California
Water Boards
Protecting California's Water

Statewide
Sanitary Sewer Overflow Reduction Program
Annual Compliance Report

March 26, 2015

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

FISCAL YEAR 2013 – 2014

EXECUTIVE SUMMARY

The State Water Resources Control Board (State Water Board) adopted the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS WDRs) in May 2006. The purpose of the SSS WDRs is to provide consistent statewide requirements for notification and reporting of sewage spills and sewer system management with the goal of reducing both the number of sanitary sewer overflows (SSOs) and the volume of wastewater spilled in the state. The Fiscal Year 2013-2014 report provides an annual update on the statewide SSO Reduction Program. This report contains detailed information on implementation efforts, compliance, and enforcement actions completed in Fiscal Year 2013-2014.

Currently, 1092 sanitary sewer systems are enrolled under the SSS WDRs. Enrollees are required to report all SSOs regardless of volume. For any month in which an enrollee does not have an SSO, the enrollee is still required to submit a no-spill certification 30 days after the end of the month or within the quarter. The average monthly reporting compliance for Fiscal Year 2013-2014 (i.e., the percent of enrollees either reporting a spill or submitting a no-spill certification during a calendar month) was 96 percent, which is four percent more than during Fiscal Year 2012-2013. Overall, 487 enrollees (approximately 45 percent) reported one or more SSOs and 605 enrollees (approximately 55 percent) reported no SSOs for Fiscal Year 2013-2014. Since 2007 (the beginning of the program), 830 enrollees (approximately 76 percent) have reported one or more SSOs and 262 enrollees (approximately 24 percent) reported no SSOs.

State Water Board staff's analyses of SSO reports show that SSOs have a seasonal pattern with more SSOs occurring, and higher volumes of sewage spilled during the wet seasons. Although most SSOs are small or less than 1,000 gallons, the relatively few large SSOs that occur account for the majority of the sewage volume spilled. A significant cause of the large SSOs appears to be excessive infiltration and inflow. Staff's analyses of Regional Water Quality Control Boards' (Regional Water Boards) spill data for Fiscal Year 2013-2014 indicate that (1) the Central Valley (Sacramento office), San Francisco Bay, and Los Angeles Water Boards account for 80 percent of reported spills in the state and (2) San Francisco Bay, San Diego Water, and Santa Ana Water Board Regions account for approximately 50 percent of reported spill volume in the state. Staff has developed spill ranking tool that would help identify enrollees that have the highest SSO numbers and volume of sewage spilled. The 20 sanitary sewer systems that ranked the highest using the spill ranking tool for Fiscal Year 2013-2014 are identified in this report.

Staff focused on compliance assistance and outreach efforts in response to the Order 2013-0058-EXEC (issued on July 30, 2013) amending the monitoring and reporting requirements. In addition, the Regional Water Boards and the State Water Board's Office of Enforcement are actively conducting sanitary sewer system inspections. Twenty three inspections were conducted in Fiscal Year 2013-2014; consequently, the Regional Water Boards have taken 104 enforcement actions for violations, in whole or in part, related to the SSS WDRs during Fiscal Year 2013-2014. Staff also continues to address reporting deficiencies by implementing the automated email system developed and implemented in Fiscal Year 2011-2012. This electronic system identifies sewer system-specific reporting deficiencies and sends monthly email notifications to enrollees. Enrollees that do not respond to the notices or fail to correct deficiencies identified by the automated system are referred to the Office of Enforcement for further enforcement action. SSO Reduction Program activities planned for the upcoming year include:

- Conducting additional enforcement to address SSS WDRs compliance;
- Making further refinements to the SSO database and public reports;
- Providing additional outreach and written guidance to assist staff and enrollees in program implementation; and
- Developing an internal study to identify sanitary sewer systems with structural and capacity issues.

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1.0 INTRODUCTION

A. General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (SSS WDRs)

This report provides an annual update on the statewide Sanitary Sewer Overflow Reduction Program (SSO Reduction Program) which implements the SSS WDRs. This report contains detailed information on the SSO Reduction Program covering implementation, compliance, and enforcement for Fiscal Year 2013-2014. Staff issued prior editions of this annual report in May 2008, May 2009, May 2010, August 2011, January 2013, and January 2014. All previous reports are located on the SSO Reduction Program website. Staff aligned issuance of this annual report with the state fiscal year beginning in 2011-2012 to match other statewide performance reporting activities.

The SSS WDRs apply to all public agencies that own or operate a sanitary sewer system greater than one mile in pipe length. A publicly-owned sanitary sewer system is any system of pipes, pump stations, sewer lines, or other conveyances used to collect and convey wastewater to a publicly owned treatment facility. Agencies operating sanitary sewer systems in affected Regional Water Quality Control Board (Regional Water Board) jurisdictions were required to enroll in the SSS WDRs at varying times. For instance, sanitary sewer systems in the San Diego, Los Angeles, and Santa Ana Regional Water Boards were required to enroll by January 2, 2007. Sanitary sewer systems in the Central Coast, North Coast, and San Francisco Bay Water Boards were required to enroll in the program by May 2, 2007. Finally, sanitary sewer systems in the Central Valley[1], Lahontan[2], and Colorado River Basins were required to enroll on September 2, 2007. Throughout this report, the reader will note that the data analyses are presented for each Regional Water Board or its sub-areas (i.e., offices), as in the case of the Central Valley and Lahontan Regional Water Boards. The data is presented by sub-area due to the unique characteristics of each sub-area (i.e., geography, socio-economic setting, etc.).

An SSO is any overflow, spill, release, discharge, or diversion of untreated or partially treated wastewater from a publicly-owned sanitary sewer system upstream of a treatment plant head-works. SSOs do not include overflows from privately-owned service laterals when these overflows are caused by blockages or other problems within the privately-owned lateral, but do include overflows from privately-owned laterals when the cause of the overflow is a problem within the publicly-owned portion of the sanitary sewer system. Overflows caused by problems in privately-owned service laterals and other private sewer assets like private lift stations are generally referred to as private lateral sewage discharges (PLSDs) even though the discharges do not always occur from laterals.

SSOs contain high levels of suspended solids, pathogens, toxic pollutants, nutrients, oil and grease, and other pollutants. SSOs can pollute surface water and groundwater, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface water. SSOs can also result in closure of beaches and other recreational areas and cause damage to properties.

The objective of the SSS WDRs is to reduce the number of SSOs and the volume of sewage spilled across the state by: (1) increasing transparency in terms of making spill data available to the public; and (2) encouraging the proper operation and maintenance of sanitary sewer

[1] The Central Valley Water Board has three offices in Fresno, Redding, and Sacramento.
[2] The Lahontan Water Board has two offices in South Lake Tahoe, and Victorville.

systems by requiring the development and implementation of Sewer System Management Plans (SSMPs). The SSS WDRs require that any public agency with more than one mile of publicly-owned sewer lines that collect and/or convey untreated or partially treated wastewater to a publicly-owned treatment facility in the state must enroll for coverage, develop and implement an SSMP, and report all SSOs. If no SSOs occur during a month, the enrollee must submit a "no-spill" certification after the end of that month or quarterly.

In addition to the statewide requirements of the SSS WDRs, sanitary sewer systems owned by public agencies in specific Regional Water Board jurisdictions are subject to additional requirements. Although it is the State Water Board's intent that the SSS WDRs be the primary mechanism for regulation of sanitary sewer systems statewide, the SSS WDRs provide that a Regional Water Board may issue more stringent or prescriptive requirements for sanitary sewer systems in its region.

B. Additional SSS Requirements

On January 21, 2014, State and Regional Water Board staff presented the findings of the evaluation at a meeting of the State Water Board. The State Water Board members agreed with staff recommendations regarding the elimination of duplicative monitoring and reporting requirements that do not contribute to maintaining water quality protection or improving regulatory program outcomes. The State Water Board was, however, receptive of additional region-specific sanitary sewer system requirements that provide for water quality protection.

2.0 STATEWIDE SSS WDRS IMPLEMENTATION

Since the implementation of the SSS WDRs, staff resources have been focused on outreach, reporting and notification compliance, database development, training, development of a spill mapping tool, enforcement, and review and update of the SSS WDRs to achieve successful statewide implementation and compliance. Staff outreach to stakeholders since inception of the SSO Reduction Program has played a key role in the successful implementation of the program. Over the years, staff has partnered with stakeholder representative organizations to provide outreach and training opportunities and to develop easy access to data submitted to the SSO database. In addition, increased compliance and enforcement activities have contributed to the overall successful implementation of the program.

A. SSO Reduction Program Outreach

Outreach continues to play a key role in both increasing enrollee participation in the SSO Reduction Program and reaching other interested stakeholders such as environmental groups and the general public. State and Regional Water Board staff members have conducted specific outreach to provide information about the SSS WDRs to as many different audiences as possible. Specific tasks include the following:

1) Giving presentations and online training for trade and non-profit associations such as the California Water Environment Association (CWEA), Southern California Alliance of POTWs, Bay Area Clean Water Association, Central Valley Clean Water Association (CVCWA), American Public Works Association, Rural Community Assistance Corporation (RCAC), and the California Rural Water Association (CRWA).
2) Developing the Enrollee Guide to the SSO Database (completed on August 2013).
3) Providing reporting assistance and resolving issues related to the SSO database.
4) Enhancing the SSO public reports.

5) Enhancing and maintaining the SSO website.

6) Broadcasting list-serve email announcements regarding program activities.

B. SSO Database and External Users Group

The SSO database is part of the California Integrated Water Quality System (CIWQS). The SSO database allows online submittal of information by enrollees and makes these data available to the public using the public reports. The SSO database was created in collaboration with an advisory group of enrollees with the goal of achieving accurate and consistent spill data reporting. Staff continues to maintain and enhance the SSO database with available resources every two months. Staff coordinates enhancements with an external users' group comprised of enrollees and other participating stakeholders. After the SSO database enhancements resulting from the implementation of the 2013 amended MRP were completed, staff re-initiated the bi-monthly data review meetings with stakeholders that were conducted in the past to evaluate the data collected and address database issues and enhancements. In addition, staff formed a subcommittee to focus on updating the SSMP development guide. Staff expects the guide to be completed by April 2015.

