



## State and Regional Water Boards

They Must Do More to Ensure That Local Jurisdictions' Costs to Reduce Storm Water Pollution Are Necessary and Appropriate

Report 2017-118



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March 1, 2018

2017-118

The Governor of California  
President pro Tempore of the Senate  
Speaker of the Assembly  
State Capitol  
Sacramento, California 95814

Dear Governor and Legislative Leaders:

As requested by the Joint Legislative Audit Committee, the California State Auditor presents this audit report concerning the State Water Resources Control Board (State Water Board) and Regional Water Quality Control Boards' (regional boards) storm sewer system permits. To curb pollution from storm water runoff, the State Water Board and regional boards issue permits to local jurisdictions, imposing requirements to reduce pollutants in their storm water. However, the costs that local jurisdictions, including cities, counties, and other public entities, incur to comply with these requirements can be significant. This report concludes that the State Water Board and regional boards can implement policy changes and provide guidance to local jurisdictions to help ensure that these costs are necessary and appropriate.

When imposing storm water requirements, the regional boards did not adequately consider the costs that local jurisdictions would incur to comply with these requirements. Specifically, the regional boards did not always consider the overall cost of storm water management that local jurisdictions paid. Also, the State Water Board and regional boards lack consistent information on the actual costs that local jurisdictions incur to comply with storm water requirements because the State Water Board has not issued guidance on how local jurisdictions should track and report their costs. Additionally, the regional boards did not obtain all relevant information on some water bodies before imposing storm water requirements, potentially resulting in local jurisdictions incurring excessive costs or failing to meet water quality goals.

Further, the State Water Board imposed a statewide trash reduction policy that forced some local jurisdictions to spend resources to reduce trash in their water bodies rather than to address pollutants that pose a greater threat in their area. Finally, because of significant costs to address storm water pollution, the demand for grants from the State for storm water projects has far exceeded available funding.

Respectfully submitted,

ELAINE M. HOWLE, CPA  
State Auditor

## Selected Abbreviations Used in This Report

Central Valley	Central Valley Regional Water Quality Control Board
Los Angeles	Los Angeles Regional Water Quality Control Board
San Francisco Bay	San Francisco Bay Regional Water Quality Control Board
USEPA	U.S. Environmental Protection Agency

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# Summary

## Results in Brief

Storm water runoff is a significant source of water pollution, particularly in urban areas. Pollution from storm water runoff occurs when water from rain and melting snow flows over impervious surfaces such as paved streets and building rooftops and enters water bodies, including streams, rivers, lakes, and oceans, through storm drains. As it flows, the water collects a variety of pollutants, which the storm drain system subsequently deposits into local water bodies. To curb the harmful effects of pollution from storm water runoff, federal law requires states to set restrictions on the pollutants that can be discharged into water bodies and requires local jurisdictions, including cities, counties, and other public entities, to obtain storm sewer permits. The permit requires local jurisdictions to monitor their storm water discharge and take action to reduce the pollutants to safe levels. The permits also implement pollutant control plans, which the regional boards develop to improve water bodies harmed by pollution. In California, storm water pollution is regulated by the State Water Resources Control Board (State Water Board) and nine regional water quality control boards (regional boards). We reviewed the regulatory activities of the State Water Board and three regional boards: the Central Valley Regional Water Quality Control Board (Central Valley), the Los Angeles Regional Water Quality Control Board (Los Angeles), and the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay).

The effort required to comply with pollutant control plans established by regional boards can be significant, as projects can be expensive and take considerable time to complete. For example, Los Angeles estimated that one pollutant control plan it developed would cost 41 local jurisdictions a total of about \$1.4 billion in construction costs to build the needed devices to reduce the discharge of metal pollutants into the Los Angeles River, and an additional \$153 million in annual maintenance costs after completing construction of the devices. Consequently, it is important that regional boards identify and understand local jurisdictions' existing costs before imposing additional requirements.

We would expect that in developing pollutant control plans, regional boards would adequately consider the costs local jurisdictions would incur to comply with the pollutant control plans and would determine the overall cost of storm water management to those jurisdictions so as to make sure that such costs are not prohibitive. However, we question the support the regional boards used for eight of the 20 pollutant control plans we reviewed.

## Audit Highlights . . .

*Our audit of the regulation of storm water pollution by the State Water Board and three regional boards highlighted the following:*

- » *Efforts required to comply with pollutant control plans established by regional boards can be significant—projects can be expensive and take considerable time to complete.*
- » *For some of the 20 pollutant control plans we reviewed, the regional boards inadequately considered the costs local jurisdictions would incur to comply with the plans and did not determine the overall cost of storm water management to those jurisdictions.*
- » *Although local jurisdictions must annually report to the regional boards their actual and projected costs in meeting storm water requirements, the State Water Board has not provided guidance on how to track or report that information, and, as a result, reported costs have been inconsistent.*
- » *Regional boards have established some pollutant control plans without obtaining key information on how the conditions of the specific water body affect pollutants.*
- » *A statewide policy prohibiting discharging trash into water bodies has caused some local jurisdictions to expend resources to address trash instead of pollutants that are of greater concern to their jurisdictions.*

For some of the pollutant control plans we reviewed, the regional boards based their cost estimates on information pertaining to other parts of the State or did not document the sources for the cost estimates they used when developing the plans' pollutant limits—the numeric goals the regional boards establish to achieve desired water quality. Further, for 12 of the 20 pollutant control plans, the regional boards did not consider all of the costs that local jurisdictions had previously incurred as a result of other storm water management requirements.

The State Water Board and the regional boards lack consistent information on the costs that local jurisdictions incur in complying with storm water requirements. Federal regulation requires local jurisdictions to annually report their actual and projected costs for meeting storm water requirements to the regional boards. However, the State Water Board has not provided guidance to local jurisdictions on how to track or report their storm water management expenditures, and as a result, the costs that local jurisdictions reported have been inconsistent. San Francisco Bay does not collect cost information from local jurisdictions in its region, and staff at that regional board said that they do not do so because the inconsistent reporting from local jurisdictions makes the information difficult to use. Central Valley and Los Angeles do collect expenditure information annually, but they also reported that the inconsistencies among the local jurisdictions' cost reporting make the information difficult to use.

The State Water Board has long been aware of this inconsistency, but it has yet to correct the problem. A 2005 study it commissioned noted the inconsistencies in cost information and recommended that the State create cost-reporting guidance for local jurisdictions to allow accurate cost analyses and comparisons. The chief deputy director at the State Water Board reported that it has not done so because it lacks expertise in municipal finance and accounting, yet it has not sought such expertise. Until such guidance is prepared and disseminated, the information that regional boards receive from local jurisdictions will continue to be inconsistent, and the regional boards will not be able to thoroughly evaluate the effects of the requirements they impose on local jurisdictions or local jurisdictions' ability to pay for those efforts.

In addition to lacking an understanding of the costs of the pollutant control plans they establish, the regional boards have established some pollutant control plans without obtaining key information on the water bodies they regulate, particularly information on how the conditions of the specific water body affect pollutants. Obtaining this information is important, as it can have a substantial effect on the pollutant control plans the regional board ultimately develops. For example, a study conducted by a group of cities,

including the city of Los Angeles, showed that a pollutant level in the Los Angeles River could be less strict than the maximum pollutant level established by the federal government and still be safe. As a result, the Los Angeles board changed the maximum level for this pollutant from the federal level to the level identified in the study. Los Angeles estimated that as a result of the change, the expected costs to comply with the pollutant control plan would be \$340 million to \$1.3 billion less. However, in five of the 20 pollutant control plans we reviewed, the regional boards did not obtain all relevant information about the related water bodies before establishing pollutant limits. We found that tailoring the pollutant limits in a pollutant control plan for the water body often resulted in levels that were more appropriate and more cost-effective.

The State Water Board's adoption of a statewide policy prohibiting local jurisdictions from discharging trash into water bodies has caused some local jurisdictions to expend resources to address trash rather than pollutants of greater concern. That policy has forced local jurisdictions to prioritize efforts to reduce trash before addressing other pollutants. The State Water Board believes that a statewide trash policy is necessary because trash is a serious issue in California and will become more problematic if not addressed promptly by all local jurisdictions. However, many local jurisdictions in California do not have harmful levels of trash in their waters, including all local jurisdictions in the Central Valley region. Yet the trash policy will require these local jurisdictions to dedicate resources to reduce trash in water bodies even though their efforts would be better directed toward pollutants that currently pose greater threats.

Finally, because of the significant costs to address storm water pollution, the demand for grants from the State for storm water projects has far exceeded the funding available. In 2016 the State Water Board received grant applications requesting \$322 million, and it awarded \$105 million for 27 projects. In addition, cities may not be able to meet the funding requirements of grants, such as providing matching funds and committing resources for continued operation and maintenance. The most recent state grant program pursuant to a recent bond measure requires a minimum 50-percent match from the local jurisdiction, with certain exceptions.

## Key Recommendations

### *Legislature*

To promote the establishment of appropriate pollutant limits, the Legislature should amend state law to direct the State Water Board to assess whether a study of a specific water body is justified and, if so, require the appropriate regional board to ensure that the study is conducted by the regional board or the applicable local jurisdictions. For example, a study could be justified if the water body's condition might warrant modifying a maximum pollutant level, if the study could be performed cost-effectively, and if the study's benefits are likely to reduce local jurisdictions' costs or improve protection of the water body's uses. The State Water Board should seek additional funding for local jurisdictions to conduct studies if it believes additional resources are needed.

### *State Water Board and Regional Boards*

- Until the Legislature amends state law, the State Water Board should provide guidance to the regional boards on when studies of specific water bodies should be conducted and, as necessary, assist the regional boards in obtaining funding for those studies.
- The State Water Board should develop guidance by August 2018 for regional boards to document estimates of the costs local jurisdictions will incur to comply with pollutant control plans. These procedures should also address the need to use appropriate methods to develop those estimates, to document the sources they use to develop the estimates, and to document consideration of the overall cost of storm water management to local jurisdictions when completing an economic analysis as part of developing pollutant control plans.
- Once the State Water Board has developed cost-estimation guidance, the regional boards should follow this guidance.
- To ensure that the regional boards obtain adequate and consistent information on the storm water management costs local jurisdictions incur, the State Water Board should develop statewide guidance by August 2018 for local jurisdictions on methods for tracking the cost of storm water management. If the State Water Board believes it does not have the expertise to develop such guidance, it should hire or contract with an expert in municipal finance who can assist in developing that guidance.

- If the State Water Board believes regulations are necessary to ensure that the regional boards and local jurisdictions follow its guidance regarding adequate and consistent information pertaining to their cost of storm water management, the State Water Board should adopt such regulations.
- The State Water Board should revise its trash policy to focus it on local jurisdictions that have water bodies that are harmed by trash and should identify, at least biannually, any additional water bodies that should be subject to the focused trash policy.

### **Agency Comments**

The State Water Board and regional boards generally agreed with our recommendations and plan to implement them. However, the State Water Board expressed concerns with the suggested time frame for certain recommendations and did not agree that it should revise its statewide trash policy. The State Water Board and regional boards also stated that some of our conclusions are either over-generalized or inaccurate. We disagree and present our comments on their response beginning on page 51.

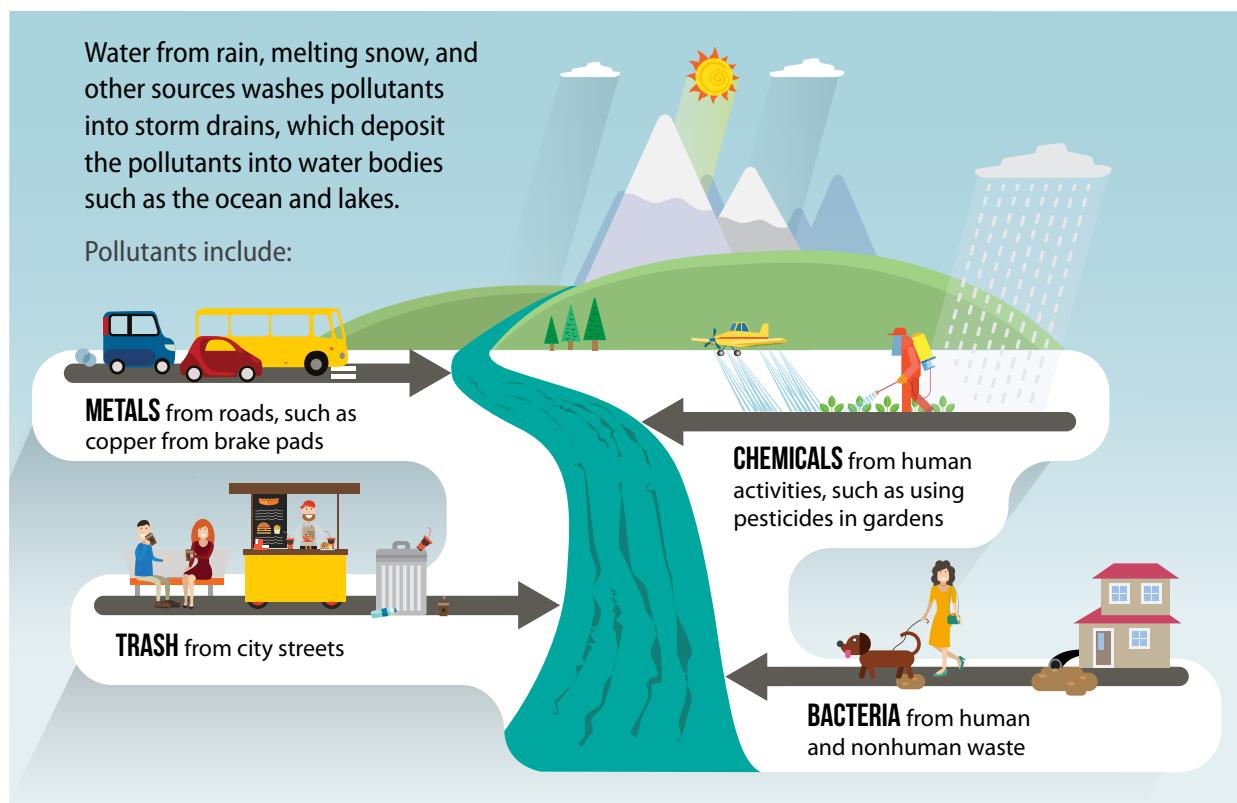
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# Introduction

## Background

The federal Clean Water Act requires that states take steps to reduce pollutants below harmful levels in water bodies, including streams, rivers, lakes, and oceans. One way that pollutants can enter water bodies is through storm water runoff, which can be a significant source of water pollution, especially in urban areas. As shown in Figure 1, such pollution occurs when water from rain and melting snow flows over impervious surfaces such as paved streets and building rooftops and enters water bodies. Runoff commonly enters water bodies through storm sewer systems operated by local jurisdictions, such as cities. As it flows, the storm water collects a variety of pollutants, which the storm sewer system subsequently deposits into local water bodies. Pollutants can also enter storm drains through other means, such as runoff from the watering of lawns and gardens that contain fertilizers and pesticides.

