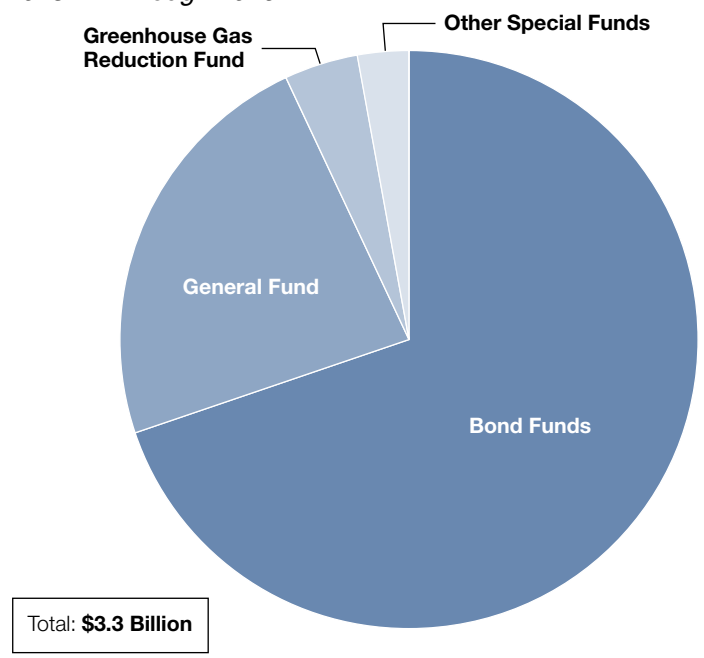
and wildlife. Activities included trucking hatchery-produced fish downstream—rather than releasing them in the typical upstream locations—to avoid migratory hazards and improve survival rates; rescuing and relocating at-risk fish and other aquatic species, both from watersheds with deteriorated water conditions, as well as from hatcheries rendered unusable due to heat or disease; responding to increased incidents of human-wildlife contact; and intensive monitoring of how drought conditions were affecting at-risk, threatened, or endangered fish and wildlife species.

Majority of Funding Was From Voter-Approved General Obligation Bonds. Figure 2 highlights that the significant majority—$2.3 billion, or about 70 percent—of the state's drought response activities from 2013-14 through 2016-17 were supported by voter-approved general obligation bonds. These funds were dedicated primarily to the water supply expenditures highlighted in Figure 1. Most of these bond funds (roughly $1.9 billion) were from Proposition 1, a large water bond that voters approved midway through the drought in November 2014. Additional bond funds were from Proposition 84, approved in 2006. The state's General Fund supported close to one-quarter (about $770 million) of the state's drought response expenditures, including for emergency response, water conservation, and environmental protection activities. The remainder was from 13 different special funds for various efforts that aligned with each fund's allowable uses, with the largest share coming from the state's Greenhouse Gas Reduction Fund to support water conservation efforts.

Figure 2

State Drought Funding by Source

2013-14 Through 2016-17



Multiple State Departments Involved in Drought Response Activities. While certain state departments—specifically DWR, the California Department of Fish and Wildlife (CDFW), SWRCB, and the Office of Emergency Services (OES)—played particularly large roles in managing the state's response to the last drought, several others also assumed specific responsibilities. Figure 3 on the next page shows the 13 different state departments that received a share of the funding highlighted in Figure 1, along with a description of the major drought response activities they undertook. To help coordinate statewide efforts, Governor Brown convened an interagency Drought Task Force in 2013 that met weekly throughout the drought.

MAJOR POLICY CHANGES

In addition to increased funding, the state's response to the 2012 to 2016 drought included both temporary and permanent policy changes. (For a detailed list of significant drought-related policy changes implemented through the beginning of 2016, please see the Appendix of our report, *The 2016-17 Budget: The State's Drought Response*.)

Drought Response Included Numerous Short-Term Policy and Regulatory Changes. Because certain drought conditions require immediate response but do not continue forever, many policy changes undertaken between 2012 and 2016 were authorized on a temporary basis, often by gubernatorial executive order or emergency departmental regulations. Such actions included expediting certain drought-response projects and activities by exempting them from meeting some state contracting requirements and from undergoing environmental impact reviews typically required by the California Environmental Quality Act (CEQA). For example, DWR and SWRCB approved certain transfers of water between buyers and sellers, and CDFW undertook several restoration and upgrade projects on its lands, all without conducting CEQA reviews. In addition, state regulatory agencies exercised their regular—nonemergency—authority to respond to drought conditions. For example, SWRCB ordered and enforced that less water be diverted from some of the state's rivers and streams, and CDFW closed some rivers and streams to fishing in order to protect fish in low water flows. SWRCB also approved (with some modifications) several petitions from the federal Bureau of Reclamation and DWR to temporarily relax flow and water quality standards within the Delta and thereby