C. Enrollee Training

Staff continues to implement the Memorandum of Agreement (MOA) with CWEA, which has been in place since inception of the program, to offer training on the SSS WDRs to enrollees. The current MOA is in effect until December 2015. With staff assistance, CWEA has created training courses on reporting a spill to the SSO database, developing an SSMP, communicating with the media during and after spill events, and estimating spill volumes. CWEA has offered these training courses statewide and will continue to do so under the terms of the MOA. In addition, CWEA has 17 independent local chapters throughout the state that provide training on topics related to the SSS WDRs.

As part of the outreach and training cooperation with CWEA, staff coordinated training throughout the state to educate enrollees of the SSS WDRs on the 2013 amended to MRP. Training locations included Sacramento, Fresno, and Orange County. In addition, staff will continue to work with small and disadvantaged communities and the organizations representing them (e.g., RCAC, CRWA, and CVCWA) to provide accessible training. Staff has made it a priority to assist small and disadvantaged communities through one-on-one assistance and training.

D. SSO Incident Maps

As part of the public spill reports, staff developed GIS spill incident maps and made them available to the public in May 2009. Updates to the spill incident maps are provided daily. The maps depict SSO and PLSD incidents that enrollees have reported to CIWQS. The GIS maps serve to implement California Water Code section 13193 which requires the State Water Board to make reports available to the public using GIS maps where possible.

In addition, the GIS maps support the State Water Board's Strategic Plan goal of communicating public information regarding California water quality in an easily understood form. The mapping tool incorporates numerous recommendations from external users including the capability to search for spills by spill date, spill size, enrolled agency, county, Regional Water Board, and spill street address. Figure 1 is a screen shot of the incident map for SSOs illustrating certified spill incidents in CIWQS entered by enrollees in Fiscal Year 2013-2014.

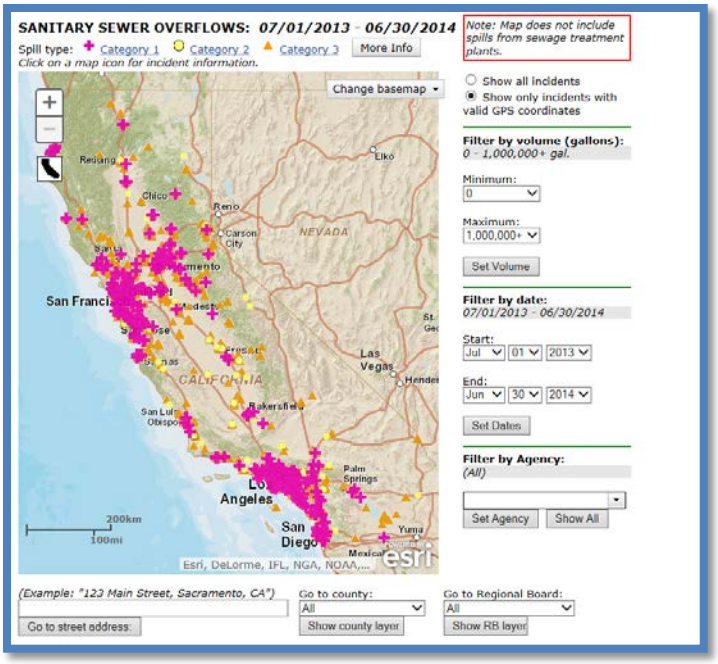


Figure 1 – SSO GIS Incident Map

E. Enforcement of the SSS WDRs

Since inception of the program, State and Regional Water Boards staff increased enforcement of the SSS WDRs. As illustrated in Figure 2, 104 enforcement actions were taken in Fiscal Year 2013-2014.

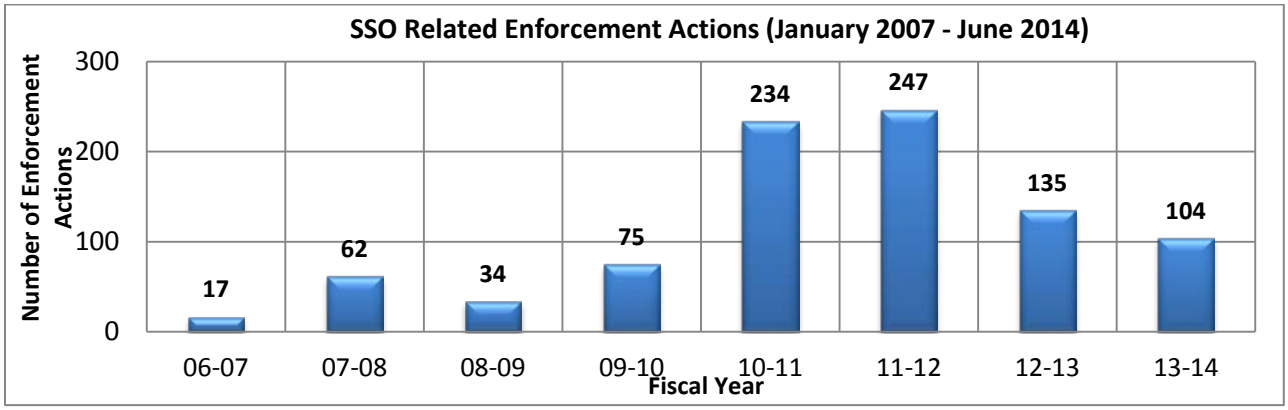


Figure 2 – SSO Enforcement Actions

To ensure a firm, fair, and consistent approach to achieve statewide compliance, State Water Board staff implements the Water Quality Enforcement Policy (Enforcement Policy). This policy identifies the specific enforcement actions to be undertaken to comprehensively address noncompliance with the SSS WDRs.

Current compliance and enforcement tasks are focused on addressing violations of the SSS WDRs in the following areas:

1) Failing to provide required reporting elements (i.e., failure to participate);
2) SSMP completeness and certification; and

3) Accuracy and completeness of required reporting elements via facility inspections.

State Water Board staff solely evaluates compliance and implements appropriate enforcement actions. State and Regional Water Board staff evaluate reporting requirements jointly through sanitary sewer system inspections. In early 2010, Regional and State Water Boards initiated a comprehensive Enforcement Initiative for the SSS WDRs to harmonize the progress of the statewide SSO Reduction Program with the adopted statewide Enforcement Policy in order to:

1) Address the largest illegal SSOs discharges with formal enforcement actions;
2) Direct strategic enforcement resources where they are best needed or can have the greatest impacts, including to the most poorly-managed sewer systems and/or suspect facilities that may be violating existing reporting requirements;
3) Target "chronic" violators of the SSS WDRs;
4) Investigate "suspect" collection systems; and
5) Identify the most common "non-discharge" issues.

F. Enforcement Activities

State Water Board, Office of Enforcement, and Regional Water Board staff conducted 18 inspections in Fiscal Year 2013-2014. The inspections were conducted throughout California and targeted small to large sanitary sewer systems. Enforcement actions against some enrollees are pending. The basis for selection of sanitary sewer systems inspected included referral by Regional Water Board staff, enrollees having numerous and/or large SSOs (e.g., 50,000+ gallon SSOs), enrollees failing to complete routine required reporting, suspect reporting, and complaints from the public.

In Fiscal Year 2013-2014, State and Regional Water Board staff took 104 enforcement actions for violations, in whole or in part, related to the Statewide SSS WDRs. A summary of the enforcement actions taken by the Regional Water Boards using data since the Fiscal Year 2012-2013 annual report was submitted is presented in Table 1 below.

Table 1 – Enforcement Actions by Regional Water Board for Fiscal Year 2013-2014 (*Revised*)

Row Labels	13267 Letter	Notice of Violation (NOV)	Administrative Civil Liability	Staff Enforcement Letter	Grand Total
North Coast			1		**1**
San Francisco Bay		4		1	**5**
Central Coast			1		**1**
Los Angeles	5		1		**6**
Central Valley - Fresno		12	1		**13**
Central Valley - Redding		5			**5**
Central Valley - Sacramento		44			**44**
Lahontan - Tahoe					**0**
Lahontan - Victorville					**0**
Colorado River Basin			2		**2**
Santa Ana			1		**1**
San Diego			2	24	**26**
Total	**5**	**65**	**9**	**25**	**104**

G. SSO Cost of Compliance

On January 21, 2014, State and Regional Water Board staff presented findings of the evaluation of duplicative or additional requirements applicable to sanitary sewer systems that are enrolled in the Sanitary Sewer Overflow Reduction Program to the State Water Board. One of the recommendations from the State Water Board was that a form a team to conduct an internal study that identifies sanitary sewer systems with structural and capacity deficiencies.

Staff proposed a phased approach to develop the internal study. Phase I will focus on identifying the deficient sanitary sewer systems and Phase II will focus on the recommendations from the team. Staff has formed the team to address the areas of focus. Table 2 lists the expected completion dates for each of the tasks. Staff expects to have the study completed by the end of 2015.

Table 2 – Internal Study Completion Schedule

Phase	Task	Expected Completion Date
Phase I	Identify sanitary sewer systems located in small and disadvantaged communities with structural and capacity issues	May 2015
	Identify sanitary sewer systems potentially impacting drinking water supply	July 2015
	Identify sanitary sewer systems potentially impacting public health	August 2015
	Identify deficient sanitary sewer systems identified through human bacteriological tracing methods developed by Southern California Coastal Water Research Project	October 2015
	Identify sanitary sewer systems with potential capacity issues due to sea level rise	November 2015
Phase II	Identify appropriate actions necessary to address the issues currently preventing these systems from being properly rehabilitated, managed, operated and maintained.	January 2016
	Complete internal report	March 2016

3.0 SSS WDRS COMPLIANCE SUMMARY

The following section provides an update on enrollee participation compliance. Measures of enrollee participation include enrolling for coverage under the SSS WDRs, completing required monthly reporting elements, completing required SSMP development and certification, and completing and annually updating their sanitary sewer system questionnaire.