**Figure 1**  
Sources of Pollutants in Storm Water Runoff



Source: California State Auditor-generated based on review of pollutant control plans for the Central Valley Regional Water Quality Control Board, the Los Angeles Regional Water Quality Control Board, and the San Francisco Bay Regional Water Quality Control Board.

## Water Pollution

Water bodies throughout the State are continually contaminated by various pollutants. According to a 2017 report by the State Water Resources Control Board (State Water Board), 1,357 of the 2,623 segments of water bodies in the State contain harmful levels of one or more types of pollutants, such as bacteria, metals, and pesticides. As shown in Table 1, excessive amounts of these pollutants can detrimentally affect the environment, including the health of humans and aquatic life. For example, high levels of certain types of bacteria in a water body can cause serious illnesses, such as gastrointestinal illnesses, respiratory illnesses, and skin infections in people who come into contact with the water body. People exposed to mercury by consuming fish from a polluted water body show deficits in memory, attention, and muscle control.

**Table 1**  
**Types and Potential Harmful Effects of Storm Water Pollutants**

TYPE OF POLLUTANT	EXAMPLES OF POLLUTANT SOURCES	POTENTIAL HARMFUL EFFECTS
Bacteria	<ul style="list-style-type: none"> <li>• Human and animal feces</li> <li>• Sanitary sewer leaks</li> </ul>	Gastrointestinal and respiratory illnesses in humans
Mercury	<ul style="list-style-type: none"> <li>• Combustion of fossil fuels</li> <li>• Historic mining operations</li> </ul>	<ul style="list-style-type: none"> <li>• Deficits in memory, attention, and muscle control in humans</li> <li>• Birth defects</li> </ul>
Metals	<ul style="list-style-type: none"> <li>• Brake pads</li> <li>• Corroding metal surfaces</li> <li>• Automobiles</li> </ul>	<ul style="list-style-type: none"> <li>• Death of aquatic life</li> <li>• Neurological damage in children</li> </ul>
Pesticides	Home and agricultural use of garden products	<ul style="list-style-type: none"> <li>• Death of aquatic life</li> <li>• Overstimulation of human nervous system</li> </ul>
Trash	<ul style="list-style-type: none"> <li>• Litter on city and residential streets</li> <li>• Improper dumping</li> </ul>	<ul style="list-style-type: none"> <li>• Death of aquatic life</li> <li>• Injury and illness to swimmers</li> <li>• Aesthetic nuisance</li> </ul>

Source: California State Auditor-generated based on review of pollutant control plans at the Central Valley, Los Angeles, and San Francisco Bay regional boards.

To curb the harmful effects of pollution from storm water runoff, federal law requires states to set restrictions on the pollutants that can be discharged into water bodies. It further requires local jurisdictions that discharge storm water—including cities, counties, and other public entities that operate storm sewer systems—to obtain a storm water permit from the federal government or from their state. The storm water permit contains requirements that local jurisdictions monitor their storm water discharges for pollutants and take action to reduce the pollutants to safe levels.

Almost all local jurisdictions in California that discharge storm water operate separate storm sewer systems, meaning that the system that collects storm water is separate from the sanitary sewer system that collects wastewater from homes and businesses. Certain jurisdictions, such as the city of San Francisco and a portion of the city of Sacramento, operate a combined sewer system, which collects storm water runoff, domestic sewage, and industrial wastewater in one pipe, treats it at a sewage treatment plant, and then discharges it into a water body. These jurisdictions are subject to a different type of storm water permit for these systems.

### **Roles and Responsibilities in the Regulation of Storm Water Pollution**

The U.S. Environmental Protection Agency (USEPA) develops regulations, provides guidance, and approves states' regulatory actions for storm water pollution. It develops maximum pollutant levels<sup>1</sup> in regulations and guidance for states to use when addressing storm water pollutants, and it also reviews and approves maximum pollutant levels that states develop.

In California, storm water pollution is regulated at the state level by the State Water Board and nine regional water quality control boards (regional boards), each led by its own governing board. The State Water Board provides direction and guidance to the regional boards and reviews petitions that contest regional board actions. In addition, it may issue statewide plans to address pollutant concerns that can supersede the actions of the regional boards. The State Water Board also issues permits for storm water runoff from industrial facilities, provides informal guidance on operational management to the regional boards, and encourages the sharing of best practices. For example, it facilitates quarterly roundtable meetings attended by representatives of each regional board, the State Water Board, and the USEPA. These meetings foster open discussion of water quality topics, such as maximum pollutant levels and policy planning.

The regional boards are responsible for developing and implementing maximum pollutant levels that are specific to the water bodies in their respective regions. They are also responsible for developing and managing the storm water permits for local jurisdictions with populations of 100,000 or more.<sup>2</sup> We reviewed the regulatory

<sup>1</sup> We use the term *maximum pollutant levels* in this report as a proxy for various terms that the State Water Board and regional boards use to refer to required and recommended levels of pollutants that may be present in water bodies without interfering with the use of water. Such terms include *water quality standards*, *water quality objectives*, and *water quality criteria*.

<sup>2</sup> As discussed in the Scope and Methodology, our audit addressed Phase 1 storm water permits issued by three regional boards. Phase 1 permits are issued to local jurisdictions with a population of 100,000 or more. The State Water Board is also responsible for regulating storm water permits of smaller municipalities and nontraditional operations such as military bases, which were not included in the scope of this audit.

activities of the State Water Board and three regional boards: the Central Valley Regional Water Quality Control Board (Central Valley), the Los Angeles Regional Water Quality Control Board (Los Angeles), and the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay). The Central Valley region includes approximately 40 percent of the land in California and extends from the Oregon border to the northern tip of Los Angeles County. The Los Angeles region covers most of Los Angeles and Ventura counties and small portions of adjacent counties. The San Francisco Bay region covers most of the geographic area encompassed by the nine counties in the Bay Area. Figure 2 provides a map of the nine regions in the State.

Regional boards adopt maximum pollutant levels based on regulation and guidance from a variety of sources. The USEPA has issued maximum pollutant levels in federal regulation for certain pollutants that exist in California water bodies. In many other cases, the State and the USEPA have provided recommended maximum pollutant levels, which the regional boards may adopt. For example, the USEPA issued recommended maximum pollutant levels for certain pesticides, but the California Department of Fish and Wildlife also issued its own recommended levels that are stricter than the USEPA levels. Central Valley adopted the state levels because they were based on more recent scientific evidence and on other evidence that considered more sensitive aquatic species.

Regional boards can also use studies of specific water bodies to justify establishing their own maximum pollutant levels, which can be more or less strict than state and federal guidance. In fact, federal regulation encourages states to use site-specific information when developing maximum pollutant levels. For example, Los Angeles set a level for a metal pollutant in the Los Angeles River that was less strict than the level in federal regulation because studies conducted by a group of local jurisdictions, including the city of Los Angeles, demonstrated that the characteristics of the Los Angeles River made it able to tolerate higher concentrations of the metal before the water would be considered toxic. For some pollutants, the State Water Board has adopted maximum pollutant levels that the regional boards must impose. For example, the State Water Board's ocean plan sets levels for some pollutants, including bacteria, in storm water that is released into the Pacific Ocean.

**Figure 2**  
Locations of California Regional Water Quality Control Boards



Source: State Water Board.

Federal law also requires regional boards to develop pollutant control plans, referred to as *Total Maximum Daily Loads*, to improve water bodies harmed by pollution. Pollutant control plans identify the numeric goals for each pollutant that are established to achieve desired water quality. Regional boards often derive the numeric goals for specific water bodies from the maximum pollutant levels established by the State Water Board or the USEPA. We refer to these numeric goals as *pollutant limits*. Pollutant control plans also assign responsibility for reducing the pollutant to the sources of that pollutant, such as local jurisdictions, wastewater treatment plants, and agricultural sources. The plans also establish deadlines for such entities to meet their responsibilities. We reviewed 20 such plans that the regional boards completed between 2002 and 2016. For most of the plans, the regional boards established responsibility for municipal entities based on the concentration of the pollutant in each entity's storm water, making each entity responsible for ensuring that the levels of pollutants in its discharged storm water are safe rather than requiring one entity to clean up the pollution and subsequently allocating responsibility to the others. For example, when developing a plan to address harmful levels of mercury in the Sacramento–San Joaquin Delta, Central Valley calculated the concentration of mercury that could safely be present in the water body. Central Valley then designated each entity responsible for ensuring that the storm water flowing from it into the water body did not exceed that pollutant limit. It is important that regional boards take great care in imposing pollutant limits on local jurisdictions, as the development and adoption of new pollutant control plans by regional boards is resource-intensive, and that development and adoption can take several years and involve a public review process and approval from multiple governmental entities.

### Comparison of the Regional Boards

Each of the three regional boards we reviewed differs in the requirements it imposes on local jurisdictions through its storm water permits. As shown in Table 2, Los Angeles has developed more pollutant control plans than either of the other two boards. In addition, these regional boards vary in the strategies their storm water permits employ to control pollutants. Central Valley's permits generally allow local jurisdictions to prioritize and address the most critical pollutants before taking steps to address those less serious. Central Valley will prescribe specific actions that local jurisdictions must take only if they fail to follow through with the strategies they themselves develop to address their prioritized pollutants. In contrast, San Francisco Bay specifies pollution remediation methods that local jurisdictions must employ to address specific pollutants. Alternatively, Los Angeles allows local jurisdictions to prepare storm water management plans detailing how they intend to address pollutants.

**Table 2**  
Characteristics of the Three Regional Boards We Reviewed

	CENTRAL VALLEY	LOS ANGELES	SAN FRANCISCO BAY
Area of oversight	The entire Central Valley from the Oregon border to the northern tip of Los Angeles County	Most of the area within Los Angeles and Ventura counties and small portions of adjacent counties	Most of the area within the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma
Number of storm water permits	One regional permit*	Three permits: one each for Los Angeles County, the city of Long Beach, and Ventura County	One regional permit
Local jurisdiction collaboration	Local jurisdictions organized themselves into seven groups	Most of the local jurisdictions organized themselves into 19 groups	Local jurisdictions organized themselves into six groups
Year of most recent storm water permit	2016	2012†	2015
Number of pollutant control plans‡	8	37†	6

Sources: Storm sewer permits, websites, and pollutant control plans for Central Valley, Los Angeles, and San Francisco Bay.

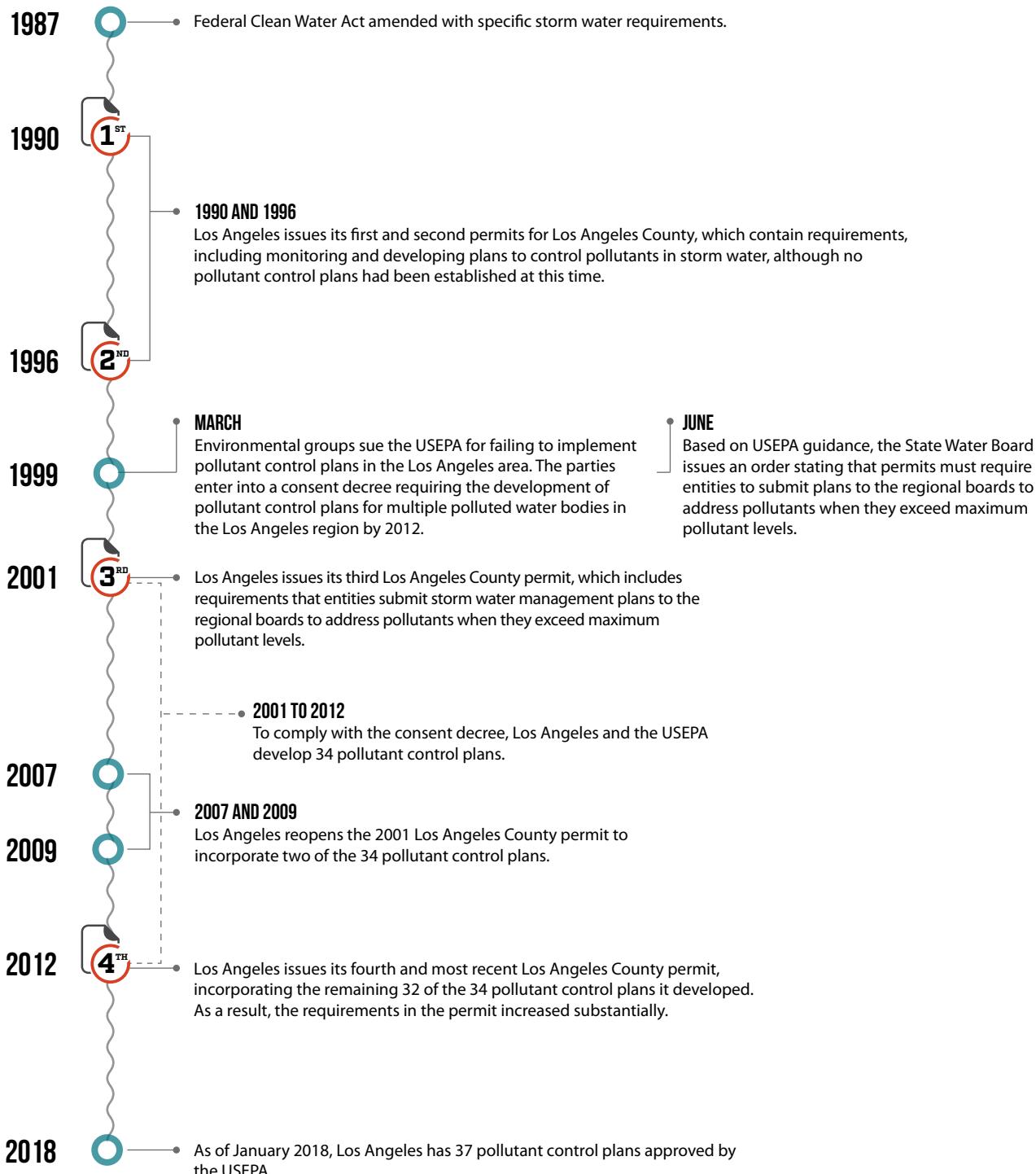
\* Before Central Valley reissued its permit in 2016, the board issued permits individually to local jurisdictions. Some of these permits have not yet expired, so those local jurisdictions will remain under their previous permits until they expire, at which time they will have to apply for coverage under Central Valley's 2016 permit.