Figure 3

Drought Response Responsibilities Spread Across Multiple State Departments

Department	Major Drought Response Activities
CalFire	Conducted fire protection activities; removed and disposed of dead trees.
CCC	Conducted conservation outreach and messaging.
CDFA	Allocated grants to increase agricultural water efficiency.
CDFW	Conducted emergency fish and stream activities; improved water efficiency at wildlife refuges.
CSD	Assisted drought-impacted farmworkers.
DGS	Increased water efficiency at state facilities.
DSS	Provided food to drought-affected communities.
DWR	Allocated water conservation grants; assisted with drinking water shortages; supported and monitored groundwater use and management; installed/removed Delta emergency rock barriers; managed State Water Project allocations and transfers; managed Save Our Water campaign; allocated Integrated Regional Water Management grants.
EDD	Provided job training in drought-affected communities.
HCD	Assisted and relocated drought-affected households.
OES	Coordinated statewide drought response; provided emergency drinking water; allocated grants to remove dead trees on public lands.
Parks	Conducted water hyacinth eradication activities.
SWRCB	Provided emergency drinking water; made emergency improvements to drinking water systems; adopted/monitored/enforced water rights and conservation regulations; allocated bond-funded grants for various water supply projects.

CalFire = California Department of Forestry and Fire Protection; CCC = California Conservation Corps; CDFA = California Department of Food and Agriculture; CDFW = California Department of Fish and Wildlife; CSD = Department of Community Services and Development; DGS = Department of General Services; DSS = Department of Social Services; DWR = Department of Water Resources; EDD = Employment Development Department; HCD = Department of Housing and Community Development; OES = Office of Emergency Services; Parks = Department of Parks and Recreation; and SWRCB = State Water Resources Control Board.

allow the federal Central Valley Project and State Water Project to modify the volume and timing of reservoir releases. These steps were taken with the intent of both maximizing the amount of water the projects could deliver and addressing the needs of migrating fish.

Improving Water Conservation Was Major Focus During Drought. One of the most publicized short-term policies implemented during the 2012 to 2016 drought was Governor Brown's call for a 25 percent statewide reduction in urban water use. In response to direction from an executive order, SWRCB passed emergency regulations implementing temporary water conservation requirements for urban potable water users, including certain limitations on outdoor irrigation. Specific reduction requirements varied across water supply agencies from 4 percent to 36 percent compared to 2013, depending on previous usage levels. The restrictions were modified in June 2016 and then ended in April 2017 when statewide water conditions improved and Governor Brown lifted the statewide emergency proclamation. Consequently, in 2018, the Legislature enacted legislation that surpassed previous statutory water reduction targets to better position local water agencies to withstand future dry periods. Previous legislation had established a goal of reducing statewide urban water use by 20 percent between 2009 and 2020, which had already been met and exceeded by 2018. Chapters 14 (SB 606, Hertzberg) and 15 (AB 1668, Friedman) of 2018 included requirements that urban water agencies develop and meet new water use efficiency objectives based on their local conditions, and added new components to urban and agricultural water management planning activities. The legislation requires local agencies to meet their new water use objectives by 2027.

State Also Adopted Some Permanent Policy Changes to Respond to Droughts. In addition to its actions on water conservation, California adopted a number of other permanent statutory changes in response to the 2012 to 2016 drought that will affect statewide water usage and drought resilience on an ongoing basis. Of these, the most significant was the Sustainable Groundwater Management Act of 2014—Chapters 346 (SB 1168, Pavley), 347 (AB 1739, Dickinson), and 348 (SB 1319, Pavley)—which represented California's first comprehensive statewide requirement to monitor and operate groundwater basins to avoid depletion. Local agencies still are in the early stages of implementing the requirements of this act, with the goal of balancing the extraction from and replenishment of the most critically overdrafted groundwater basins by 2040. (Other high- and medium-priority basins are required to reach sustainability by 2042.) Other notable permanent policy changes adopted during the drought included authorizing SWRCB to consolidate small water systems that consistently fail to meet drinking water standards, as well as requiring that surface water rights holders measure and report on the amount of water they divert from the state's streams and rivers. Both of these changes were included in Chapter 27 of 2015 (SB 88, Committee on Budget and Fiscal Review). Additionally, DWR (working through the regulatory authority of the California Water Commission) increased state requirements for water efficiency in new and retrofitted outdoor landscapes.