A. Enrollment for Coverage

All public agencies that own or operate sanitary sewer systems consisting of more than one mile of pipe that collect and/or convey, directly or indirectly via other connected sanitary sewer systems, untreated or partially treated wastewater to a publicly owned wastewater treatment facility are required to apply for coverage under the SSS WDRs. Since implementation of the SSS WDRs, the number of enrolled sanitary sewer systems has varied between 1,080 and 1,100. Currently, 1,092 sanitary sewer systems are enrolled for coverage. As illustrated in Figure 3, the Central Valley Water Board (Sacramento office) has the highest number of

enrolled sanitary sewer systems with 182, followed by the Central Valley Water Board (Fresno office) with 157 systems enrolled, and the Los Angeles Water Board with 144 systems enrolled.

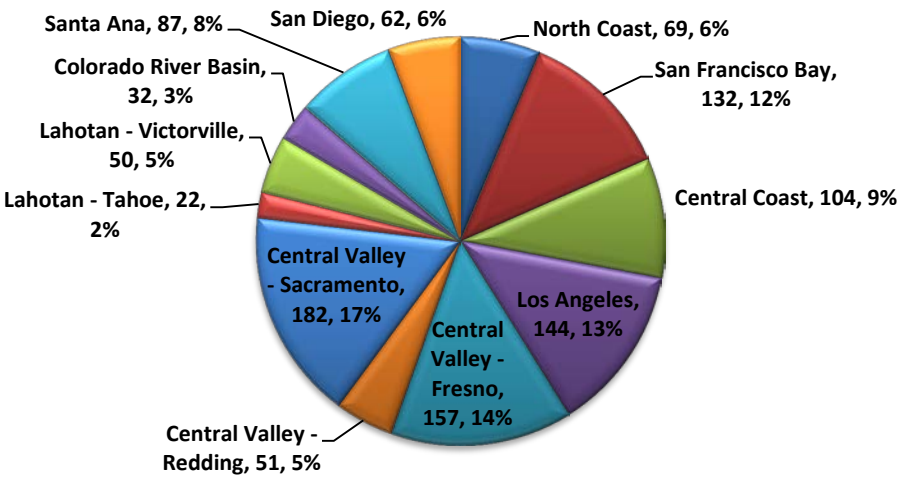


Figure 3 – Number and Percentage of Enrolled Sanitary Sewer Systems by Regional Water Board

The number of enrollees in the state varies due to new applications being received for coverage and cancellations of enrollment. Reasons for cancellations of enrollment include: (1) an agency enrolled erroneously and later determined it did not meet the application criteria (i.e., it does not own greater than one mile of publicly-owned sewer pipe); and (2) redundant enrollments due to submittal of multiple applications.

Staff occasionally receives notifications from Regional Water Boards and other sources regarding sanitary sewer systems required to be covered under the SSS WDRs that are not enrolled. Staff follows up on these notifications with enforcement activities and enrolls facilities that meet the enrollment criteria.

B. SSO Reporting

Enrollees are required to report all SSOs that occur in their sanitary sewer system assets. If there are no SSOs during a calendar month, the enrollee is required to submit a no-spill certification in the CIWQS SSO database. Monthly SSO reporting compliance rates are calculated by tallying how many individual enrollees submitted either an SSO report or no-spill certification for a given calendar month. Monthly reporting compliance by Fiscal Year is shown in Figure 4.

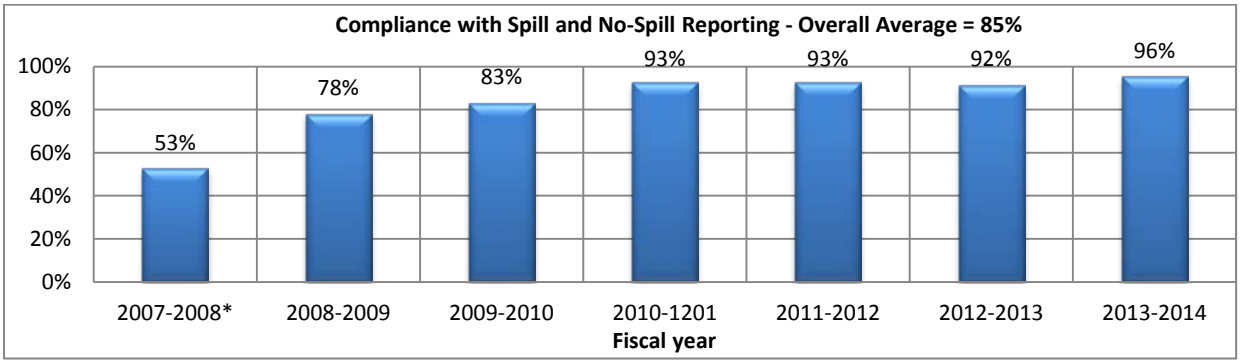


Figure 4 – Monthly Compliance with Spill and No-Spill Reporting by Fiscal Year

The average reporting compliance rate is 85 percent for the period of September 2007 through June 2014. The average monthly reporting compliance rate during Fiscal Year 2013-2014 is 96 percent. The monthly reporting compliance rate significantly increased over the past year. Increased compliance rates over the past four fiscal years is attributed to increased thoroughness of enrollees reporting, increased enforcement by the State and Regional Water Boards, outreach, and the automated monthly email compliance reminders.

The current average monthly reporting compliance rate of 96 percent is less than the target level of 100 percent and four percent higher than the rate during Fiscal Year 2012-2013. Staff believes that the increase in compliance is due, in part, to the revised MRP outreach efforts. Enforcement activities will continue to be conducted to improve this compliance rate. Non-compliant enrollees that are nonresponsive to compliance reminders and NOVs are referred to the Office of Enforcement for further enforcement action. Monthly compliance reporting has been maintained at higher than 90 percent for the past three fiscal years. However, during Fiscal Year 2013-2014, only 45 percent of enrolled sanitary sewer systems in the state reported an SSO. As illustrated in Figure 5, 605 enrollees (approximately 55 percent) did not have any SSOs in Fiscal Year 2013-2014.

For the period of January 2007 through June 2014, 830 (i.e., approximately 76 percent) enrollees reported one or more SSOs while 262 enrollees (i.e., approximately 24 percent) did not report an SSO. The monthly reporting performance for enrollees that did not report an SSO during Fiscal Year 2013-2014 is illustrated in Figure 6. Fifty four of these enrollees (approximately 9 percent) missed all monthly reporting, missed some monthly reporting, or have some reporting errors (e.g., submitted "no-spill" certification when they had SSOs); whereas 551 of the enrollees (approximately 91 percent) with no reported SSOs complied fully with the required monthly reporting.

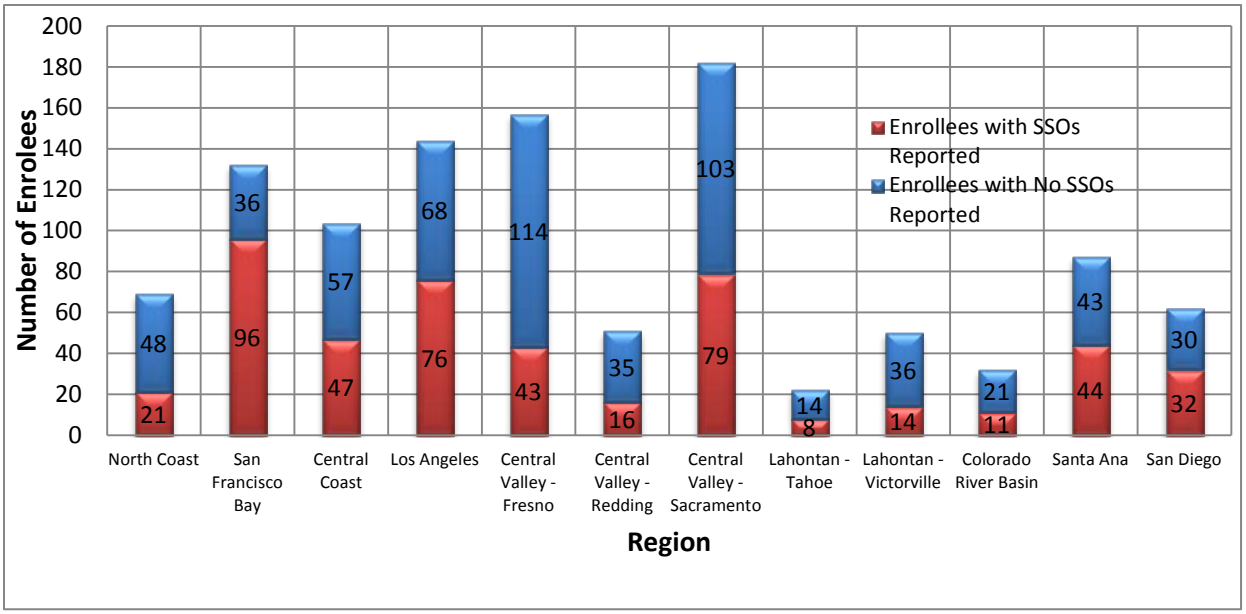
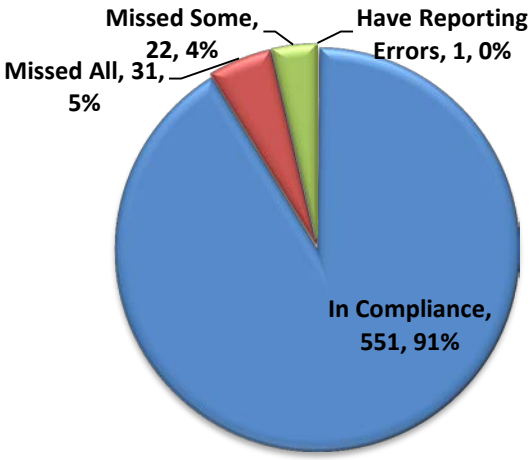


Figure 5 –Number of Enrollees with SSO and No SSOs Reported by the Regional Water Boards in Fiscal Year 2013-2014



Note: Reporting errors include, filling a "No-spill" certification when the enrollee had a public SSO spill, submitting duplicate "No-spill" certifications, not submitting a "No-spill" certification, or not submitting an SSO.