† 2012 is the year of the most recent Los Angeles County permit. The 37 pollutant control plans pertain to Los Angeles County, which was the primary focus of our review.

‡ The number of pollutant control plans includes only those applicable to the urban areas regulated by the regional boards. It does not include those applicable solely to other storm water dischargers, such as industrial dischargers, because the scope of our audit focused on storm water permits issued by the three regional boards.

As shown in Table 2, local jurisdictions in the Los Angeles region must comply with significantly more pollutant control plans than local jurisdictions in other regions. This is partly because Los Angeles has a higher concentration of urbanized areas, resulting in greater pollution from storm water. Additionally, following a lawsuit initiated by two environmental groups, the USEPA entered into a consent decree, which the United States District Court approved in 1999, that required the development of pollutant control plans by 2012 for 92 groups of water bodies in the region that had harmful levels of pollutants. Central Valley and San Francisco Bay were not subject to a similar requirement, and although they must also develop pollutant control plans for their water bodies, they did not have deadlines similar to those imposed on Los Angeles. As of January 2018, Los Angeles is defending three lawsuits challenging its permit requirements. This audit report reaches no conclusions on the legal merits of the issues raised in those cases. Figure 3 on the following page illustrates the history of the Los Angeles County storm water permit, describing Los Angeles's efforts to develop its pollutant control plans.

**Figure 3**  
**History of the Los Angeles Board's Storm Water Permit for Los Angeles County**



Sources: California State Auditor-generated based on review of 1999 USEPA consent decree, 1999 State Water Board order, and Los Angeles County storm water permits and pollutant control plans.

### Costs for Local Jurisdictions

The effort required to comply with pollutant control plans set by regional boards can be significant, as projects may be very costly and take considerable time to complete. For example, in response to a pollutant control plan for bacteria in the Los Angeles River, the city of Los Angeles is developing a project that will capture storm water runoff from a park and reuse the water in the park. The city of Los Angeles estimates the project will cost \$8.8 million and take more than three years to complete. The watershed protection program manager for the city of Los Angeles expects the annual ongoing cost for operations and maintenance for these projects will be 1 percent to 3 percent of the total construction costs.

Local jurisdictions typically incur project costs in three phases: planning, construction, and operation and maintenance. During the planning phase, local jurisdictions identify management practices that they anticipate would address the pollutant control plan set by the regional board. Because the local jurisdictions have varying characteristics, including land use and geographical features, each typically determines its own best means of compliance. During the construction phase, local jurisdictions implement their project plans, which can require significant amounts of capital to complete. Finally, during the operation and maintenance phase, local jurisdictions must conduct ongoing activities to ensure that their projects work as intended. One important component of the operation and maintenance phase is monitoring the storm water to ensure that the pollutants have been reduced. Local jurisdictions monitor pollutant levels by testing water samples. Local jurisdictions then provide those monitoring data to the regional board as evidence of their progress towards achieving pollutant limits.

### Best Practices for Controlling Costs

The Los Angeles park project described earlier is a type of low impact development, an approach that can be more cost-effective than traditional storm water treatment. The traditional system of pipes, filters, and retention basins for controlling water flow relies heavily on infrastructure. Low impact development focuses on using natural drainage features to manage storm water runoff as close to the source as possible and designing the landscaping to capture and filter storm water to reduce the volume of runoff from the site. For example, landscaping along streets and buildings can be designed to capture storm water that is then naturally filtered by plants and the soil. The advantage of low impact development is that it minimizes reliance on infrastructure by reducing the volume of runoff that needs to be processed. Under this scenario,

less infrastructure needs to be installed for new developments and less wear and tear on existing infrastructure occurs, decreasing maintenance costs for upkeep.

The three regions we reviewed are encouraging the use of low impact development in various ways. Permits from all three regions require some degree of low impact development. In the San Francisco Bay Area, each permit holder is required to have a plan for incorporating low impact development into its storm drain infrastructure, including how the overall infrastructure will transition from the traditional to a more sustainable method over the long term. In the Central Valley, permit holders must require that high-priority projects assess the possibility of integrating low impact development approaches, and applicable staff at the local jurisdiction must receive training that addresses low impact development. The Los Angeles permit requires that new development and redevelopment follow low impact development design principles and that permit holders involved in watershed management programs have or adopt low impact development ordinances and incorporate low impact development into their practices. The city of Los Angeles has also implemented a Green Streets program to add low impact elements to existing streets, and four such projects have received state grant funding. This technique has the potential to be a best practice that may help lower local jurisdictions' costs of mitigating pollutants.

Jurisdictions can also mitigate costs by implementing projects collaboratively. The Los Angeles regional board has encouraged local jurisdictions to form groups based on their watershed—defined as a geographic area that discharges to a common water body, such as a lake or river—and most have done so. In addition, several local jurisdictions in the Los Angeles region are members of a joint powers authority that shares information and identifies common needs and issues for water management across boundaries. The San Francisco Bay region previously organized its permit by county; although that structure has since changed, local jurisdictions still cooperate within each county and through a Bay Area-wide organization known as the Bay Area Stormwater Management Agencies Association. The organization's objective is to share information among members and develop cost-effective collaborative programs. Local jurisdictions have also collaborated in the Central Valley region. For example, the city of Sacramento and Sacramento County collaborate with other cities in their geographic area, such as the cities of Elk Grove and Galt, on monitoring, pollution reduction, and public outreach. These cooperative efforts are a best practice, as they can help reduce the cost of storm water management by spreading the cost of planning and monitoring across multiple municipalities and by identifying more cost-effective projects.

## Audit Results

### The Regional Boards Have Not Adequately Considered the Cost of Implementing Pollution Control Requirements

When establishing pollutant control plans, the regional boards have not always adequately considered the costs to local jurisdictions involved in complying with these plans. State law requires regional boards to include economic considerations as a factor when establishing maximum pollutant levels. However, state law does not define what those economic considerations must include, and the State Water Board has provided limited guidance regarding the nature of these economic considerations. Nevertheless, we would expect regional boards to determine the overall cost of storm water management to local jurisdictions and estimate the costs that local jurisdictions will incur in complying with the new pollutant limits being established. Regardless of any legal requirements, this information is critical because both the costs for complying with a new pollutant control plan and the local jurisdictions' ongoing costs for managing storm water affect their financial ability to comply with the plans. If the regional boards had this information, they could better aid local jurisdictions in complying with pollutant control plans by adjusting the timelines for compliance with the plans or identifying more cost-effective methods of compliance.

The cost to achieve pollutant limits in pollutant control plans can be substantial. For example, Los Angeles estimated that it would cost 41 local jurisdictions a total of about \$1.4 billion in construction costs to build devices to reduce the discharge of metal pollutants into the Los Angeles River, and an additional \$153 million in annual maintenance costs after the local jurisdictions completed construction of the devices. The local jurisdictions in the Los Angeles region must comply with this new pollutant limit by January 2028.

Although the regional boards have generally complied with state law by providing cost estimates for the pollutant limits in the pollutant control plans we reviewed, they frequently either did not use appropriate methods for developing those estimates or did not document the sources they used to develop those estimates. To determine whether the regional boards adequately considered costs when adopting pollutant control plans, we reviewed pollutant limits in 20 of the 49 pollutant control plans adopted by Central Valley, Los Angeles, and San Francisco Bay between 2002 and 2016 that affect local jurisdictions operating storm sewer systems. We reviewed pollutant control plans issued as far back as 2002 because the process that the regional boards use to develop these plans has not changed and because the local jurisdictions' deadlines to achieve

the pollutant limits have not yet lapsed for most of these 20 plans. We expected that the regional boards would strive to develop supportable cost estimates, given the magnitude of these costs. However, in six of the 20 pollutant control plans we reviewed, the regional boards did not document the sources they used to develop those estimates. Additionally, in three of the pollutant control plans we reviewed at San Francisco Bay—including one of the six that did not have documented sources—the regional board did not use appropriate methods to develop the cost estimates.

***We question the support for the cost estimates of eight of the 20 pollutant control plans we reviewed.***

In total, we question the support for the cost estimates of eight of the 20 pollutant control plans we reviewed. For example, when setting pollutant limits for pesticides in a pollutant control plan for San Francisco Bay Area creeks, the San Francisco Bay board estimated the costs of compliance by reviewing a State Water Board study that calculated the annual total cost per household for storm water management across six cities, only one of which was in the San Francisco Bay Area. The San Francisco Bay board then multiplied the annual total cost per household by the estimated number of households in the San Francisco Bay Area to determine its total annual cost for storm water compliance. Finally, the board used 3 percent of that amount to estimate the total cost for local jurisdictions in the San Francisco Bay Area to comply with the pesticide pollutant limits. The assistant executive officer at the San Francisco Bay region stated that the San Francisco Bay board used 3 percent because local jurisdictions were already taking some actions to comply with the pollutant limits, so it concluded that the additional costs would be between 1 percent and 5 percent of total costs. He explained that local jurisdictions would have informed the board if they had concerns about the estimates. Nevertheless, we question the appropriateness of developing these estimates for pesticide pollutants based on other jurisdictions' total storm water management costs, which include the costs of complying with multiple pollutant limits. Further, other localities are subject to pollutant limits for different types of pollutants that have unique requirements for addressing them, meaning their costs are likely not comparable to those for local jurisdictions in the San Francisco Bay Area.

In contrast, the regional boards used appropriate methods for developing cost estimates and documented the sources used to develop them in several other pollutant control plans we reviewed. For example, the Los Angeles board used cost estimates that the USEPA and the Federal Highway Administration developed to determine the estimated costs for installing filters to remove metals from storm water discharged into the Los Angeles River. Using appropriate methods to develop cost estimates gives both the regional boards and local jurisdictions a better understanding of the financial impact that additional pollutant reduction

requirements will impose on local jurisdictions. If the regional boards do not use appropriate methods to develop their cost estimates, any subsequent assessment of local jurisdictions' ability to achieve pollutant limits could be inaccurate. Also, if regional boards do not document the sources they use to develop their cost estimates, the local jurisdictions that will ultimately be responsible for those costs will lack assurance that those cost estimates are accurate.

Despite being aware of the significant costs local jurisdictions incur, the regional boards did not always take into account the total cost of complying with pollution control requirements. We found that for 12 of the 20 pollutant control plans we reviewed, the regional boards did not consider all of the costs that local jurisdictions had previously incurred as a result of other storm water management requirements. In particular, Los Angeles did not consider the costs local jurisdictions had already paid in seven of the eight pollutant control plans we reviewed in that region. For example, Los Angeles implemented several pollutant limits in a pollutant control plan for the Dominguez Channel. In developing those limits, it identified some specific methods local jurisdictions could use to comply with them, including dredging Los Angeles Harbor and installing storm water filters, and it estimated the cost of complying with the pollutant limits at either about \$64 million or \$80 million per year for the next 20 years, depending on the compliance method used. However, Los Angeles did not document any consideration of the amounts that the local jurisdictions had already spent to manage storm water. One of the local jurisdictions subject to this limit is the city of Los Angeles, which as of 2012—the same year that the Dominguez Channel pollutant limits became effective—was already subject to 19 different pollutant control plans in other water bodies and had spent \$35.4 million on storm water operations in fiscal year 2012–13.

The environmental program manager at Los Angeles stated that the Los Angeles board considers input from local jurisdictions when it establishes deadlines to comply with pollutant control plans and assumes that local jurisdictions take into consideration their existing expenditures and ability to obtain funding when providing their input on the amount of time they believe is needed to meet the deadlines. However, as discussed above, we found that Los Angeles did not adequately document consideration of local jurisdictions' total storm water management costs when developing pollutant control plans. The environmental program manager at Los Angeles explained that there is no legal requirement to do so, and also stated that the costs for complying with various pollutant control plans are not entirely discrete and unique, meaning that the methods for complying with one plan can also address compliance with several other plans. Nevertheless, this is not a sufficient reason

*We found that Los Angeles did not adequately document consideration of local jurisdictions' total storm water management costs when developing pollutant control plans.*

to ignore the total burden facing local jurisdictions. The board could instead take into consideration the cost efficiencies presented by any methods that address multiple pollutant control plans when evaluating the impact of new pollutant requirements on local jurisdictions' overall storm water management costs.

It is important that regional boards identify and understand local jurisdictions' existing costs before imposing additional requirements. Pollution control requirements cannot improve water quality if local jurisdictions are unable to comply with them. For example, a city official from Bellflower stated that addressing the costs of storm water management had resulted in funding cuts to public safety, recreation, and capital improvement projects.