While it was adopted a few years after the drought ended, Chapter 120 of 2019 (SB 200, Monning) was developed partially in response to the drinking water shortages that were exacerbated during the drought. That legislation established the Safe and Affordable Drinking Water Fund, which provides up to $130 million annually from the Greenhouse Gas Reduction Fund for efforts to provide safe drinking water for every California community. (For more information on that legislation and its implementation, please see our November 2020 report, *Expanding Access to Safe and Affordable Drinking Water in California—A Status Update*.)

UPDATE ON CURRENT CONDITIONS

State Is Experiencing Another Multiyear Dry Period. California experienced below average precipitation in 2020—receiving only roughly 60 percent of the rain and snow that falls in a normal year. So far, 2021 is shaping up to be even drier. As of May 10, 2021, precipitation levels were tracking at 48 percent of average for the year in the Northern Sierra region, 49 percent in the mid-Sierra San Joaquin region, and 36 percent further south in the Tulare Basin region. At this point in the "water year" (which measures precipitation from October through September each year), 2020-21 represents the third driest year on record, with little chance of significant additional precipitation on the horizon until the fall. Current snowpack levels are roughly 9 percent of normal for this time of year for the Northern and Central Sierra regions, and only 4 percent of normal for the Southern Sierra. Moreover, all of the major reservoirs across the state currently contain less water than historical average levels this date, with the two largest—Shasta and Oroville—at 56 percent and 50 percent of average levels, respectively. In many of the state's major rivers—including the Feather and American Rivers, and the inflow into Shasta Lake—current flow rates are currently tracking below the runoff levels for the same date in 2014 and 2015.

State Has Taken Some Initial Steps in Response to Dry Conditions. In March 2021, DWR announced that the State Water Project expects to deliver just 5 percent of requested supplies to its water contractors this year, down from an initial allocation of 10 percent announced in December. (The federal Central Valley Project announced to its agriculture service water contractors that they may not receive *any* water deliveries this year.) Around the same time, SWRCB mailed early warning notices to approximately 40,000 water right holders, urging them to plan for potential shortages by reducing water use and adopting conservation measures.

Governor Declared Drought Emergency, Proposes $5 Billion in New Spending. On April 21, 2021, the Governor declared a regional drought emergency in Mendocino and Sonoma Counties due to extremely dry conditions in the Russian River watershed. That proclamation also directed state agencies to take actions to prepare for worsening conditions statewide, such as by working with local governments to identify watersheds, communities, public water systems, and ecosystems that may require coordinated state and local actions to address drought impacts. On May 10, 2021, the Governor expanded this emergency proclamation to apply to an additional 39 counties, and directed SWRCB to consider modifying requirements for reservoir releases and water diversions in order to balance the water needs of households, farmers, and the environment. In addition, the Governor announced that his May Revision budget proposal contains $5.1 billion over four years in water-related expenditures, including for both long-term water supply infrastructure projects and for immediate response activities.

LESSONS FOR THE CURRENT DROUGHT

Administration Recently Released Report Summarizing Lessons From the Previous Drought. In March 2021, the California Natural Resources Agency (CNRA) released a legislatively required report that summarized the following information pertaining to the 2012 to 2016 drought: (1) major drought response activities undertaken, (2) major challenges encountered, (3) efforts in which the state achieved notable successes, (4) efforts in which the state needs to make improvements, and (5) recommendations for improving the state's response in the future. The report focuses on recommendations that should be implemented by state departments and does not concentrate on suggested legislative actions. Nevertheless, it provides a helpful starting place

for discussions regarding how the state should respond to the escalating conditions it currently is confronting. Some of the key recommendations included in the report are to:

- Provide earlier notice and longer lead times to local agencies for applying for state financial assistance.
- Dedicate staff to ongoing drought preparedness and response work.
- Better account for wildlife needs before and during droughts.
- Improve the quality and timeliness of forecasting and data.
- Restore forest health in upper watersheds.

Key Issues for the Legislature to Consider in Confronting the Current Drought. The impacts California experienced and actions it undertook during the most recent severe drought can and should help inform how the state responds to the emerging drought. For example, the state can seek to replicate successful practices, avoid previous mistakes, and target past areas of concern for early intervention before they become crises. Along these lines, Figure 4 summarizes some key issues for the Legislature to keep in mind as it considers how to address increasingly dry conditions, and we discuss each point in greater detail below.