Figure 6 – Monthly Reporting Performance of Enrollees with No SSOs Reported in Fiscal Year 2013-2014

C. SSMP Development and Certification

Enrollees are required certify that their final SSMPs have been developed within the time frames specified in the SSS WDRs. This certification is submitted electronically in the SSO database. Enrollees are required to obtain their governing boards' (or equivalent) approval at a public hearing for the final SSMP certification and for SSMP re-certification. Enrollees are required to make the SSMP publicly available, and upload an electronic copy to the SSO database or provide a link to the enrollees' website where the SSMP is posted.

The CIWQS online certification system for the SSMP provides State and Regional Water Board staff the ability to evaluate compliance of enrollees with SSMP development deadlines. Staff and the Office of Enforcement are conducting activities described in section 2.F to improve the SSMP compliance rates. The SSMP development compliance is illustrated on Figure 7.

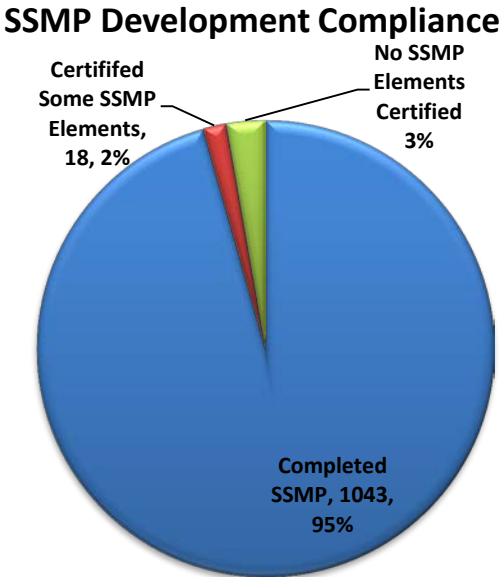


Figure 7 – SSMP Development Compliance as of 6/30/2014

All enrollees were required to complete their SSMPs by 2010. Over the past five years that SSMPs have been implemented, staff has collected and analyzed data to determine the effectiveness of SSMPs in reducing number and volume SSOs and managing sanitary sewer systems. As shown in figure 8, the number of SSOs caused by operational[3] related issues has a noticeable decreasing trend. In addition, the volume of SSOs has decreased over the past three fiscal years; this is, in part, be attributed to the effectiveness of SSMPs as well as the dry conditions that the state is currently experiencing.

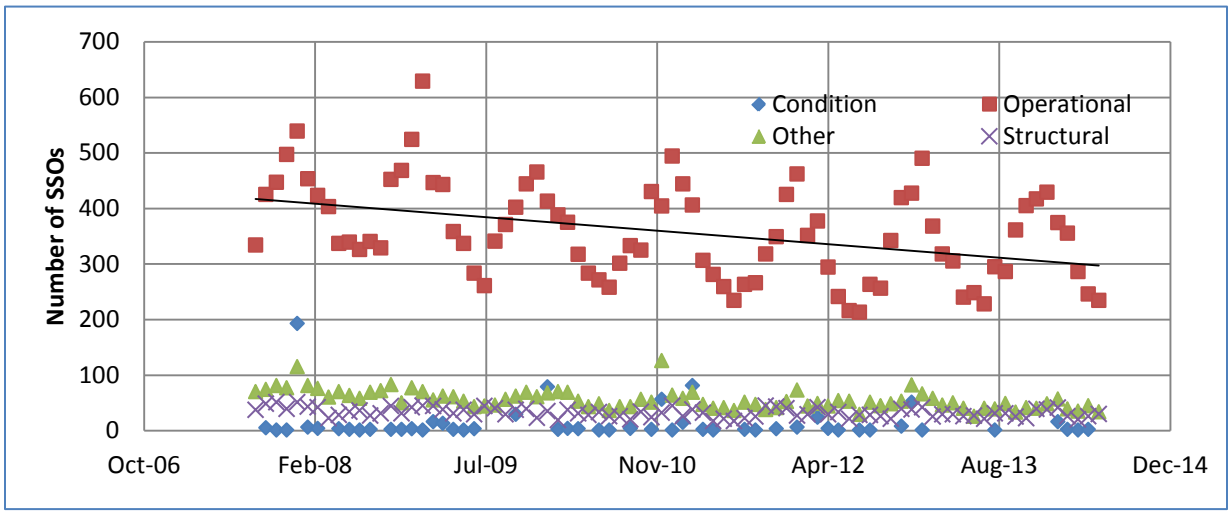


Figure 8 - Monthly SSO Trend by Cause Category

Enrollees use the SSMP as a tool effectively manage their sanitary sewer system. The SSS WDRs require that agencies develop eleven elements as part of the SSMP. For example, enrollees have developed Fats Oils and Grease (FOG) programs that have helped reduced the number of SSOs attributed to FOG related issues by 50 percent. Overall, the implementation of SSMPs over the past five years has shown that enrollees are using the SSMP as an important tool to manage their sanitary sewer systems more effectively.

As part of the SSMP requirements, enrollees have to update their SSMP every five years, and must include any significant program changes. Re-certification by their governing board is required in accordance with section D.14 of the SSS WDRs when significant updates to the SSMP are made. Per section D.15 of the SSS WDRs, enrollees that serve a population of 10,000 or more (477 enrollees) were required to have their five-year SSMP update and re-certification on or before August 2014.

D. Sanitary Sewer System Questionnaire

The SSS WDRs require enrollees to complete a sanitary sewer system questionnaire and update it every 12 months. The sanitary sewer system questionnaire is a summary of each enrollee's organization, sanitary sewer system management resources, and sanitary sewer system assets. Enrollees are required to submit information including operating and capital

[3] Operational – Includes, SSOs caused by debris, fats, oil and grease, roots; Condition – Includes SSOs caused by flow exceeded capacity and rain flow exceeded capacity; Structural – Includes, SSOs caused by pipe structural failures and pump station failure; Other – Includes, unknown cause, multiple causes, vandalism, operator error, maintenance, improper installation, valve failure, failure from diversion during construction, siphon failure, inappropriate discharge, and non-sanitary sewer system related.

expenditure budgets, miles of pipe, number of employees, and population served. The purpose of this questionnaire is to put the enrollee's SSMP and reported SSOs into context with organizational and facility characteristics. This is important because these characteristics have a significant impact on how an enrollee operates and maintains its sanitary sewer system. For example, population served represents the size of the rate paying base an enrollee has available from which to collect fees to operate and maintain the sanitary sewer system.

Currently, 96 percent of enrollees (i.e., 1,052) have completed their sanitary sewer system questionnaire and updated it annually; four percent (i.e., 40) have completed their questionnaire but have failed to update it annually or have never completed their questionnaire. Figure 8 show compliance with the sanitary sewer system questionnaire in Fiscal Year 2013-2014. For compliance assistance, email reminders are now sent to each enrollee one month before their yearly questionnaire update is due.

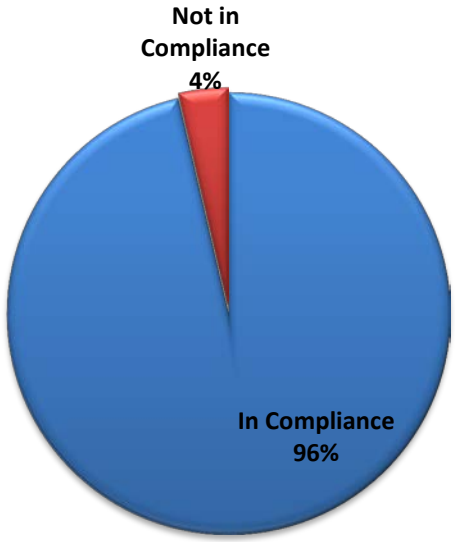


Figure 9 – Sanitary Sewer System Questionnaire Compliance

4.0 SPILL DATA SUMMARY

A. Statewide Reported Spill Data

The SSS WDRs prohibit all SSOs that reach surface water or cause a nuisance as defined in California Water Code section 13050(m)(2). A summary of statewide SSO data reported by enrollees since reporting requirements became effective on January 2, 2007 and for Fiscal Year 2013-2014 is presented in Table 2 below.

State Water Board staff conducts checks to ensure the accuracy of the approximately 38,800 enrollee-entered spill records. When erroneous data is identified, the enrollee responsible for the data entry error is contacted and requested to correct it. The data summaries presented in Table 2 below are from analyses of spill data submitted by enrollees. Staff is examining additional metrics as ongoing data cleanup by enrollees is completed, efforts to improve the reporting database are implemented, and additional data is collected.

Table 3 – Overall and Fiscal Year 2013-2014 Statewide SSO Data

	Jan 2007 - Jun 2014	FY 2013 - 2014
Number of SSOs	38,758	4,788
Total Volume of SSOs (gallons)	185,467,289	5,006,501
Total volume Recovered (gallons)	29,047,459	2,107,763
Total Volume Reached Surface Water (gallons)	154,199,106	2,083,841
Percent Recovered	16%	42.1%
Percent Reached Surface Water	83%	41.6%
Total Miles of Pressure Sewer	3,416	3,416
Total Miles of Gravity Sewer	94,917	94,917
Total Miles of laterals Responsible	10,807	10,807
SSOs per 100 miles per year	4.73	4.39
Volume of SSOs per 100 miles per year	22,658	4,587

Overall SSO Reduction Program performance from January 2, 2007, when the first SSS WDR enrollees were required to start reporting, to June 30, 2014, is illustrated in Figures 10 and 11. From January 2008 to the present, a general downward trend in the number of spills occurring during all seasons is evident. Figure 10 illustrates the seasonal pattern with respect to spill volumes. During the 2010/2011 wet season, spill volumes rose significantly. However during the past three wet seasons the spill volume has decreased, in part, due to the ongoing drought the state is experiencing. As illustrated on Figure 11, California has been below percent of normal precipitation for the past three water years (September – October).