#### **The State Water Board Has Not Provided Guidance to Local Jurisdictions for Tracking Storm Water Costs, Diminishing the Ability of Regional Boards to Evaluate the Burden on Local Jurisdictions**

*The lack of guidance has resulted in inconsistencies in defining and reporting storm water management costs.*

Federal regulation requires local jurisdictions to report their projected costs for meeting storm water requirements to the regional boards and to annually report their actual costs. As a form of proactive governance, the State Water Board could have provided statewide guidance to local jurisdictions on how to track and report their costs as a way to assist the regional boards in developing pollutant control plans. In the absence of statewide guidance, the three regional boards we reviewed also did not provide guidance to the local jurisdictions. The lack of such guidance has resulted in inconsistencies in defining and reporting storm water management costs. For example, in the Central Valley region, we identified two cities that accounted for street sweeping costs differently, which resulted in inconsistencies in the information they submitted to the regional board. According to a supervising engineer at the city of Sacramento, the city does not count any of its street sweeping expenditures as a storm water management cost because it performs this sweeping as part of its regular operations, regardless of a requirement by the regional board. In contrast, according to the environmental services supervisor at the city of Modesto, that city designates its street sweeping expenditures as a storm water management cost because street sweeping is required under its storm water permit. Without uniform cost guidance, the regional boards are unable to obtain accurate information on the burden local jurisdictions face in complying with storm water pollutant limits.

San Francisco Bay does not annually collect information on the cost of storm water management from local jurisdictions and is therefore not fully informed of the total costs these jurisdictions incur. Staff at San Francisco Bay reported that inconsistency in cost

reporting among local jurisdictions makes the information difficult to use. The absence of local jurisdictions' actual costs has impaired San Francisco Bay from considering the financial impact of new pollutant limits. For example, in 2004 San Francisco Bay attempted to analyze the impact of new pollutant limits for mercury on the total burden of local jurisdictions, but because it lacked information on its local jurisdictions' actual storm water management costs, it based its analysis on cost estimates developed in 2003 for the Los Angeles region. Based on that analysis, it estimated that local jurisdictions spent approximately \$45 million annually to manage storm water. The following year, San Francisco Bay completed a similar analysis for another pollutant limit using data from a 2005 State Water Board survey of six cities in the State, and it concluded that the local jurisdictions' costs for managing storm water were substantially higher, at \$72 million. In both cases, San Francisco Bay extrapolated cost data from studies conducted in other parts of the State and did not know the amounts that local jurisdictions in its own region actually spent. The assistant executive officer for San Francisco Bay agreed that collecting cost information from local jurisdictions would help improve San Francisco Bay's understanding of the costs its local jurisdictions incur, as well as the actual costs for implementing various pollution control methods.

The Central Valley board complies with the federal reporting regulation by annually collecting actual and projected expenditure information from local jurisdictions. However, the board does not verify the accuracy of the information that local jurisdictions submit or make use of it. According to the environmental program manager for Central Valley, the lack of consistency in how local jurisdictions track and report their costs makes it difficult to use the information or verify its accuracy.

Los Angeles also collects both projected and actual costs from its local jurisdictions annually, but the information it collects is inconsistent. We obtained the annual cost reports for fiscal years 2012–13 through 2015–16 that Los Angeles local jurisdictions submitted to the Los Angeles board. However, when compiling these data to determine the total costs that the jurisdictions spent for storm water management, we identified numerous errors and omissions, including inaccurate and missing information. For example, one local jurisdiction presented identical expenditures for three consecutive years in each of the categories, making us question whether it was actively tracking and reporting its actual expenditures. Other jurisdictions reported costs for individual cost categories that were greater than the total cost reported for the jurisdiction as a whole. Consequently, we concluded that presenting a summary of costs for all of these jurisdictions would be misleading. However, the city of Los Angeles, which incurs a substantial portion of the storm water expenditures in the region,

*The absence of local jurisdictions' actual costs has impaired San Francisco Bay from considering the financial impact of new pollutant limits.*

does track its revenue and expenditures for storm water separately as a part of its formal budgeting process. Table 3 presents its revenue and expenditures for the past several fiscal years, including fiscal year 2016–17.

**Table 3**

**Revenue and Expenditures for Storm Water Management for the City of Los Angeles  
 Fiscal Years 2012–13 Through 2016–17 (in Millions)**

	FISCAL YEAR				
	2012–13	2013–14	2014–15	2015–16	2016–17
<b>Revenue</b>	\$40.0	\$43.5	\$47.4	\$61.4	\$61.5
Storm water pollution charge	30.1	28.8	28.5	28.2	28.3
Development and inspection fees	0.6	0.9	1.0	1.5	1.9
Other sources*	9.3	13.8	17.9	31.7	31.3
<b>Expenditures†</b>	35.9	33.7	39.7	38.6	43.4
Operating costs	35.4	33.5	38.6	37.3	38.9
Capital projects	0.5	0.2	1.1	1.3	4.5
Difference between revenue and expenditures	4.1	9.8	7.7	22.8	18.1

Sources: California State Auditor's analysis of fiscal years 2012–13 through 2016–17 adopted city budgets, city's accounting records, memoranda of understanding with watershed management plan partners, and interviews with city administrative staff.

\* Other sources include grant funds received, reimbursement from other city funds, and interest earnings. These amounts increased significantly in fiscal year 2015–16 due to an additional \$15 million received from the Los Angeles Department of Water and Power for storm water capture and infiltration.

† Expenditures include joint projects where the city of Los Angeles works collaboratively with other local jurisdictions.

The environmental program manager at Los Angeles reported that the board noticed the problems with the cost reports and sought explanations and corrections from the local jurisdictions for most of the problems. She also stated that the inconsistency in cost reporting among local jurisdictions makes the board reluctant to exclusively rely on the information because the board lacks confidence in its accuracy.

The State Water Board has been aware of this inconsistency in cost reporting for years but has yet to correct the problem. In a 2005 study the State Water Board commissioned, its consultant found that local jurisdictions were inconsistently reporting and tracking storm water activities and associated costs. It recommended that the State create cost-reporting guidance for local jurisdictions to allow accurate cost analyses and comparisons. The State Water Board is in the best position to provide such guidance as it can ensure consistency in reporting throughout the State. Despite that recommendation, the State Water Board has not developed such guidance. According to the chief deputy

director at the State Water Board, it has not issued guidance to local jurisdictions because it lacks expertise in municipal finance and accounting, and it has never sought that expertise so that it could create the recommended guidance because neither state nor federal law requires it to provide such guidance. Further, according to the chief deputy director, if the board wants to ensure that the local jurisdictions follow State Water Board guidance on cost reporting, it would need to adopt as a regulation any cost-reporting guidance it develops. However, until this guidance is prepared and disseminated, the information that regional boards receive from local jurisdictions will continue to be inconsistent, and the regional boards will not be able to thoroughly evaluate the effects of the requirements they impose on local jurisdictions or the local jurisdictions' ability to pay for those efforts.

**The State Water Board and Regional Boards Have Established Some Pollutant Control Plans Without Seeking Key Information, Resulting in Unnecessary Costs for Local Jurisdictions**

The regional boards serve an important role by establishing pollutant control plans for local jurisdictions, which drive storm water management efforts and the related costs for local jurisdictions to implement those efforts. However, in many instances the regional boards have developed the pollutant control plans without obtaining sufficient information on the water bodies they are regulating to tailor these plans adequately, which can result in some local jurisdictions incurring excessive costs or failing to achieve water quality goals. In other instances, the State Water Board and regional boards have continued to use outdated information to establish some pollutant control plans, causing local jurisdictions to pay more than necessary to address storm water pollution. Additionally, Los Angeles used inaccurate information when developing and implementing certain pollutant limits.

***The Regional Boards Established Some Pollutant Control Plans Using Insufficient Information***

The Los Angeles and Central Valley boards were not sufficiently thorough in their development of certain pollutant control plans because they did not tailor the pollutant limits to the particular water bodies. The extent to which some pollutants are harmful varies based on the characteristics or conditions of the water body, such as the water body's temperature and mineral content. For example, some water bodies reduce the toxic effects of lead while others increase them. Federal regulation establishes standard maximum pollutant levels for regional boards to impose in

specified water bodies, but it allows a regional board to deviate from those levels when the board has information that indicates that a different level would continue to be protective of the water body.

Modifying maximum pollutant levels to align with the unique conditions of the water body can result in significant differences in the actions local jurisdictions must take to address pollutant control plans, which correspondingly affects the costs incurred to perform those actions. For example, a study conducted by a group of cities in the Los Angeles region showed that the level of a metal pollutant in the Los Angeles River could be higher than the federal maximum pollutant level and still be safe. The Los Angeles board responded by changing the maximum pollutant level for the Los Angeles River from the federal level to the level referenced in the study. In 2015 Los Angeles estimated that as a result of the change, the expected costs to comply with the pollutant control plan—which local jurisdictions must comply with by January 2028—would be between \$340 million and \$1.3 billion less than they would have been otherwise. Additionally, if a regional board does not take the steps necessary to learn that the characteristics of a particular water body render some pollutants more toxic than they would be in other water bodies, the regional board could establish pollutant control plans that are insufficient to improve water quality to safe levels.

We reviewed pollutant limits in 20 pollutant control plans that the regional boards established and found that the Los Angeles board imposed four and the Central Valley board imposed one without obtaining all relevant information about the related water bodies, despite the potential impact on local jurisdictions and the environment. For example, the Los Angeles board established limits for two pollutants in the Los Angeles River using the federal maximum pollutant levels instead of adjusting them to meet the unique characteristics of that water body. When we inquired about those decisions, the environmental program manager at Los Angeles acknowledged that the federal levels were stricter than they might need to be but explained that the information needed to modify the levels was unavailable because no one had performed a study. Despite not having this information, she stated she believed the pollutant limits were appropriate because the USEPA developed the federal levels to be protective of most species in water bodies throughout the nation, meaning that they are appropriate for all water bodies.

*Although federal regulation allows states to use federal maximum pollutant levels to establish their pollutant limits, they may not result in the most cost-effective or environmentally protective outcomes.*

Although federal regulation allows states to use federal maximum pollutant levels to establish their pollutant limits, they may not result in the most cost-effective or environmentally protective outcomes. During our review of pollutant limits in 20 pollutant control plans, we identified several other examples of pollutant limits for which Los Angeles did seek additional information

through studies of a water body and because of the water body's conditions, it adopted limits that were less strict than the federal levels, such as the metal pollutant limit for the Los Angeles River discussed previously. In these situations, the local jurisdictions would be able to comply with storm water requirements more cost-effectively.

The regional boards often rely on local jurisdictions, nonprofit environmental organizations, and other public agencies to conduct studies to obtain relevant water body information. Under State Water Board policy, local jurisdictions that are subject to pollutant limits are responsible for providing the necessary information on the water body to justify any modifications to pollutant limits. However, officials at the local jurisdictions we visited expressed concern with the cost of conducting such studies. For instance, the city of Los Angeles reported that it provided about \$900,000 of the \$2.2 million required for a study to determine an appropriate pollutant limit for the metal pollutant in the Los Angeles River. In our review of pollutant control plans, we also found that Central Valley had identified studies it could have commissioned to obtain better information and estimated the costs for these studies as ranging from \$400,000 to more than \$15 million.

According to the chief deputy director at the State Water Board, studies to determine the appropriate pollutant limits for metals in water bodies will often be valuable when local jurisdictions are struggling to meet the pollutant limits because the studies will typically cost less than the advanced treatments required to meet the unmodified pollutant limits. The revised limit for the metal pollutant in the Los Angeles River was expected to reduce the costs of complying with the pollutant control plan by \$340 million to \$1.3 billion. This example demonstrates how critical these studies are and that they should be performed when appropriate. Nevertheless, the regional boards informed us of their reluctance to conduct their own studies because they lack the staff resources and funding to do so. Currently, the State does not provide funding for such studies.

For the pollutant control plans we reviewed, we found that the San Francisco Bay board used information on a specific water body, when appropriate, to tailor the pollutant limits to that water body. In some instances, the board used information on water bodies provided by the San Francisco Estuary Institute, a nonprofit environmental organization. The San Francisco Estuary Institute operates a regional monitoring program in coordination with San Francisco Bay, wherein local jurisdictions and other entities such as industrial waste dischargers collaborate on efforts to monitor the region's water bodies. The information that San Francisco Bay obtained from this regional monitoring program aided it in tailoring pollutant limits in its water bodies. This type of collaboration

*Officials at the local jurisdictions we visited expressed concerns with the cost of conducting such studies—Central Valley had identified studies it could have commissioned to obtain better information and estimated the costs for these studies as ranging from \$400,000 to more than \$15 million.*

between local jurisdictions and other entities could benefit local jurisdictions in other regions because it would allow them to pool resources to conduct studies of water bodies in their areas.

***The State Water Board and Regional Boards Require Local Jurisdictions to Monitor Some Pollutants Unnecessarily***

***The State Water Board continues to require regional boards to use outdated indicators for establishing pollutant control plans for ocean waters.***

Local jurisdictions have been unnecessarily monitoring certain bacteria in their water bodies because the State and the regional boards have not adopted USEPA guidance in a timely manner. In January 1986, the USEPA issued formal guidance recommending that states use certain indicators to test for the presence of harmful levels of bacteria and discouraged the use of previously issued indicators because they were deemed less effective. Nevertheless, the State Water Board continues to require regional boards to use those now-outdated indicators for establishing pollutant control plans for ocean waters. Consequently, the San Francisco Bay board established pollutant limits for an ocean water body that contained the outdated indicators in addition to the USEPA's recommended indicators. Additionally, although the State Water Board's policy for bacteria presently addresses only ocean waters, the three regional boards also used the outdated indicators in some instances to establish pollutant control plans for its freshwater bodies. As a result, the regional boards have been unnecessarily requiring local jurisdictions to monitor outdated indicators in these water bodies as well.

When we discussed this disparity with the chief deputy director, he said the State Water Board is planning to issue new statewide maximum pollutant levels for bacteria and has prepared a draft document containing proposed maximum pollutant levels that align with the USEPA's recommendations. However, the State Water Board has not yet established a specific date for formally adopting the proposed levels. He also said that the State Water Board had not prioritized the issuance of new bacteriological levels for ocean water that match USEPA guidance because state law regarding waters adjacent to public beaches requires coastal communities to monitor for the outdated indicators. Although state law does require such monitoring, it allows the use of different indicators if, based on the best available scientific studies, the alternative indicators are as protective of public health. As previously noted, the USEPA determined that its recommended indicators were superior to the outdated indicators. The State Water Board and regional boards' delay in adopting the USEPA guidance has resulted in local jurisdictions incurring unnecessary costs over several years for monitoring the outdated indicators. These costs could have been avoided if the State Water Board and regional boards had not delayed in adopting the USEPA guidance. Because the regional

boards do not collect cost information that can be relied upon, as we described previously, we were not able to determine the actual costs that local jurisdictions incurred to monitor the outdated indicators.