- ***Taking Action Soon Can Help the State Address Issues Before Conditions Worsen.*** While the severity and length of the emerging drought still is unknown, taking actions now can prepare the state for a more effective and expedient response if conditions escalate. For example, state agencies could begin to accept and review applications for potential water transfers among users now, before they are needed. Spending time reviewing such proposals and their potential impacts ahead of time could avoid some delays if it becomes clear that such transfers are necessary. Similarly, the Legislature could direct that state departments get contracts in place now for anticipated needs, such as for local providers of emergency drinking water supplies in well-dependent San Joaquin Valley communities.
- ***Coordination and Efficiency of State Departments Is Key.*** As discussed earlier, numerous state departments were involved in responding to the 2012 to 2016 drought, including several departments that undertook similar efforts. For example, as shown in Figure 3, three different departments—DWR, SWRCB, and OES—were funded to respond to drinking water shortages, and two departments—OES and the California Department of Forestry and Fire Protection—received funding for removing dead trees. To most effectively respond to immediate and emerging challenges, the state should ensure that departments have clearly defined responsibilities, avoid duplication, and ensure that all state entities are working in close

Figure 4

Lessons to Inform the State's Response to the Current Drought

- ✓ Taking Action Soon Can Help the State Address Issues Before Conditions Worsen
- ✓ The Coordination and Efficiency of State Departments Is Key
- ✓ Large Water Supply Investments Typically Are Not Able to Address Urgent Conditions
- ✓ Because of Its Flexibility, the General Fund Is Usually the Best Fit for Emergency Response Activities
- ✓ Ongoing Drinking Water Challenges Become Compounded During Droughts
- ✓ Rural, Vulnerable Communities Are Particularly Affected by Drought
- ✓ The State Has the Responsibility to Help Protect Fish and Wildlife
- ✓ Drought Conditions Increase the Risk of Severe Wildfires

coordination. This could involve formalizing and providing explicit funding to support an interagency drought task force, as was established by Governor Brown during the last drought and recently reconvened by Governor Newsom. This issue was also highlighted in CNRA's recent report, which called for hiring dedicated drought response staff at key departments.

- ***Large Water Supply Investments Typically Not Able to Address Urgent Conditions.*** Because large projects—such as water recycling, treatment, and desalination facilities—take time to plan, permit, finance, and construct, initiating new water supply projects during a drought generally will not help to alleviate current conditions. As such, if the Legislature is most concerned with addressing pressing water shortages and emergency conditions, providing funding for large, long-term projects is not the most effective strategy. However, such projects could help to improve resilience to subsequent droughts. As noted, the state spent heavily on water supply projects during the previous drought. While comprehensive data are not yet available on how those investments increased overall statewide water supplies, the funded projects should help put the communities that received grants and undertook projects in better positions to weather the emerging drought.
- ***Because of Its Flexibility, General Fund Usually Best Fit for Emergency Response Activities.*** While bonds were the largest source of state funds for drought-response activities between 2013-14 and 2016-17, most of that funding was used for longer-term water supply projects. This is because bond language typically limits expenditures to certain types of capital projects and, as noted, those generally take a long time to plan and implement. In contrast, the state used General Fund monies to support most emergency response activities, with additional—and lesser—support from numerous special funds. In general, this approach was due to General Fund dollars not being as limited in how and when they can be spent, making them more flexible and accessible for meeting varied and evolving needs. As such, in the coming months—and, potentially, years—the General Fund likely will be a key funding source for addressing urgent drought conditions.
- ***Ongoing Drinking Water Challenges Become Compounded During Droughts.*** Currently, over one million Californians lack access to safe and affordable drinking water that meets established water quality standards. These conditions worsened during the last drought, when thousands of wells serving residential homes dried up or became affected by contaminants that emerged in the underlying aquifers. While the Legislature established a new program and fund to make progress on these issues, as the drought worsens it should be prepared for problems to again become exacerbated by dry conditions and increased agricultural groundwater pumping. Steps the state could consider taking include (1) more regular monitoring of groundwater quality and levels in at-risk areas to identify emerging problems, (2) pre-positioning emergency drinking water supplies in areas where problems are anticipated, and (3) providing additional staff and funding to respond when problems develop.
- ***Rural, Vulnerable Communities Particularly Affected by Drought.*** The communities most impacted by drinking water challenges during the last drought were small and rural; many were farmworker communities located in California's Central Valley. Moreover, many of the communities that lost—or remain vulnerable to losing—access to safe drinking water contain high proportions of both lower-income and Latino residents. In addition to drinking water impacts, decreased agricultural production due to limited water supplies can negatively impact the economies in the affected regions. Because the last drought revealed that these vulnerable communities and populations are disproportionately affected, the Legislature may want to focus spending and assistance

specifically on mitigating such impacts. This is particularly true given that many households in this region likely already are struggling from the impacts of coronavirus disease 2019 (COVID-19), which research shows also had disproportionate economic impacts on lower-income communities of color. While the state did provide some assistance specifically for farmworker communities during the last drought, not all of it was well-targeted. For example, CNRA's recent drought report notes that there was relatively low interest in a state program that provided temporary relocation due to drought-related job losses, because many residents—understandably—preferred to remain in their communities or make more permanent arrangements to settle elsewhere.