The largest volume SSO occurred during the 2010/2011 wet season when a major storm occurred in the Victor Valley region on the week of December 19, 2014, the storm prompted a declaration of major disaster area by President Obama. The Valley Wastewater Reclamation Authority (VVWRA) sustained damage to the main interceptor located under the Mojave River causing an estimated 42 million gallon SSO. Following the SSO, the Lahontan Water Board issued Investigative Order R6V-2011-0007 requiring VVWRA to submit a spill assessment report, water quality investigation report, control plan and schedule, and repair/replacement plan. VVWRA immediately began construction of a temporary bypass which included two temporary pump stations, 5,000 feet of pipeline, and a pipeline bridge over the Mojave River. A permanent interceptor is currently under construction with an expected completion date of March 2015.

The increase in SSO volume during wet seasons is likely caused by excessive inflow and infiltration and/or inadequate capacity of sanitary sewer systems. The annual variation in wet season spill volume appears to be correlated with the annual variation in wet season precipitation with more spills and higher volumes generally correlating to higher average statewide annual precipitation.

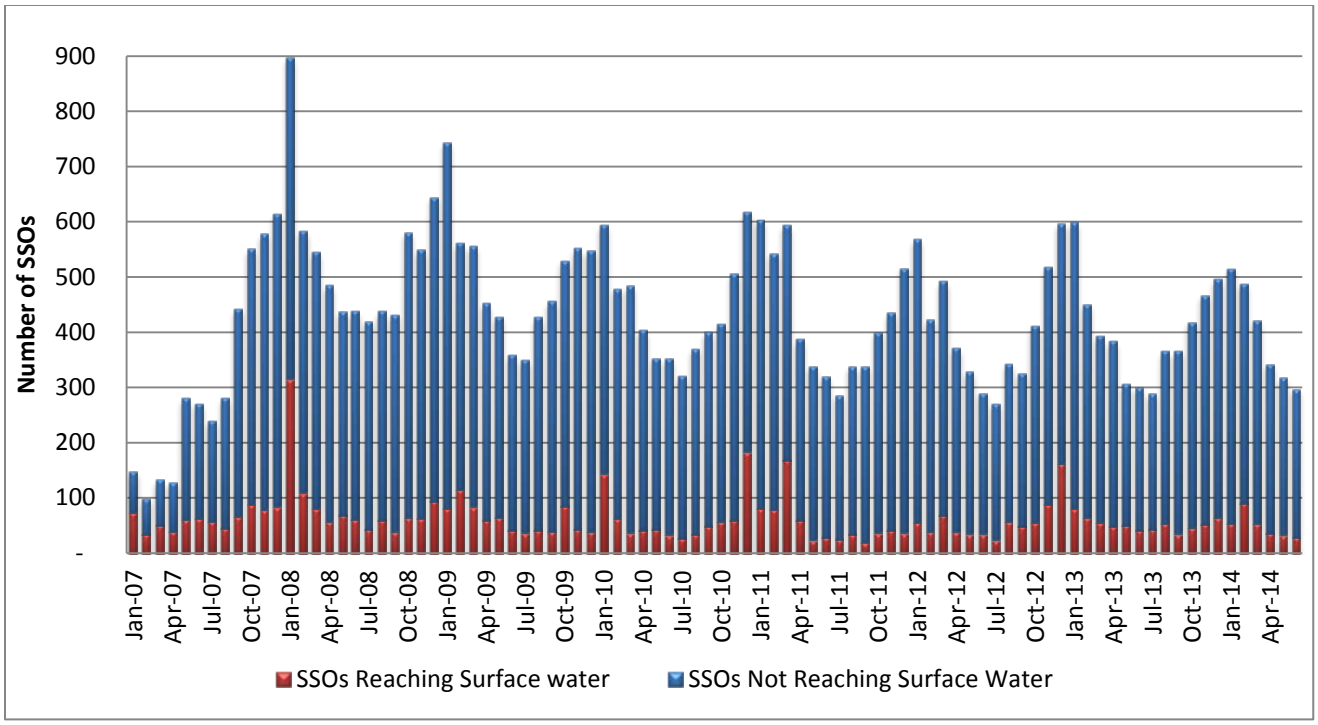


Figure 10 – Monthly Trend in Number of SSOs

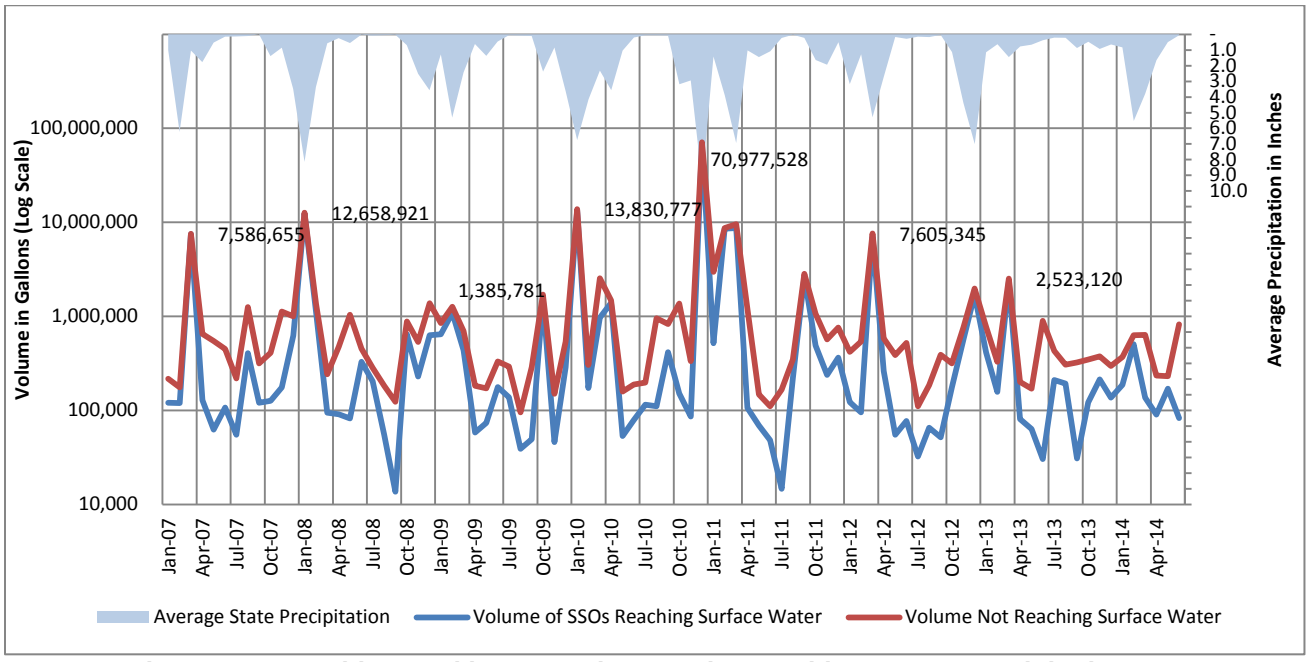


Figure 11 – Monthly Trend in SSO Volume and Statewide Average Precipitation

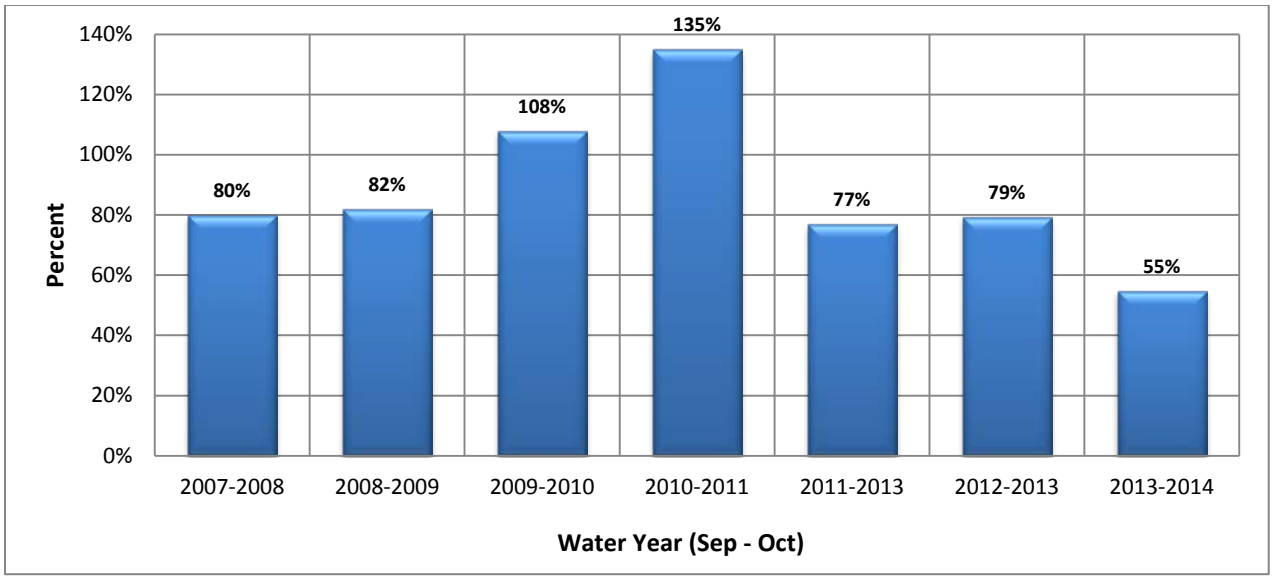


Figure 12 - Percent of Normal Precipitation in California by Water Year

B. SSO Spill Trends for Fiscal Year 2013-2014

As illustrated in Figure 13, approximately 91 percent of all SSOs in the state are less than 1,000 gallons. Of the reported SSO volume spilled in the state, approximately 90 percent of the total volume is from only about 1.6 percent of the SSO events as illustrated in Figure 13. Therefore, only about 10 percent of the reported volume of SSOs in the state result from the majority of SSO events (i.e., approximately 91.4 percent of SSOs).