We also determined that the Central Valley and San Francisco Bay boards developed pollutant control plans that required local jurisdictions to monitor for certain pesticides that the USEPA has banned or restricted for private use. Staff at both Central Valley and San Francisco Bay reported that as a result of these USEPA restrictions, local jurisdictions rarely exceed the limits for those pesticides. However, the regional boards still require the local jurisdictions to monitor for them. If local jurisdictions have demonstrated that they no longer exceed pollutant limits, and federal restrictions on the pollutants make it unlikely that local jurisdictions will exceed those limits in the future, the local jurisdictions should not be expected to continue monitoring for those pollutants.

According to a report on these pesticides that Central Valley provided, approximately 4 percent of the water sampled by Sacramento County local jurisdictions between 2010 and 2016 that were subject to these limits exceeded the pesticide limits, which means that 96 percent of the samples for the local jurisdictions did not exceed the limits. According to the assistant executive officer at San Francisco Bay, the board does not enforce the requirement to monitor the pesticide. The assistant executive officer informed us that local jurisdictions should be aware that they no longer have to monitor for the pesticide because their storm water permits do not expressly require them to do so. Nevertheless, the pollutant control plan for San Francisco Bay explicitly states that local jurisdictions must monitor for the pesticide. By not updating the monitoring requirements that are no longer necessary, the San Francisco Bay board risks creating confusion among local jurisdictions regarding the need to monitor those pollutants, which can result in some jurisdictions incurring unnecessary costs. According to the assistant executive officer, the board is considering removing the requirements. He further noted that the time and effort required to change a pollutant control plan is the reason why the board has not yet removed the monitoring requirements.

#### ***Los Angeles Used Inaccurate Information When Developing and Implementing Certain Pollutant Limits***

In addition to Los Angeles's use of insufficient or outdated information, we identified two instances in which that board erred in its responsibilities for developing pollutant limits or overseeing their implementation, resulting in inaccurate information that local jurisdictions used to plan their storm water management efforts. In the first instance, we determined that Los Angeles used incorrect

***When establishing limits for a group of 14 pollutants, Los Angeles decided on a particular methodology but deviated from that approach without specific justification when it established the limit for two of the pollutants.***

methods to determine two pollutant limits. When establishing limits for a group of 14 pollutants, Los Angeles decided on a particular methodology. However, it deviated from that approach without specific justification when it established the limit for two of the pollutants, calculating their limits using a less stringent method than desired for the water body and resulting in one limit that was four times less strict than intended and another that was nearly three times less strict. When we brought this issue to Los Angeles's attention, its environmental program manager acknowledged the errors and stated that the board would need to revise those limits.

In another instance, Los Angeles did not sufficiently review one group of local jurisdictions' storm water management plans, resulting in those local jurisdictions following an approved plan for more extensive pollutant removal methods than necessary. Los Angeles's permit allows local jurisdictions to develop storm water management plans detailing the methods they will use to comply with the pollutant limits that the permit imposes. The local jurisdictions submit these plans to the Los Angeles board for review and approval. The environmental program manager cited an instance in which staff discovered an error in a storm water management plan submitted by a group of local jurisdictions a year after the Los Angeles board approved the plan. The error pertained to a calculation used to determine the measures needed to sufficiently mitigate storm water pollution. The group used a pollutant limit in its calculation that was nearly 10 times stricter than was necessary, which resulted in it developing more stringent and more costly mitigation measures for that pollutant. A year after approving the plan, Los Angeles contacted the local jurisdictions to inform them of the error. In response, the local jurisdictions acknowledged the error and stated that they intended to correct it, although they had not done so as of January 2018. The local jurisdictions also noted that as a result of the error, they would be reducing the extent of their mitigation efforts that had been scheduled to begin in 2017, which we expect would likely result in lower costs than originally anticipated.

According to the environmental program manager, this error occurred for a single calculation affecting one pollutant limit in one plan, out of several hundred calculations conducted for various pollutant limits. The environmental program manager also stated that Los Angeles did not feel it was necessary to review other plans to ensure that it did not overlook similar mistakes in other jurisdictions' plans because its process is to review the plans every two years. The environmental program manager provided us with the document that Los Angeles distributes to local jurisdictions providing requirements for preparing the storm water management plans and a checklist that it uses when conducting internal reviews

to ensure local jurisdictions meet these requirements. Accordingly, it appears that Los Angeles has a process for periodically reviewing the appropriateness of storm water management plans.

### **The State Water Board's Statewide Trash Policy Has Resulted in Some Local Jurisdictions Unnecessarily Redirecting Resources for Storm Water Management**

The State Water Board's adoption of a statewide trash policy has led certain local jurisdictions to expend resources to address a pollutant of lower concern than other pollutants within those jurisdictions. In 2015 the State Water Board adopted a policy prohibiting the discharge of trash into water bodies (trash policy). Although there are no federal water quality criteria or approved guidance for evaluating the discharge of trash into water bodies, federal law is broad in the types of pollutants it allows states to regulate. Further, the USEPA has communicated that states have the authority to regulate trash. However, even though the State Water Board may have the authority to issue a trash policy, it should not do so if complying with the policy results in local jurisdictions unnecessarily redirecting resources when they do not currently have harmful levels of trash in their waters.

*The State Water Board's adoption of a statewide trash policy has led certain local jurisdictions to expend resources to address a pollutant of lower concern than other pollutants within those jurisdictions.*

Many local jurisdictions in California do not have waters known to be harmed by trash. Under the federal Clean Water Act, each state is required to create a list of all water bodies where the level of pollutants in the water body interfere with the uses of the water body, such as public water supplies, propagation of fish and wildlife, or recreational purposes (polluted waters list). For example, the polluted waters list identifies water bodies containing toxic levels of mercury. According to the State Water Board's staff report developed in support of the trash policy, only four of the nine water regions in California have known trash problems. Although Los Angeles and San Francisco Bay have water bodies on the polluted waters list, Central Valley does not.

To comply with their joint storm water permit, local jurisdictions in the Sacramento area in 2017 identified known pollutants and initially ranked trash as 22<sup>nd</sup> in order of concern. Given that Sacramento is the largest urban area in the Central Valley region and trash is a more significant problem in urban areas, other nonurban areas of the region are even less likely to be negatively affected by trash. However, the local jurisdictions in the Sacramento area selected four pollutants, including trash, to prioritize their efforts, citing the State Water Board's trash policy as their justification for changing the prioritization. Some of the pollutants the local jurisdictions elevated trash above include fipronil, an insecticide that the USEPA lists as a possible cancer-causing

substance in humans, and E.coli, a type of bacteria linked to health problems in humans. A supervising engineer at the City of Sacramento Department of Utilities stated that implementing the trash requirements would also result in significant additional expenditures, particularly in capital improvements.

According to the chief deputy director, the State Water Board believes it is in a better position than the regional boards to identify pollutants that are important to address statewide. He also stated that unlike other pollutants that dissolve in water, trash may flow from one region to another, making it necessary for the State Water Board to intervene. However, the staff report used by the State Water Board to support the trash policy is focused on problems with trash in coastal communities, as evidenced by the referenced studies being primarily conducted in coastal regions such as the San Francisco Bay and Los Angeles regions where trash impairment has been documented. As we noted earlier, many areas throughout the State do not have the same concerns regarding trash as Los Angeles and San Francisco Bay.

We believe these local jurisdictions' efforts would be better directed toward pollutants that currently impose greater threats to their water bodies. Although Central Valley does not have any water bodies on the polluted waters list for trash, the trash policy will require local jurisdictions in this region to dedicate resources to reducing trash in their water bodies. These jurisdictions have until December 2018 to complete their planning efforts. To comply with the trash policy, local jurisdictions will have to install equipment, such as screens on storm drains, to minimize trash discharge. Although Central Valley has not yet estimated how much it will cost its local jurisdictions to address this policy, Los Angeles estimated that the cost to install and maintain these screens for all communities along the Santa Monica Bay will be between \$1.6 million and \$7.1 million per year for the first five years, with annual maintenance costs of \$2.7 million in subsequent years.

*Although these costs could differ for local jurisdictions in the Central Valley, addressing the trash policy requirements will nevertheless result in local jurisdictions having less funding available to address other pollutants that are of greater concern.*

Although these costs could differ for local jurisdictions in the Central Valley, addressing the trash policy requirements will nevertheless result in local jurisdictions having less funding available to address other pollutants that are of greater concern. The environmental services supervisor at the city of Modesto stated that many solutions for addressing trash are cost-prohibitive to the extent that funding them would not leave sufficient funds to maintain existing storm water infrastructure. Additionally, according to the executive officer at the Central Valley board, complying with the trash policy will likely cost the more rural and low-income local jurisdictions more per capita than the amounts projected by the State Water Board's cost estimate because of their smaller populations. The executive officer said that the State Water Board appears not to have performed a robust analysis of the impact of the trash policy on smaller rural municipalities that are not within a larger metropolitan area. However, according

to the chief deputy director, the State Water Board feels confident that it adequately considered the costs for smaller and more rural local jurisdictions to comply with the trash policy. In its analysis, the State Water Board considered costs based on land use and the size of the local jurisdiction and considers the analysis valid for all local jurisdictions in the State.

The State Water Board believes that a statewide trash policy is necessary because trash is a serious issue in California and, according to the chief deputy director, will become more problematic if not addressed promptly by all local jurisdictions. Although such a policy may be appropriate in areas where trash is an excessive pollutant, many of California's water bodies have not been determined as being at this level. The chief deputy director also justified the State Water Board's trash policy by stating that it will supersede regional policy and eliminate the need for regional boards to develop their own trash policies or pollutant control plans in the future. Although the State Water Board appears to be proactive in its efforts to address water pollutants, local jurisdictions should not be required to pay for implementing a statewide trash policy when that is not warranted by the condition of their water bodies. Such a requirement will cause local jurisdictions to have fewer resources available for addressing water pollutants they have determined as currently posing a greater threat to the environment in their areas. Instead, the State Water Board could wait to implement the trash policy until a region's water bodies have been determined as harmed by trash.

#### **Local Jurisdictions Have Had Limited Ability to Obtain Funds for Storm Water Infrastructure, but Recent Legislation May Make More Funding Available**

Local jurisdictions have limited options for covering the costs of storm water management, as described in the text box. Meanwhile, changes to permits have caused concern among storm water managers at local jurisdictions about increased future costs, and many capital projects remain unfunded that would help jurisdictions comply with their permit requirements. For example, because of the addition of the trash policy discussed previously, the city of San Mateo plans to install 10 trash-capture devices throughout the city. However, the city has not yet identified a funding source for nine of the 10 devices in this capital project, which are expected to cost a total of \$11.8 million. To determine how cities have been financing storm water management and pollutant mitigation, we reviewed funding information from seven cities across the three regions and identified common sources of funding.

#### **Common Funding Sources for Storm Water Management**

- **General fund revenue:** A local jurisdiction that does not have sufficient revenue from other sources will have to supplement storm water spending with revenue from its general fund.
- **Storm water fees:** Some local jurisdictions have adopted a fee structure that allows the jurisdiction to collect a fee from property owners.
- **Development fees:** Local jurisdictions can charge a fee to individuals, businesses, and organizations seeking services, such as building permit reviews or inspections.
- **Grants:** Limited grant funding is available from the State through bond funds and the California Department of Transportation.

Source: California State Auditor's review of the sources of revenue for storm water management for a selection of local jurisdictions.

Requirements in state law have limited local jurisdictions' ability to impose storm water fees on properties within their geographic areas. Proposition 218, approved by voters in 1996, requires a majority of voters to approve property-related fees, with the exception of sewer and water fees. Fees for sewer and water services are approved if after the local jurisdiction proposes the fee, a majority of property owners do not write in to the local jurisdiction to oppose it. However, fees for storm water management require approval by a majority of voters, a significant limit on the ability of local jurisdictions to generate revenue to help pay for it. Only three of the seven cities we reviewed had revenue from these property-related fees. Two of these cities faced stagnant fee revenue as they determined that a fee increase was unlikely to receive voter approval. The other city experienced small increases in fee revenue resulting from new property development, and although it had considered a fee increase, the city deferred that proposal because of higher priority initiatives.

In October 2017, the governor approved legislation that clarified Proposition 218 by defining the term *sewer* to include both sanitary sewers and storm water sewers. This legislation went into effect January 1, 2018. Consequently, a local jurisdiction is now able to impose or increase storm water fees if a majority of property owners do not write in to oppose the fee—a substantially lower burden than obtaining a majority vote through a ballot measure. The change will likely result in an easier process for local jurisdictions to establish these fees.

*Because of the challenges that cities have historically faced with increasing or implementing storm water fees, they have turned to other sources of funding for storm water management.*

Because of the challenges that cities have historically faced with increasing or implementing storm water fees, they have turned to other sources of funding for storm water management. Six of the cities we researched charge fees for services and licenses, such as permits for new development or required facility inspections, to support their storm water management. Four cities relied to some extent on their general fund, which is their primary operating fund and includes revenue from sources such as property and sales taxes. However, as this fund supports most city government functions, more funding allocated to storm water management will mean less funding available for other important activities. As discussed previously, a city official from Bellflower stated that addressing the costs of storm water management had resulted in funding cuts to public safety, recreation, and capital improvement projects.

The demand for another funding source—grants from the State—has far exceeded the funding available. The passage of statewide bond measures in 2006 and 2014 made \$282 million available for storm water grants, of which \$95 million has not yet been appropriated to fund projects as of January 2018. In previous rounds of funding, the State Water Board awarded \$82 million

in grant funding. In 2016, which was the latest round of funding, the State Water Board received 84 applications requesting grant funds totaling \$322 million. Using scoring criteria that included assessments of technical feasibility and cost-effectiveness to evaluate the proposals, the State Water Board awarded \$105 million for 27 projects. State law requires that grant awards made pursuant to the 2014 bond measure include at least a 50 percent funding match from the local jurisdiction unless certain criteria are met for a reduced match. The majority of the entities that were awarded grant funds pledged a match of more than \$1 million. For example, the city of Los Angeles was awarded a \$7 million grant but provided \$9.6 million of its own funds as a match. Overall, those local jurisdictions that were awarded grant funding provided \$182 million in matching funds, representing an aggregate match of 63 percent. However, matching requirements and subsequent resource commitments for operations and maintenance can pose a substantial financial burden on cities, which may discourage some of them from applying for these grants. Additionally, these grant funds can be used only for capital projects, which does not address the difficulties cities face to sufficiently fund regular operations for their storm water programs, as discussed earlier in this section.