- ***State Has Responsibility to Help Protect Fish and Wildlife.*** As was evident during the last drought, the impacts of dry conditions are not limited to humans; they also have significant harmful effects on the environment. Moreover, certain drought response decisions that benefit humans have the potential to amplify negative impacts for fish and wildlife. One example of this dynamic occurred during the last drought when water was released from the Shasta reservoir for urban and agricultural users early in the summer. This resulted in less and warmer water in the Sacramento River later in the summer, which directly contributed to the death of 95 percent of juvenile winter-run Chinook salmon in both 2014 and 2015—practically eliminating two out of three existing cohorts of this endangered species. Because of its responsibility to manage public trust resources—including fish, wildlife, and waterways—on behalf of all Californians, the Legislature will need to continually balance the needs of both humans and the environment when making water management and drought response decisions. For example, the Legislature could consider providing resources to CDFW for additional staff and equipment to closely monitor streams where temperatures and flows became dangerous for sensitive fish during the last drought. This would allow the department to identify problems and intervene before conditions become too dire.
- ***Drought Conditions Increase Risk of Severe Wildfires.*** The last drought revealed that not only does a lack of precipitation result in water shortages, it also has major impacts on the state's forests. An estimated 129 million trees died in California's forests between 2010 and 2017 due to a combination of low moisture, high temperatures, and resulting bark beetle infestations. These dead trees provided fuel for and likely exacerbated several severe wildfires during and following the drought. Given these previous trends, the Legislature should probably be prepared for the state to experience a need for increased tree removal and fire response activities—and associated costs—if the drought continues. The state may also want to conduct increased monitoring on tree conditions in potential high-risk areas to identify trends and intervene early, such as by removing some dead and dying trees before fires are ignited.

CONCLUSION

Significant State Funding Surplus Could Help Support Drought Response, but Certain Spending Limitations Exist. Unlike in 2012, when the state budget was still recovering from the great recession, California is entering this new drought in a very healthy fiscal condition. Recent economic data show that the state's General Fund revenues are tracking significantly higher than originally forecast, even compared to the Governor's January budget estimates. These positive trends provide additional resources that the Legislature could choose to dedicate to drought response activities as part of the 2021-22 budget—as the Governor is proposing—and/or in future months

and years depending upon how conditions develop. Of course, the Legislature will want to consider funding such activities within the context of its numerous other budget priorities, including helping California households and businesses recover from the economic effects of the COVID-19 pandemic, mitigating the growing risk of severe wildfires, and addressing long-standing statewide issues like housing affordability and homelessness. Additionally, as we discuss in our recent report, *The State Appropriations Limit*, constitutional provisions likely will place significant constraints on how the state can spend surplus funding in 2021-22 and future years. However, spending for some drought-related activities could be exempted from these limitations under certain circumstances, such as if funding is dedicated towards capital outlay projects. Given that the Governor has declared a drought emergency, spending also could be exempted if the Legislature appropriates funds with a two-thirds vote and the funds are deposited in a dedicated emergency response fund.

Previous Experiences Can Provide Lessons for Addressing Both Current and Future Droughts. Current conditions in the state's reservoirs, streams, and rivers are concerning. The state, however, is becoming increasingly experienced in responding to dry conditions. The events of 2012 through 2016 provided California with a recent opportunity to learn how to effectively anticipate, identify, and respond to the widespread impacts that droughts can have on the state's residents, agricultural sector, and environment. Moreover, climate scientists suggest that droughts will become more frequent and intense in California as the planet continues to warm. As such, learning from and improving upon past successes and challenges will be important not only for the coming months—and, potentially, years—as the current dry period continues, but also for the inevitable future droughts the state will have to confront.

LAO PUBLICATIONS

This report was prepared by Rachel Ehlers, and reviewed by Brian Brown and Anthony Simbol. The Legislative Analyst's Office (LAO) is a nonpartisan office that provides fiscal and policy information and advice to the Legislature.

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