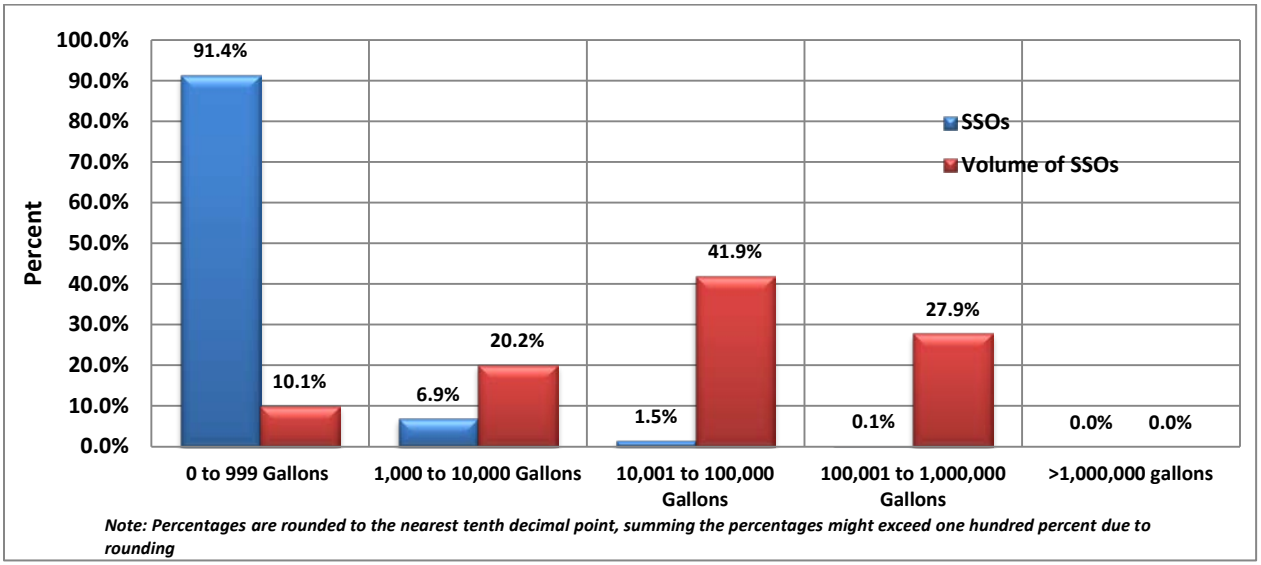


Figure 13 – Percentage of Total Number and Volume of SSOs by Spill Size Class for Fiscal Year 2013-2014

The percentage of reported SSOs and volume that reached surface water by spill size class is presented in Figure 14. Of 4,788 SSOs reported during Fiscal Year 2013-2014, 589 SSOs (approximately 12 percent) were reported to have reached surface water. Of these, 362 SSOs (approximately 61 percent) were less than 1,000 gallons. The majority of spills (approximately 88 percent) were reported as not reaching surface water.

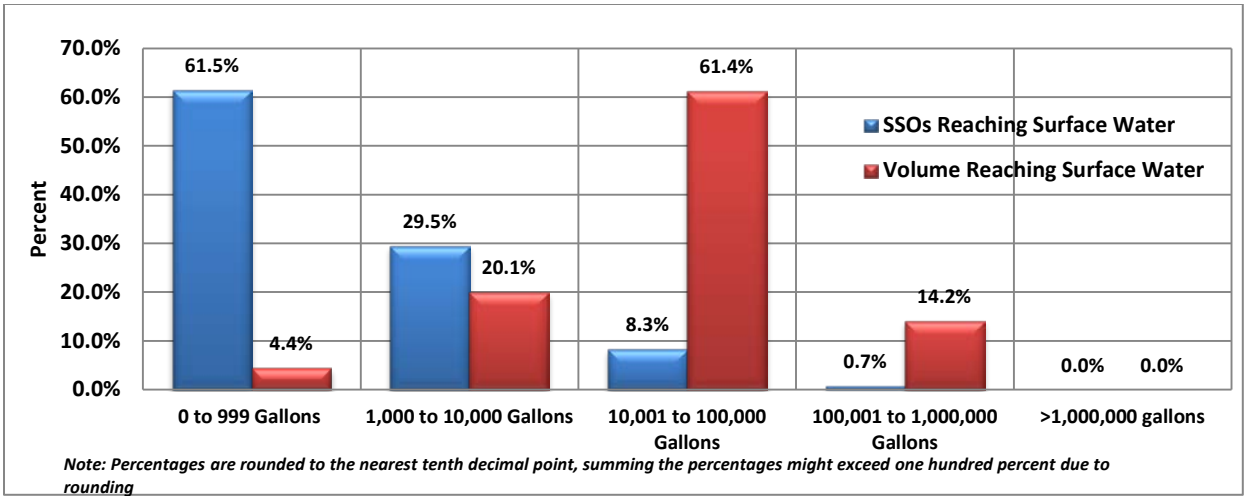


Figure 14 – Percentage of SSOs and Volume Reaching Surface Water by Size Class for Fiscal Year 2013-2014

The number of enrollees reporting SSOs to surface waters and the number of SSOs reaching surface waters since program since June 2011 are presented in Table 4. For previous fiscal years, please refer to the FY 2012-2013 Annual Report. There is no discernible trend in the number of enrollees reporting SSOs to surface waters. However, there is a general decreasing trend in the number of SSOs reaching surface waters each fiscal year. These data trends remain unchanged over prior years and represent the overall "life of program" trend.

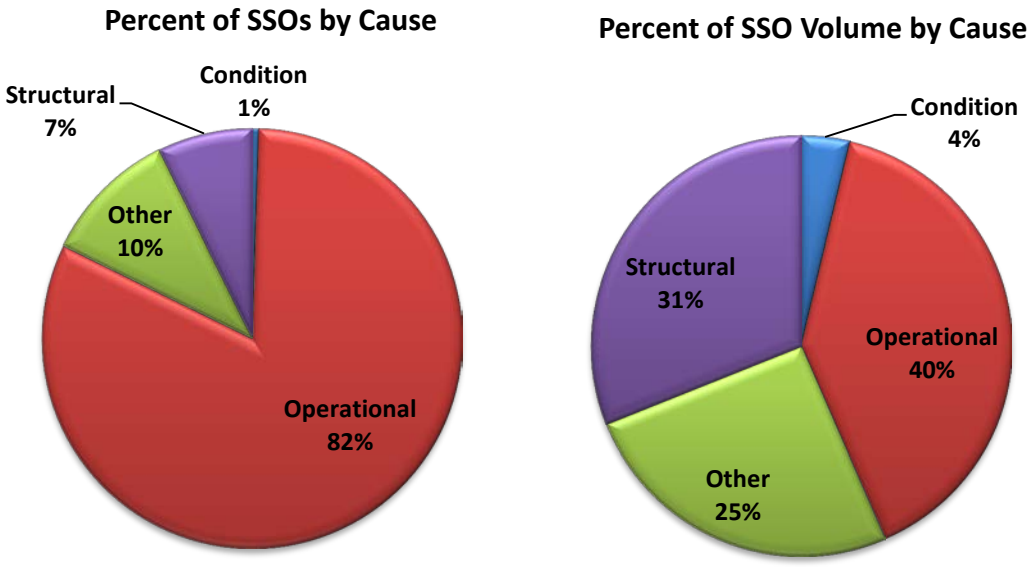
Table 4 - Number of Enrollees with SSOs to Surface Waters and Number of SSOs to Surface Water

Regional Water Board	FY 11-12		FY 12-13		FY 13-14	
	Enrollees w/ SSOs Reaching Surface Water	Number of SSOs Reaching Surface Water	Enrollees w/ SSOs Reaching Surface Water	Number of SSOs Reaching Surface Water	Enrollees w/ SSOs Reaching Surface Water	Number of SSOs Reaching Surface Water
North Coast	11	22	12	19	10	30
San Francisco Bay	48	172	72	285	64	197
Central Coast	19	26	31	57	17	41
Los Angeles	35	74	47	147	48	138
Central Valley - Fresno	9	13	6	7	5	11
Central Valley - Redding	5	7	26	56	5	13
Central Valley-Sacramento	27	57	23	66	29	77
Lahontan - Tahoe	2	5	11	51	1	1
Lahontan - Victorville	4	10	5	10	3	3
Colorado River Basin	1	1	29	68	2	4
Santa Ana	22	37	2	2	21	38
San Diego	14	29	5	9	18	36
Total	**197**	**453**	**269**	**777**	**223**	**589**
% of Total Enrollees Reporting/Spills Reported	**41%**	**10%**	**55%**	**16%**	**46%**	**12%**

C. Spill Causes for Fiscal Year 2013-2014

Figure 15 presents the percentages of total SSOs by spill causes for Fiscal Year 2013-2014. The data indicate that operational causes (root intrusion, grease deposition, and debris) remain as the primary causes of SSOs and are responsible for approximately 82 percent of all SSOs. During Fiscal Year 2013-2014, in terms of volumes spilled, these causes resulted in approximately 40 percent of the reported SSO volume, which is approximately 25 percent higher than Fiscal Year 2012-2013.

The data indicate that SSOs caused by factors related to system capacity (e.g., flow exceeded capacity) and structural issues (e.g., pipe structural failures, pump station failures) account for only approximately eight percent of the number of SSOs reported, but account for approximately 38 percent of the reported SSO volume. As Figure 15 illustrates, SSO volume spilled from condition and structural related SSOs decreased by 38 percent in comparison to Fiscal Year 2012-2013. This is due, in part, to drought conditions experienced during the past fiscal year.