Some of the cities whose storm water funding we reviewed received support from other government sources. The California Department of Transportation (CalTrans) is responsible for mitigating storm water pollution from state roads, and the State Water Board allows CalTrans to fund projects in local jurisdictions for this purpose. Two of the cities we reviewed—Bellflower and San Mateo—took advantage of this funding source. In entering into these projects, CalTrans agreed to reimburse local jurisdictions for the capital costs, and the local jurisdictions are responsible for managing the projects and for subsequent operation and maintenance. For example, the city of Bellflower entered into a \$13 million agreement with CalTrans in June 2016 to construct a project to capture storm water. Because the city did not need to provide matching funds for the project, there was no up-front capital cost to the city, unlike the commitment required for a state grant. The project is scheduled to be completed in 2019, at which time the city of Bellflower will be responsible for the costs of maintaining the facility. In addition, the city of Torrance received a grant of nearly \$300,000 from the U.S. Bureau of Reclamation for use from September 2012 to April 2015 towards a \$3.6 million storm water project.

Several of the cities we reviewed have begun implementing projects that benefit them in multiple ways, including by improving storm water management. These efforts provide greater opportunities for seeking funding from other available sources. Staff from several cities stated that in addition to or in lieu of capital improvements

*Matching requirements and subsequent resource commitments for operations and maintenance can pose a substantial financial burden on cities, which may discourage some of them from applying for these grants.*

specific to storm water, they have incorporated elements that address storm water needs into other infrastructure projects. For example, the city of San Mateo has funded street improvement projects that include elements of low impact development, which, as discussed in the Introduction, involves managing storm water as close to the source as possible, thus reducing maintenance costs. Because these are street projects, the city is using transportation funds generated by a local sales tax to help finance them. Likewise, the city of Baldwin Park was awarded a CalTrans grant for increasing active transportation, such as walking and biking. The city intends to use the grant funds to develop a bike path, which an engineer with the city's Department of Public Works informed us will include elements that will benefit the city's storm water management. In addition to incorporating funds pertaining to transportation projects, cities may be able to add storm water management elements to projects for waste management, parks and recreation, and flood control.

The State Water Board's Division of Financial Assistance provides information through its website regarding available funding sources that it administers and other funding sources. The website has information on two applicable storm water grant programs, although the majority of the funds for the storm water grants has been awarded and applications for the remaining \$95 million balance mentioned previously were not yet being accepted as of January 2018. The State Water Board is also a member of the California Financing Coordinating Committee, which serves as an information resource regarding funding options for infrastructure projects. In 2017 the committee held six funding fairs at locations throughout the State.

Additionally, in 2015 the State Water Board, in collaboration with some regional boards, created a formal strategy for maximizing the efficient use of storm water as a resource. One of the components of the strategy was to identify and evaluate existing funding opportunities and determine potential barriers to making use of them. The State Water Board is responsible for issuing a report, due in fall 2018, summarizing the limitations of current funding and presenting recommendations for increasing funding.

*The State Water Board is responsible for issuing a report, due in fall 2018, summarizing the limitations of current funding and presenting recommendations for increasing funding.*

Regional boards have provided limited guidance to local jurisdictions on funding opportunities and could do more to ensure that the information is thorough and up to date. The storm water manager at the Central Valley board informed us that he attempts to connect permit holders directly with organizations providing funding opportunities and with staff at the State Water Board's Division of Financial Assistance. Staff at all three regional boards stated that they notify local jurisdictions of funding opportunities and are willing to make themselves available to help

local jurisdictions with grant proposals. However, the storm water funding information on the websites of two regional boards is insufficient or outdated. The San Francisco Bay board's website does not have a dedicated page pertaining to funding, and the Central Valley board's website contains outdated information, such as links to grants that are no longer accepting applications. For example, in January 2018, that website highlighted an announcement of a U.S. Department of Transportation grant program with an application deadline of April 2016. Additionally, neither regional board included a link on the storm water funding section of their respective websites to the California Financing Coordinating Committee website.

Los Angeles's storm water funding page on its website also contained limited and outdated information, but when we brought this issue to the attention of board staff, Los Angeles subsequently replaced the storm water funding page on its website with a new funding opportunities page, which includes information on state grants, multi-benefit projects, and the California Financing Coordinating Committee. The environmental program manager at Los Angeles explained that the website had been recently redesigned and updated, but the former funding page was inadvertently left active.

Cities in each of the three regions we reviewed have had opportunities to provide input to the regional boards on developing storm water permits, allowing the cities to have some influence on the ultimate requirements. The regional boards should similarly work with their local jurisdictions to determine what kinds of additional guidance related to funding would be helpful and what funding methods jurisdictions have implemented that may be useful to others. The regional boards could then work with the State Water Board through a committee to generate best practices for storm water financial management and funding approaches, including techniques such as assessing specific fees or partnering on multiuse projects. The regional boards could also identify best practices already in use or being considered by local jurisdictions, such as the city of Los Angeles's ordinance regarding low impact development, and provide information on these topics. Finally, the State Water Board and regional boards could ensure that all available resources are provided on their respective websites to allow permit holders in all locations access to current and complete information.

## Recommendations

### *Legislature*

To promote the establishment of appropriate pollutant limits, the Legislature should amend state law to direct the State Water Board to assess whether a study of a specific water body is justified and, if so, to require the appropriate regional board to ensure that the study is conducted by the regional board or the applicable local jurisdictions. For example, a study could be justified if the water body's condition might warrant modifying a maximum pollutant level, if the study could be performed cost-effectively, and if the study's benefits are likely to reduce local jurisdictions' costs or improve protection of the water body's uses. The State Water Board should seek additional funding for local jurisdictions to conduct studies if it believes additional resources are needed.

### *State Water Board and Regional Boards*

- The State Water Board should develop guidance by August 2018 for regional boards to document estimates of the costs local jurisdictions will incur in order to comply with pollutant control plans. These procedures should also address the need to use appropriate methods to develop those estimates, to document the sources they use to develop the estimates, and to document consideration of the overall cost of storm water management to local jurisdictions when completing an economic analysis as part of developing pollutant control plans. Additionally, the documentation of cost estimates should include, where applicable, the impact other pollutant control plans will have on the costs local jurisdictions are expected to incur.
- Once the State Water Board has developed cost-estimation guidance, the regional boards should follow this guidance.
- To ensure that the regional boards obtain adequate and consistent information on the storm water management costs local jurisdictions incur, the State Water Board should develop statewide guidance by August 2018 for local jurisdictions on methods for tracking the cost of storm water management. If the State Water Board believes it does not have the expertise to develop such guidance, it should hire or contract with an expert in municipal finance who can assist in developing that guidance.

- If the State Water Board believes regulations are necessary to ensure that the regional boards and local jurisdictions follow its guidance regarding adequate and consistent information pertaining to their costs for storm water management, the State Water Board should adopt such regulations.
- Once it has distributed its guidance, the State Water Board should work with the regional boards to develop an annual review process of the information the regional boards receive to help ensure its consistency with the guidance.
- Until the Legislature amends state law, the State Water Board should provide guidance to the regional boards on when studies of specific water bodies should be conducted and assist the regional boards in obtaining funding for those studies.
- The State Water Board should direct its staff and those of the regional boards to revise their storm water management requirements when staff become aware of changing circumstances that would make certain monitoring by local jurisdictions unnecessary.
- The State Water Board should revise its trash policy to focus it on local jurisdictions that have water bodies that are harmed by trash, as identified by the polluted waters list. In addition, the State Water Board should review the polluted waters list at least biannually to identify any additional water bodies recently determined to be harmed by trash and impose its trash policy on the applicable jurisdictions.
- To ensure that information regarding funding options available to local jurisdictions is consistent and current, the State Water Board and regional boards should work together to provide accurate information on their websites that is readily accessible, and the State Water Board and regional boards should remove outdated information by May 2018.
- To better provide comprehensive information on funding sources and storm water financial management for local jurisdictions, the State Water Board should create a committee by August 2018 to identify the informational needs of jurisdictions and create best practices for storm water financial management and financial approaches. This committee should include representatives from the State Water Board's Division of Financial Assistance, the regional boards, and various local jurisdictions.

- San Francisco Bay should comply with federal regulations and require local jurisdictions to report annually the projected and actual costs of complying with their permits.
- Los Angeles should correct its pollutant control plan where it miscalculated two pollutant limits.

## Scope and Methodology

The Joint Legislative Audit Committee (Audit Committee) directed the California State Auditor to review the regulation of storm water pollution by the State Water Board and three regional boards. Specifically, we were directed to review how the State Water Board and the Central Valley, Los Angeles, and San Francisco Bay regional boards developed and implemented storm water permits and how the pollutant limits contained in the permits affected local jurisdictions. Our audit scope focuses on storm water permits issued by the regional boards to regulate local jurisdictions with populations of 100,000 or more, which the USEPA refers to as *Phase I* permits. Phase II storm water permits, which are for smaller entities, are managed by the State Water Board and are not included in the audit scope. Table 4 lists the objectives that the Audit Committee approved and the methods used to address those objectives.

**Table 4**  
Audit Objectives and the Methods Used to Address Them

AUDIT OBJECTIVE	METHOD
1 Review the laws, rules, and regulations significant to the audit objectives.	Reviewed relevant laws, regulations, and other background materials applicable to the regulation of storm water pollution by the State Water Board and regional boards.
2 Identify the roles and responsibilities of the State Water Board, regional boards, and any other relevant statewide entities involved in developing policy and providing oversight regarding storm water permitting. Determine whether these entities' storm water permitting and compliance requirements are consistent with federal law and regulations, including the Clean Water Act.	<ul style="list-style-type: none"> <li>Reviewed the roles of the State Water Board and regional boards.</li> <li>We did not identify any other relevant statewide entities involved in developing policy or providing oversight for storm water permitting.</li> <li>Interviewed staff at the State Water Board and regional boards to further assess their roles and how they interact with each other.</li> <li>Reviewed all pollutant control plans currently in effect for Central Valley, Los Angeles, and San Francisco Bay and determined if they were consistent with federal requirements.</li> <li>For the pollutant control plans we reviewed at the three regional boards, we determined if there was comparable state guidance or requirements and if the provisions of the plans were consistent with the state guidance or requirements. Further, without reaching conclusions on legal issues currently being litigated, we determined if the state guidance and requirements were consistent with federal guidance.</li> </ul>
3 Identify data and information used by the State Water Board, regional boards, and any other entities to allocate storm water cleanup costs and establish storm water permits, permit requirements, and associated programs directed at local jurisdictions. In particular, explain the history and evolution of storm water permits for Los Angeles.	<ul style="list-style-type: none"> <li>As we describe in the Introduction, regional boards assigned the responsibility for reducing pollutants to the sources of the pollutant. We reviewed 20 pollutant control plans across the three regions and found that the regional boards established responsibility for most of them based on the concentration of the pollutant in each entity's storm water, making each entity responsible for ensuring that the levels of pollutants in its water are safe. Accordingly, the local jurisdiction is responsible only for pollution within its geographic boundary.</li> <li>Reviewed 20 pollutant control plans across the three regions to identify whether the regional boards justified the pollutant limits, considered the costs associated with the pollutant limits, and used an appropriate method to allocate responsibility for pollutant control.</li> <li>Reviewed the storm water permits currently in effect for Central Valley, Los Angeles, and San Francisco Bay and identified differences in the permit structures.</li> <li>Documented the history of Los Angeles's storm water permit for Los Angeles County.</li> </ul>

continued on next page...