NOTE: **Operational** – Includes, SSOs caused by Debris, FOG, Roots; **Condition** – Includes SSOs caused by flow exceeded capacity and Rain flow exceeded capacity; **Structural** – Includes, SSOs caused by pipe structural failures and pump station failure; **Other** – Includes, unknown cause, multiple causes, vandalism, operator error, maintenance, improper installation, valve failure, failure from diversion during construction, siphon failure, inappropriate discharge, and non-sanitary sewer system related.

Figure 15 – Percent of SSOs and Total SSO Volume by Cause for Fiscal Year 2013-2014

Further, data show that enrollees that have 50 percent or more of their SSOs caused by structural and condition issues (204) have contributed to approximately 75 percent of the total volume spilled since inception of the program, as illustrated in Figures 16 and 17. In addition, as illustrated in Figure 16, 75.4 percent of the enrollees that have reported one or more SSOs show to have 50 percent or more of the SSOs caused by operational or other related issues.

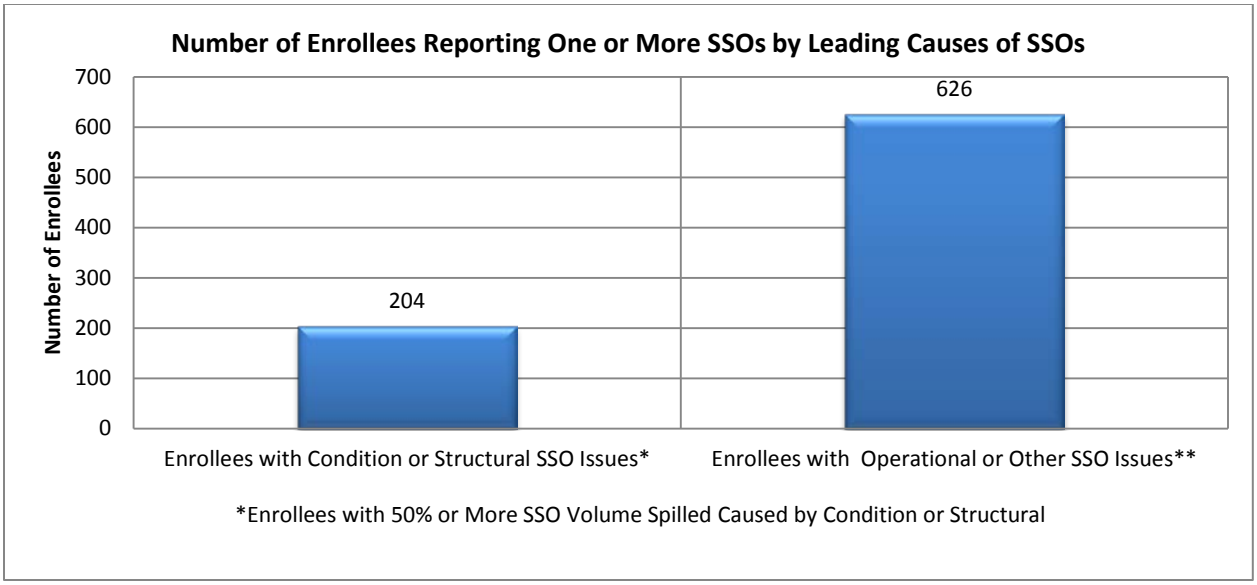


Figure 16 - Volume Spilled by Enrollees Reporting One or More SSOs by Leading Causes of SSOs

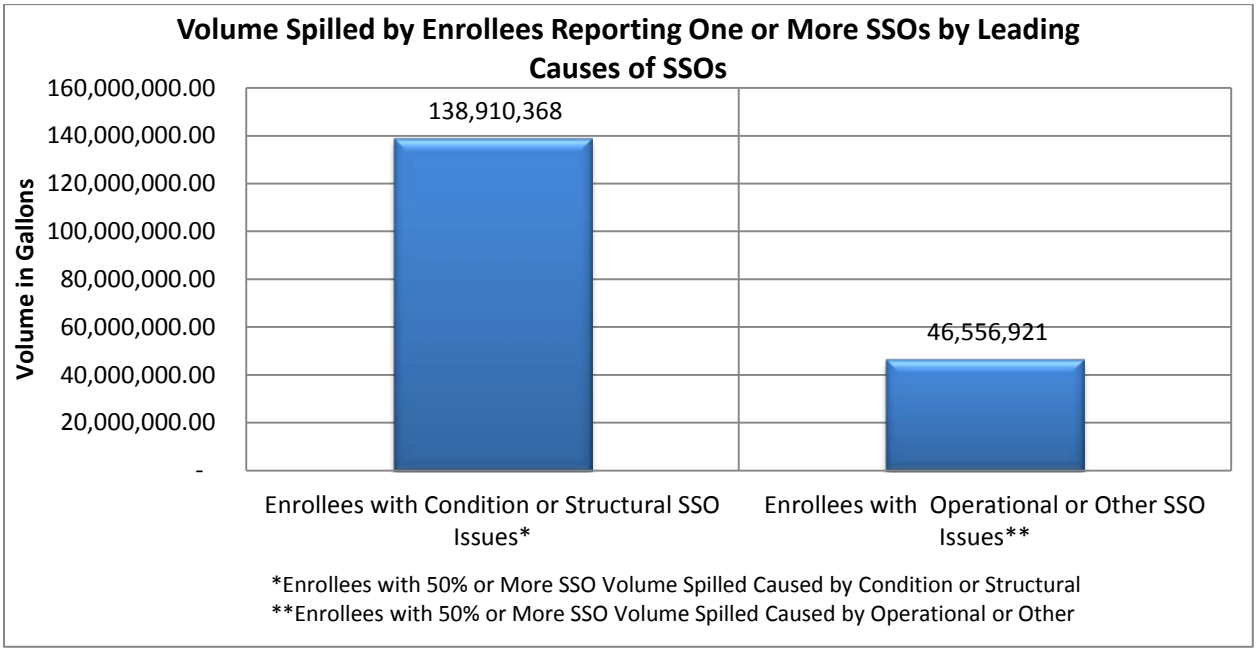


Figure 17 - Volume Spilled by Enrollees Reporting One or More SSOs by Leading Causes of SSOs

D. Sewage Spills by Pipe Characteristics for Fiscal Year 2013-2014

Pipe Diameter – Reported SSO data indicate that many enrollees are not reporting the sewer pipe diameter in their reports (i.e., approximately 66 percent) and at least 98 percent of SSOs where pipe data is reported occurred in pipe sizes of twelve inches or less. It is expected that smaller diameter pipes would be affected to a higher degree by the most common causes of SSOs (i.e., root intrusion, grease deposition, and debris). Increased thoroughness in reporting would help to clarify if there is any relationship between pipe diameter and SSOs. Pipe diameter is not a required field in the SSO reports.

Pipe Material – Reported SSO data indicate that many enrollees are not reporting the pipe material in their reports (i.e., approximately 66 percent) and at least 56 percent of the SSOs where pipe material is reported occur in vitrified clay pipes (VCP). This result is likely due to the prevalence of VCP in sanitary sewer systems piping in the state. Increased thoroughness in reporting would help to clarify if there is any relationship between pipe material and SSOs. Pipe material is not a required field in the SSO reports.

Sewer Age – As illustrated in Figure 18, approximately 52 percent of the publicly-owned sanitary sewer system piping in the state constructed on or before 1979. In general, older sanitary sewer system pipes require more maintenance than newer segments of pipe and may be more prone to SSOs.

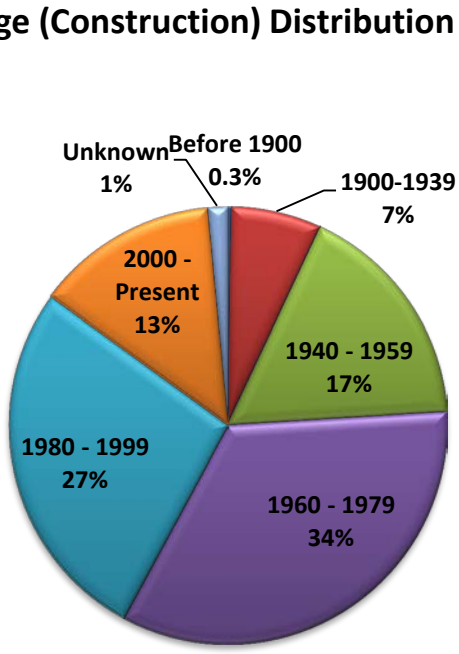


Figure 18 – Publicly Owned Sanitary Sewer Pipe Age Distribution for California as of June 2013

E. Spill Rate Indices for Fiscal Year 2013-2014

Spill rate indices are normalized metrics of spill frequencies that allow for comparison of sanitary sewer systems of different sizes. The number of SSOs per 100 miles of pipe per year metric is used to compare the relative performance of enrollees and their sanitary sewer systems. This metric expresses the number of SSOs for every 100 miles of pipe or sewer lines owned by the enrollee per year (SSOs/100 mi/year). This spill rate metric is calculated as follows:

$$= \left(\frac{\#of\ \ SSOs\ \ per\ Year}{Total\ \ miles\ \ pipe\ responsible} \right) \times 100\ miles$$

This metric is one indicator of an enrollee's overall sanitary sewer system performance and can provide insight into its management, operations, and maintenance practices. A well-managed and well-maintained system with adequate capacity can be expected to have a lower spill rate than a poorly managed system or a system with inadequate capacity.

As illustrated in Figure 19, small municipal sanitary sewer systems with fewer than 20 miles of pipe generally have spill rates above the state average for municipalities. This trend is a reflection of economies of scale in managing a sanitary sewer system. Smaller sanitary sewer systems generally have smaller budgets and fewer resources dedicated to operate and maintain their sanitary sewer systems.