AUDIT OBJECTIVE	METHOD
4 Since 2011, for the three regional boards responsible for storm water permitting for Central Valley, Los Angeles, and San Francisco Bay, do the following:	
a. Determine whether the three boards' storm water permitting and compliance requirements are consistent with state and federal requirements. Identify any significant disparities and determine why those disparities exist.	Reviewed all pollutant control plans currently in effect for Central Valley, Los Angeles, and San Francisco Bay and determined, without reaching conclusions on legal issues currently being litigated, whether they were consistent with state and federal requirements.
b. Identify any significant differences in storm water permitting and compliance requirements among the three boards, determine why such differences exist, and, to the extent possible, determine the impact any differences have on local jurisdictions and other parties.	<ul style="list-style-type: none"> <li>• Reviewed the storm water permits currently in effect for Central Valley, Los Angeles, and San Francisco Bay and identified differences in the permit structures.</li> <li>• As we note in the Introduction, we identified differences among the regions and discuss the reasons for significant differences. However, the concerns we report in the Audit Results—pertaining to how the regional boards considered costs, gave guidance on costs, and supported their pollutant limits—were consistent across the regions.</li> </ul>
c. To the extent possible, determine whether those responsible for storm water pollution in these three regions are also responsible for the associated costs of their pollution and the storm water permits. If not, determine whether options exist for equitably redistributing cleanup costs to those responsible. In particular, determine who has paid for storm water pollution within the jurisdiction of the Los Angeles board.	<ul style="list-style-type: none"> <li>• As we describe in the Introduction, regional boards do not typically allocate cleanup costs but instead impose limits on the pollutants that a local jurisdiction can allow into a water body. Therefore, the local jurisdiction is responsible only for pollution within its geographic boundary.</li> <li>• We reviewed each regional board's efforts to determine the amounts local jurisdictions have paid for storm water pollution and whether the State Water Board and the respective regional board give any guidance regarding tracking and reporting costs.</li> <li>• For Los Angeles, we discovered inconsistencies in local jurisdictions' cost reporting and therefore we lacked confidence in the accuracy of the information. Because the city of Los Angeles tracks its storm water costs as part of its formal budgeting process, and because it incurs a significant portion of the total costs in the Los Angeles region, we present cost information for the city of Los Angeles for fiscal years 2012–13 through 2016–17 as reported by the city.</li> </ul>
d. For a selection of local jurisdictions covered by the three boards, such as municipalities and counties, identify the fiscal and other impacts jurisdictions have had or will have in complying with storm water permits. Provide the jurisdictions' perspectives about these impacts and, to the extent possible, assess their significance.	<ul style="list-style-type: none"> <li>• For audit objectives 4(d) and 4(e), we selected eight local jurisdictions to review. We selected four local jurisdictions from the Los Angeles region, including one specified in the audit request, and two each from the Central Valley and San Francisco Bay regions. In making our selection, we considered the location of the local jurisdiction, its projected burden for addressing storm water, and the opportunity to identify potential best practices. <ul style="list-style-type: none"> <li>– From Central Valley, we selected the cities of Modesto and Sacramento.</li> <li>– From Los Angeles, we selected the cities of Baldwin Park, Bellflower, Los Angeles, and Torrance.</li> <li>– From San Francisco Bay, we selected the city of San Mateo and the Santa Clara Valley Urban Runoff Pollution Prevention Program. The Santa Clara Valley Urban Runoff Pollution Prevention Program is an organization for managing aspects of permit implementation across local entities in Santa Clara County. Therefore, for the purpose of identifying funding sources from various entities, we excluded this program from our analysis, as it is financed by member entities and does not have direct revenue sources.</li> </ul> </li> <li>• We interviewed individuals at each of the local jurisdictions and obtained supporting documentation regarding the impact of the cost of storm water permits.</li> </ul>
e. For the selection of three or more of the local jurisdictions specified by the requester, identify current and potential funding sources for programs that target storm water cleanup and management, such as watershed management programs.	<ul style="list-style-type: none"> <li>• We identified the funding that the local jurisdictions used for their storm water management programs, which include watershed management programs.</li> <li>• We reviewed funding information provided by the State Water Board and regional water boards.</li> </ul>

AUDIT OBJECTIVE	METHOD
5 As part of reviewing the storm water permitting processes and policies, identify any best practices that could assist the State Water Board, regional boards, and permitted jurisdictions.	During the course of our audit, we identified some potential best practices that we summarize in the Introduction.
6 Review and assess any other issues that are significant to the audit.	During the course of our audit, concerns were raised regarding the qualifications of board members for the State Water Board and regional boards. We reviewed information about each board member's qualifications for the State Water Board and the Central Valley, Los Angeles, and San Francisco Bay boards and found that they all met the qualifications established in state law.

Sources: California State Auditor's analysis of the Audit Committee's audit request number 2017-118, and information and documentation identified in the table column titled *Method*.

We conducted this audit under the authority vested in the California State Auditor by Section 8543 et seq. of the California Government Code and according to generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives specified in the Scope and Methodology section of the report. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Respectfully submitted,

ELAINE M. HOWLE, CPA  
State Auditor

Date: March 1, 2018

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**Water Boards**



## State Water Resources Control Board

February 13, 2018

Elaine M. Howle, CPA\*  
 California State Auditor  
 621 Capitol Mall, Suite 1200  
 Sacramento, CA 95814

Dear Ms. Howle:

### STATE AND REGIONAL WATER BOARDS MUNICIPAL STORM WATER AUDIT REPORT NO. 2017-118

Thank you for the opportunity to review the California State Auditor's draft report entitled "State and Regional Water Boards: They Must Do More to Ensure that Local Jurisdictions' Costs to Reduce Storm Water Pollution Are Necessary and Appropriate," Report 2017-118. The report provides several recommendations that, once implemented, will promote greater efficiency, consistency, and transparency related to the State Water Resources Control Board (State Water Board) and regional water quality control boards' (Regional Water Boards) regulation of a significant source of pollution. My staff and I appreciate the professionalism and attention to detail your staff exhibited during the audit process, and the final document reflects their effort.

As coordinated with your auditors, the State Water Board and the three Regional Water Boards subject to the audit (collectively, the Water Boards) have consolidated their responses to the audit report. With a few exceptions discussed below, the Water Boards find the audit recommendations helpful, reflective of sound public policy, and will begin implementation of the recommendations. The primary concerns the Water Boards have with the remaining recommendations relate to:

- impracticable deadlines for developing proposed guidance documents, and
- second-guessing statewide trash reduction requirements that were developed in a robust, public process to address a statewide nuisance arising from trash in the state's waters.

(1)

In addition, while the Water Boards commend your staff on the report's summary of what was a deep dive into forty years of regulatory documents, the summary in the audit report over-simplifies several historical actions.

(1)

A successful municipal storm water program is vital to addressing polluted storm water that fouls our state's waters and beaches. Success has and will come at a cost, though. While the Water Boards have always striven to convey accurately the anticipated financial burden on local jurisdictions and documented those economic considerations consistent with applicable laws, your report will lead to improvements in this area. Ultimately, success will come from the Water

FELICIA MARCUS, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

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\* California State Auditor's comments begin on page 51.

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Boards and local jurisdictions working together to implement the report's recommendations and embracing a robust municipal storm water program.

### ***General Comments***

Reducing storm water pollution to protect California's drinking water, recreational beaches, and aquatic life presents profound challenges for municipalities and the Water Boards. By federal design, municipalities and Regional Water Boards customize pollution reduction requirements for municipal storm water based on a variety of local conditions. What is practicable and prudent in one community may not work in other communities because of differences in population, hydrology, pollution sources, water uses, and municipal infrastructure, among other things. As a result, storm water pollution reduction and the municipal storm water permits issued by the Water Boards for large urban areas present significant obstacles to standardization among regions.

The audit report recognizes that there are appropriate grounds for differences among the Regional Water Boards' municipal storm water permits. This is an important recognition because too often people assume that the approaches developed in one region are immediately or appropriately extensible to another region. The regional water board system, and the municipal storm water permit program in particular, lend themselves to tailored, local solutions.

Moreover, the regional water board system allows the permits to serve as incubators for different water quality protection approaches. Ultimately, as the report notes, successful approaches are replicated across the state as best practices or recognized by the State Water Board in precedential decisions. In addition, the search for best practices for municipal storm water programs and permits extends beyond state boundaries. California's Water Boards lead in some areas of municipal storm water pollution control programs, but regularly look to and collaborate with the U.S. EPA and other states to identify evolving best practices.

As the report's findings note, the regions' distinct water quality control plans and the maximum pollutant levels they establish, along with total maximum daily loads (pollutant control plans), drive key differences among the Regional Water Boards' municipal storm water permits. As a consequence, several audit findings hinge less on differences in the municipal storm water permits, and more on the underlying water quality control plans and pollutant control plans.

Fine-tuning to develop more-tailored maximum pollutant levels and pollutant control plans will often require updates to the water quality control plans. The water quality control plan update process is resource-limited, resource-intensive, and time-consuming. In turn, this means that the Water Boards' efforts to implement recommendations relying upon updated water quality control plans will necessarily be a matter of prioritizing already scarce resources and, where possible, obtaining additional resources.

U.S. EPA has established or recommended maximum pollutant limits for states to utilize that are adequately protective of all surface waters, and U.S. EPA recognizes that site-specific studies for every waterbody-pollutant combination would be impracticable. However, the Water Boards recognize that, under certain circumstances, water body-specific special studies can provide adequate protections for beneficial uses at reduced compliance costs to local jurisdictions. When developing pollutant control plans for water bodies that may benefit from these special studies, the Regional Water Boards have almost always included opportunities and sufficient time for waterbody-specific studies that could refine maximum pollutant levels before local jurisdictions incur significant compliance costs. All three Regional Water Boards' pollution

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control plans nearly always establish phased approaches that allow greater coordination with stakeholders in the initial phases to develop tailored local information that will inform later phases. In the Los Angeles region, this phased approach was a solution to the fast-paced schedule to develop pollutant control plans required by a federal consent decree. Under these plans, lengthy implementation schedules and reopeners provisions allow the development of site-specific information and ensure that the Regional Water Boards reconsider local requirements and revise the plans as appropriate during periodic reviews. In this respect, key audit recommendations build off work the Water Boards have already undertaken, and provide an organizing principle to do it more proactively.

### ***Comments on Specific Recommendations***

***Recommendation 1 [Legislation for Waterbody-Specific Studies]*** – The Water Boards recognize the value of, and support utilizing, site-specific information in developing pollutant limits and have done so in a number of circumstances. That said, the Water Boards recognize that even more frequent use of waterbody-specific studies would be ideal; however, any legislation would need to reconcile many competing demands and priorities. Further, articulating standards for what “justifies” a special study will be similarly challenging.

***Recommendation 2 [State Water Board Guidance by August 2018 for Estimating Costs to Local Jurisdictions of Complying with Pollutant Control Plans]*** – The State Water Board will begin this spring to work with the Regional Water Boards and local jurisdictions to develop cost-estimating guidance. To provide appropriate guidance, the State Water Board believes it will be necessary to engage a wide range of experts, convene public meetings, and potentially develop new methodologies. Therefore, the State Water Board does not believe it can complete appropriate guidance by August 2018. A more realistic, but still aggressive, timeline would be February 2019. (2)

***Recommendation 3 [Regional Water Boards to Follow Cost-Estimating Guidance]*** – The Regional Water Boards expect to follow appropriate guidance put in place by the State Water Board.

***Recommendation 4 [State Water Board Guidance by August 2018 for Reporting and Tracking Local Jurisdictions' Storm Water Costs]*** – The State Water Board will begin this spring to work with the Regional Water Boards and local jurisdictions to develop guidance on reporting and tracking of municipal storm water costs. As with Recommendation 2, the State Water Board has grave doubts the task can be completed by August 2018. First, there is a limited pool of State Water Board staff involved in municipal storm water permitting who can work on this guidance and the guidance identified in Recommendation 2. Second, municipal finance and cost-engineering are not areas where the Water Boards have expertise, and it will likely require retaining new staff or contracting with an outside expert to conduct the work. Third, the municipal storm water program covers a variety of municipalities, with a broad suite of storm water activities and programs. Fourth, data systems will need to be adapted to accept the updated reporting. Finally, to provide appropriate guidance, the State Water Board believes it will be necessary to engage a wide range of experts, convene public meetings, and potentially develop new methodologies. Therefore, the State Water Board does not believe it can complete appropriate guidance by August 2018. A more realistic, but still aggressive timeline, would be June 2019. (2)

The increased consistency and transparency following implementation of the guidance are laudable objectives. However, the Water Boards note that the development and implementation

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of new standardized cost-reporting will likely result in short-term costs as local jurisdictions transition cost-accounting practices and data systems.

*Recommendation 5 [State Water Board Regulations]* – After an appropriate evaluation, relying in part on the annual review process specified in Recommendation 6, the State Water Board will consider adopting regulations if it determines there are portions of the aforementioned guidance that are not being implemented.

*Recommendation 6 [Annual Review Process]* – The Water Boards will work together to develop an annual review process for the information Regional Water Boards receive as a result of Recommendation 4. It may take several years for permit renewals to incorporate statewide reporting, but as the Water Boards receive initial information, the State Water Board can use that information to fine-tune the cost-reporting guidance.

*Recommendation 7 [State Water Board Guidance for Waterbody-Specific Studies]* – The State Water Board will begin this spring to work with the Regional Water Boards and stakeholders to develop guidance on when waterbody-specific studies should be conducted.

*Recommendation 8 [State Water Board Direction to Amend Monitoring Requirements]* – The State Water Board will direct Regional Water Boards to revise requirements when staff become aware of changing circumstances that would make monitoring unnecessary. At this point, there do not appear to be instances where Water Boards continued to require unnecessary monitoring. The examples identified in the audit report, and discussed below in the discussion of specific audit findings, do not support a conclusion that the boards required unnecessary monitoring. The State Water Board notes that coordinated, statewide cost-of-compliance analyses are already underway to address the costs regulated entities incur complying with the Water Boards' permits, and that the Water Boards are working diligently to tailor monitoring requirements so that the Water Boards only require necessary data.

(3)

*Recommendation 9 [State Water Board Should Revise the Trash Control Plans]* – The State Water Board must periodically review the requirements, such as the trash control requirements, established in its water quality control plans. Consistent with applicable law, the State Water Board will consider this audit recommendation during its next triennial review. That said, the State Water Board adopted the trash control requirements following a comprehensive, public process, considered competing policy considerations, and sees no reason to revise the trash control plans at this time.

(4)

The resource allocation and prioritization issues identified in the audit report were raised by several commenters during development of the plans. At the same time, the testimony and record showed that trash is a nuisance throughout the state and presents threats to environmental and public health. Trash pollutes creeks, rivers, lakes, bays, estuaries and ocean waters in every region. Moreover, cost-effective solutions exist for trash control. Rather than being reactive, as several Regional Water Boards had to be when their waters became impaired for trash, the State Water Board adopted a proactive plan for controlling this nuisance and scourge across the state. The U.S. EPA, many members of the public, municipalities, and nongovernmental organizations supported the State Water Board's actions. After carefully considering all the arguments, the State Water Board adopted a baseline, statewide standard for trash control. At this time, the State Water Board believes there is no reason to reconsider its decision.

(4)

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*Recommendation 10 [Website Updates by May 2018 to Identify Municipal Storm Water Funding Options]* – The Water Boards will review and update the Regional Water Board websites by May 2018 to ensure they contain accurate and relevant information about storm water funding options.

*Recommendation 11 [Formation of Committee by August 2018 to Identify Municipal Storm Water Financial Management Approaches]* – The State Water Board supports the formation of a body to identify informational needs and create best practices for storm water financial management.

*Recommendation 12 [Cost Reporting for the San Francisco Bay Water Board's Municipal Storm Water Permit]* – The San Francisco Bay Water Board will include cost-reporting requirements when it next updates the municipal storm water permits for the region. (5)

*Recommendation 13 [Updated Pollutant Control Plans for the Los Angeles Region]* – The Los Angeles Water Board will revise the pollutant control plan for toxic pollutants in the Dominguez Channel and Great Harbor Waters during its reconsideration in Fiscal Year 2018-2019, to address the use of the wrong sediment targets for dibenz[a,h]anthracene and 2-methylnaphthalene.

#### **Comments on Specific Audit Findings**

Throughout the audit process, your staff engaged with Water Boards' staff to develop an understanding of the complexities of water quality laws and regulations, along with the scientific and public policy underpinnings of the Water Boards' actions. Generally, the report conveys this information accurately, but some of the conclusions are either over-generalized or inaccurate. (6)

#### **All Water Boards**

- *Necessity of Monitoring* - The audit report's conclusions that some local jurisdictions monitored some pollutants unnecessarily over-generalizes and misses important distinctions in regulatory programs. For example, one focus of the report is the continued use of multiple bacteria indicators to monitor for pathogens from many municipal storm water systems. While the State Water Board is in the process of updating bacteria objectives based on U.S. EPA recommended criteria, the adoption of the change may not necessarily result in any reduced monitoring requirements or costs for local jurisdictions. This is so because beach monitoring and closure requirements, over which the State Water Board has no authority, will continue to require sampling for additional bacteria indicators. While the report notes that state law allows alternative indicators that are as protective of public health, it is not clear that the Department of Public Health has the necessary information, especially in light of California-specific epidemiological studies, to make that substitution. So long as state law and the Department of Public Health continue to use the existing indicators, local jurisdictions will continue to monitor for additional parameters and there will be no reduced monitoring or cost-savings. The report's conclusions to the contrary are inaccurate.

In the case of the Los Angeles Water Board, the report faults that board for fecal coliform monitoring specified in a pollutant control plan for Ballona Creek. However, U.S. EPA (2002) acknowledged the need to establish an adequate monitoring database using the new bacteria indicators and recommended a transition period of three years during which data could be collected for both the old and new indicators to ensure consistency and continuity. In Ballona Creek, the three-year period of overlap occurred from June 2009 to October 2012. The Los Angeles Water Board eliminated the requirement for (8)

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local jurisdictions to monitor for fecal coliform in October 2012, thereby acting consistent with U.S. EPA's recommendation.

- (9) Similarly, the report faults the San Francisco Bay Water Board for certain pesticide monitoring specified in a pollutant control plan; however, the pollutant control plans are not self-implementing. Instead, the Water Boards require monitoring through other orders, including the municipal storm water permits. It is those documents that establish the actual obligations for local jurisdictions. In this case, the San Francisco Bay Water Board already removed the pesticide monitoring requirements from the 2015 permit, so the local jurisdictions in that region are not currently subject to the pesticide monitoring requirements identified in the report.
- (10) The report also faults the Central Valley Water Board for pesticide monitoring in Sacramento urban waterways, even though only 4 percent of samples collected between 2010 and 2016 showed that there was a problem. However, the report fails to identify that these samples were collected during an extended drought period with very little to no runoff. This did not provide the Central Valley Board with sufficient data to determine whether the pesticides were still causing water quality problems. The rains in 2017 allowed the Board to conduct more monitoring. Analysis of the most recent monitoring data suggests that water quality objectives are currently being met, and the Central Valley Water Board will revise the monitoring requirements in the very near future.
- (11) Finally, the report suggests that monitoring should be terminated if a pesticide has been banned from private use. This is not accurate. State or federal bans on certain uses of a pesticide do not prohibit all uses that may result in a pesticide reaching a jurisdiction's municipal storm water system, including the application of the pesticide on roadway medians, golf courses, industrial sites, and agricultural lands. Further, many historical pollutants, including pesticides, persist in the environment and may end up in municipal storm sewer systems and their discharge to California waters. Rather than simply discontinuing monitoring for a banned or limited-detection pesticide, a water board may find it appropriate, and both state and federal law allow, continued monitoring for that pollutant, but the monitoring frequency may be reduced.

#### *San Francisco Bay Water Board and Central Valley Water Board*

All comments from the Central Valley Water Board and San Francisco Bay Water Board have been incorporated above, and there are no additional region-specific comments.

#### *Los Angeles Water Board*

- (12) (13) • *The Inaccurate Information Used When Developing and Implementing Certain Pollutant Limits Had No Adverse Effects on Local Jurisdictions* – The report identifies two errors associated with storm water requirements in the Los Angeles region, and expresses concern that these may have led to improper planning on the part of local jurisdictions and an unnecessary expenditure of funds. Based on the Los Angeles Water Board's review, local jurisdictions did not incur unnecessary costs from these errors.

The first error relates to two pollutant limits for sediment quality in the pollutant control plan for Dominguez Channel and Greater Harbor Waters Toxic Pollutants. The two limits were for two individual compounds, and the Los Angeles Water Board agrees that it selected the wrong thresholds for these two pollutants. The Los Angeles Water Board notes, however, that the two erroneous pollutant limits were not used to calculate the applicable pollutant limits (waste load allocations and load allocations), which the plan

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properly derived from another threshold. Therefore, the error, while unfortunate, will not result in the need for local jurisdictions to change any planned actions or incur any additional costs. As noted in Recommendation 13, the Los Angeles Water Board will correct these errors during the scheduled reconsideration of this plan in Fiscal Year 2018-2019.

(12)

In the second instance, a group of local jurisdictions made an error in their reasonable assurance analysis for an enhanced watershed management program, which caused the analysis to be overly conservative for one pollutant limit. The Los Angeles Water Board brought this error to the group's attention during the Board's review of annual report and monitoring data. The Los Angeles Water Board subsequently approved an extension of a project deadline associated with the pollutant limit to provide the group with time to reevaluate what actions will be necessary to meet the corrected pollutant limit. As a result, the group did not incur any costs associated with the project deadline.

(13)

- *The Los Angeles Water Board Already Makes Strategic Use of Site-Specific Information* – The audit report identifies that the Los Angeles Water Board did not use site-specific information in four of the eight pollutant control plans your auditors examined, namely those for nutrients in Machado Lake, toxic pollutants in Dominguez Channel and the Greater Harbor Waters, metals in the Los Angeles River, and metals in the San Gabriel River. Initially, the Los Angeles Board notes that U.S. EPA, not the Los Angeles Water Board, established the pollutant control plan for metals in the San Gabriel River. In the four plans examined, site-specific information was used to establish a number of the pollutant limits. For example, the report notes that the Board did not use site-specific translators to establish zinc and lead limits for dry weather in the Los Angeles River. However, the Board notes that the zinc, lead and copper limits for wet weather in the Los Angeles River were set using site-specific translators. The wet-weather limits are those that will require the most effort by local jurisdictions to comply.

(14)

Again, I thank your staff for a thorough report, and I appreciate their professionalism and courtesy. If you have any questions regarding the above comments, please contact Chief Counsel Michael Lauffer at (916) 341-5183.

Sincerely,



[Michael A.M. Lauffer for]

Eileen Sobeck  
Executive Director

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## Comments

### CALIFORNIA STATE AUDITOR'S COMMENTS ON THE RESPONSE FROM THE STATE WATER BOARD AND REGIONAL BOARDS

To provide clarity and perspective, we are commenting on the consolidated response to the audit from the State Water Board and regional boards. The numbers below correspond to the numbers we have placed in the margin of their response.

The State Water Board expresses concern about what it believes are recommendations with impracticable deadlines for developing proposed guidance documents and second-guessing of statewide trash reduction requirements. We disagree and specifically address these issues in our subsequent comments on the response. Further, we believe our report, including the Summary, is appropriately presented to provide sufficient context for our findings and recommendations.

(1)

The State Water Board expresses concerns with certain time frames included in our recommendations. Given the significant resources currently being spent by local jurisdictions, which we discuss throughout our report, we believe it is important that the State Water Board and regional boards take prompt action to better understand the costs that local jurisdictions incur as a result of the pollutant control plans created by the regional boards. Our recommended time frames reflect the importance of this information.

(2)

We disagree with the State Water Board's and regional boards' position regarding unnecessary monitoring. The State Water Board and regional boards raise several concerns regarding our findings, but none provides a complete perspective of the concerns we identified and why we believe that the monitoring was not necessary. We have provided detailed responses to these concerns in comments seven through 11.

(3)

We stand by our recommendation that the State Water Board revise its trash policy. As we state on page 29, the statewide trash policy requires local jurisdictions to address a pollutant that is of lesser concern than other pollutants. Therefore, we believe that the State Water Board's trash policy is overly broad in its application. Local jurisdictions have limited resources to address storm water pollution. Given that reality, we believe local jurisdictions should use their resources to address pollutants that are of greater concern. Further, as the State Water Board indicates in its response on page 44, because of the differences among the regions, storm water pollution reduction lends itself to tailored, local solutions.

(4)

The statewide trash policy contradicts that approach by requiring local jurisdictions throughout the State to address trash regardless of whether their water bodies contain pollutants of greater concern.

- ⑤ Although San Francisco Bay indicates that it will address our recommendation, we are concerned about the timing in which it may take such action. San Francisco Bay's response indicates that it will include cost-reporting requirements when it next updates its permit but does not state when that update will occur. As we note on page 20, federal regulation requires the collection of cost information. If San Francisco Bay delays implementation of cost reporting among local jurisdictions until the next time it implements a new permit, it would continue to be in violation of the regulation until at least 2020, based on the duration of a typical storm water permit of five years and San Francisco Bay's most recent permit from 2015. San Francisco Bay would also continue to lack information on the financial impact its storm water requirements have on local jurisdictions. We note on page 14 that another regional board—Los Angeles—was able to reopen one of its permits, so we would expect that San Francisco Bay could take similar action to impose a cost-reporting requirement.
- ⑥ We disagree with the State Water Board's and regional boards' characterization of some of our conclusions as over-generalized or inaccurate. As we describe in detail in the following comments, our report presents information that fairly and accurately supports our findings and recommendations.
- ⑦ The State Water Board contends that its bacteria monitoring is necessary because state law as administered by the Department of Public Health requires monitoring for the outdated indicators on public beaches. We refer to this law on page 26, where we note that it allows the use of different indicators if, based on the best available scientific studies, the alternative indicators are as protective of public health. As we also note on page 26, the USEPA issued guidance in 1986 that recommended using certain indicators to test for the presence of harmful levels of bacteria and discouraged the use of previously issued indicators because they were deemed less effective. However, the State Water Board and regional boards have not taken action for more than 30 years to adopt this guidance, resulting in unnecessary monitoring of outdated bacterial indicators.
- ⑧ The State Water Board and regional boards are misleading when they assert that Los Angeles eliminated the requirement for local jurisdictions to monitor the outdated bacteria indicator in 2012. Although Los Angeles eliminated the requirements to monitor the outdated indicator in some freshwater bodies, it did not do so for all. Additionally, as we note on page 26, USEPA issued its guidance

in 1986 discouraging the use of those indicators, meaning that it took Los Angeles more than 25 years to remove the monitoring requirement in some of its freshwater bodies and still has not done so for a freshwater body in the Los Angeles region that is one of those we refer to on page 26.

The State Water Board and the regional boards indicate that San Francisco Bay did not require monitoring for a banned pesticide because its storm water permit did not include the requirement. This explanation does not consider the fact that the pollutant control plan, which is incorporated within the storm water permit, explicitly states that local jurisdictions must monitor for the pesticide, as we state on page 27. Further, as we note on the same page, the assistant executive officer of the San Francisco Bay board confirmed that the board was considering removing the requirement from the pollutant control plan but had not yet done so because of the time and effort involved in making the change.

(9)

The State Water Board and regional boards contend that the Central Valley board was justified in requiring monitoring for certain pesticides even though only 4 percent of samples over a seven-year period had harmful levels of the pesticides because there was insufficient data during drought years. This justification is not reflective of the data gathered by the local jurisdictions. From 2010 to 2016, local jurisdictions in the Sacramento County area collected over 100 samples from water bodies and found that the samples exceeded the limit for the pesticides in only four instances. Further, these results are consistent with monitoring data that Central Valley has required local jurisdictions to collect as far back as 2005, well before the drought began in 2011. We consider continued monitoring unnecessary, and it appears the Central Valley board also now agrees, as the response indicates that it plans to revise the requirement.

(10)

The State Water Board and regional boards are inaccurate in stating that our report suggests that monitoring should be terminated if a pesticide is banned from private use. On the contrary, our conclusion is based on monitoring results demonstrating that local jurisdictions rarely exceed the limits for the pesticides, as we discuss on page 27. Further, we state on the same page that if local jurisdictions have demonstrated that they no longer exceed pollutant limits, and federal restrictions on the pollutants make it unlikely that local jurisdictions will exceed those limits in the future, the local jurisdictions should not be expected to continue monitoring for those pollutants.

(11)

- (12) Los Angeles incorrectly states that its use of inaccurate information when developing and implementing certain pollutant limits had no adverse effects on local jurisdictions. First, as stated on page 28, Los Angeles's use of incorrect methods to develop the two pollutant limits resulted in pollutant limits that were less strict than intended. Implementing limits that are less strict than intended could have an adverse effect on achieving water quality goals. Further, despite its claim that the error will not result in any change in plans for local jurisdictions, Los Angeles agreed that it will need to revise the pollutant limits.
- (13) Los Angeles's statement that the group of local jurisdictions did not incur any costs because the regional board failed to detect an error is misleading. As we note on page 28, when the group of local jurisdictions was informed of the error, they indicated to the regional board that they would be revising their efforts to address the pollutant control plans. Those efforts included a substantial project that the group of local jurisdictions had planned to begin in 2017. Further, the group of local jurisdictions spent time and effort developing plans they will no longer use, and the costs associated with those resources could have been avoided if Los Angeles had detected the error when it first approved the plan.
- (14) Los Angeles's response does not change the fact that it did not use site-specific information to develop some pollutant limits. Although Los Angeles is correct in identifying the pollutant control plans for which it used some site-specific information, our concern regarding the four pollutant control plans we discuss on page 24 is that Los Angeles used site-specific information to develop pollutant limits for some, but not all pollutants.
- Los Angeles also states that one of the pollutant control plans that did not use site-specific information was developed by the USEPA, rather than the regional board. Although the USEPA developed the pollutant control plan, it noted that the information it used to develop some of the limits was based on limited data and recommended further study to develop site-specific limits. However, Los Angeles has not sought these studies.