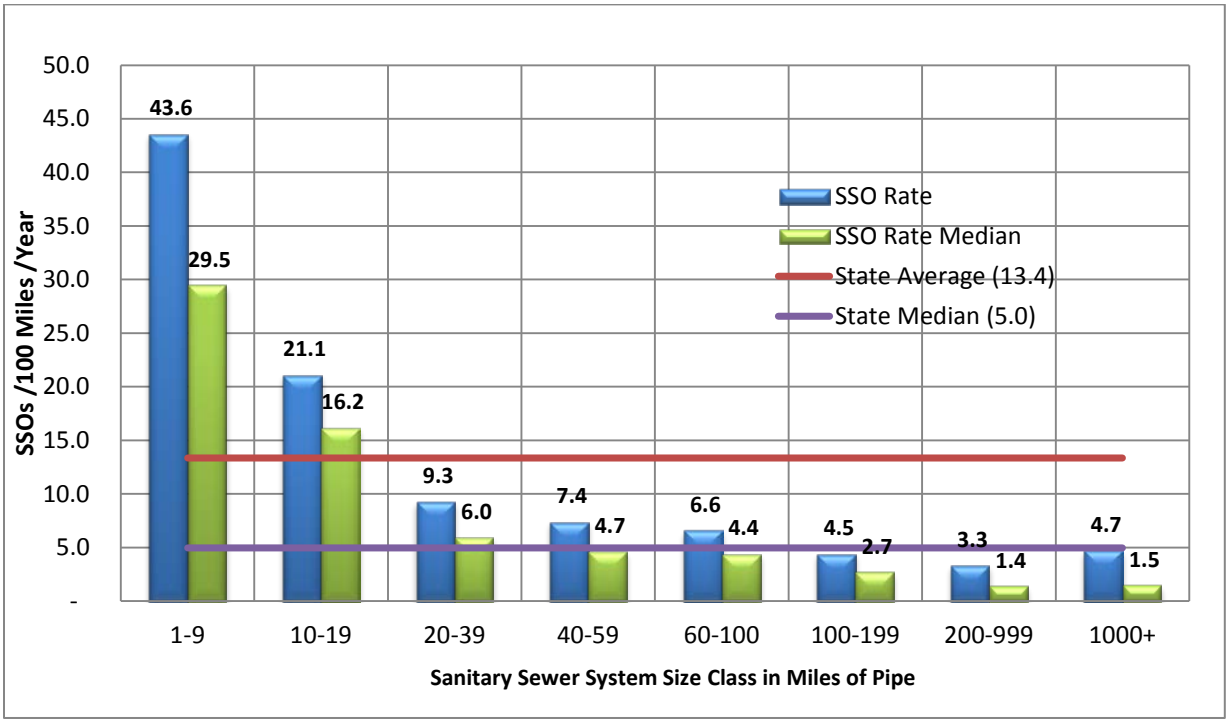


Figure 19 – SSO Rates for Municipal Sanitary Sewer Systems by System Size for Fiscal Year 2013-2014

Municipal sanitary sewer systems greater than 20 miles in length generally have spill rates below the state average for municipalities. The lower spill rates for larger sanitary sewer systems are likely attributable, in part, to having more resources to manage their sanitary sewer systems. In addition, the lower spill rates for the larger systems may be, in part, a reflection of earlier development and implementation of SSMPs. For instance, agencies that own larger sanitary sewer systems were required to develop and implement their SSMPs before the agencies that own smaller sanitary sewer systems. The smallest agencies had a deadline of August 2, 2010 to complete development and start implementation of their SSMPs whereas, the largest agencies had a deadline of May 2, 2009 to complete development and start implementing their SSMPs. Finally, Figure 18 may be used for comparison purposes. For instance, an agency that owns 80 miles of pipeline should be compared to size class “60-100.”

Pipe age may also be a factor contributing to high SSO rates that include excessive inflow and infiltration and/or pipe defects resulting in excessive blockages. For instance, enrollees with 50 percent or more of sewer pipe constructed before 1959 have higher SSO rates as shown in Figure 20. Specifically, these enrollees have an SSO rate of 9.16 SSOs/100mi/year which is approximately double of the enrollees with less than 50 percent of sewer pipe constructed before 1959. This SSO rate for older systems is also higher than the overall state average SSO rate (over a five-year period from January 2007 through June 2014) of 6.53 SSOs/100mi/year.

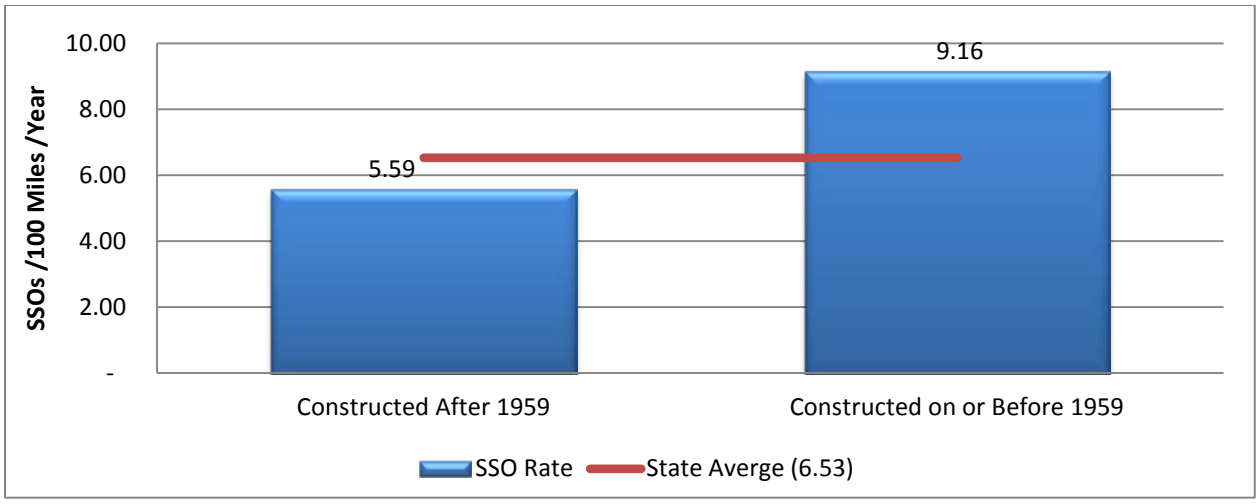


Figure 20 – SSO Rates Correlated to Pipe Age (Data from 1/2/2007 to 6/30/2013)

Although Figure 19 illustrates that sanitary sewer systems with less than 20 miles of pipe have the highest spill rates per mile of pipe, overall these systems have relatively fewer spills than larger systems as illustrated in Figure 21. In addition, as shown in Figure 22, only approximately 11 percent of enrollees (i.e., 42 enrollees) with nine or less miles of pipe reported having SSOs during Fiscal Year 2013-2014.

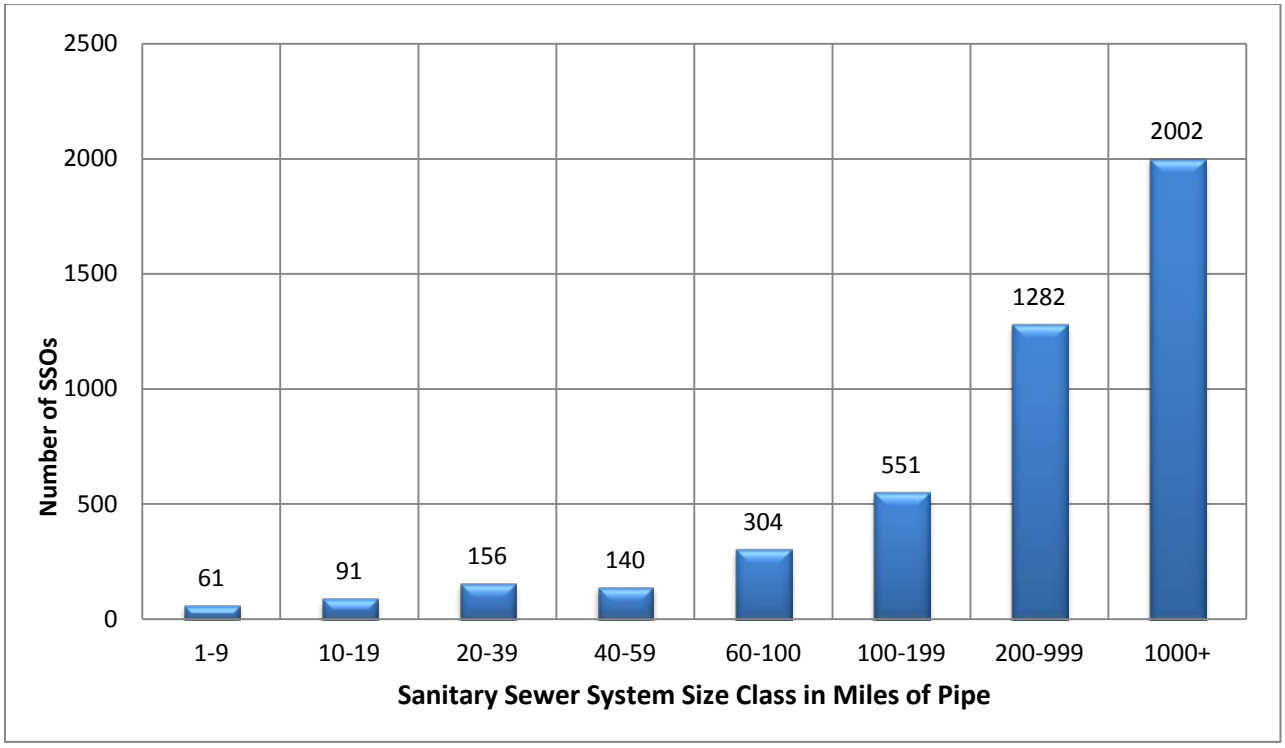


Figure 21 – Number of SSOs for Municipal Sanitary Sewer Systems by System Size for Fiscal Year 2013-2014.

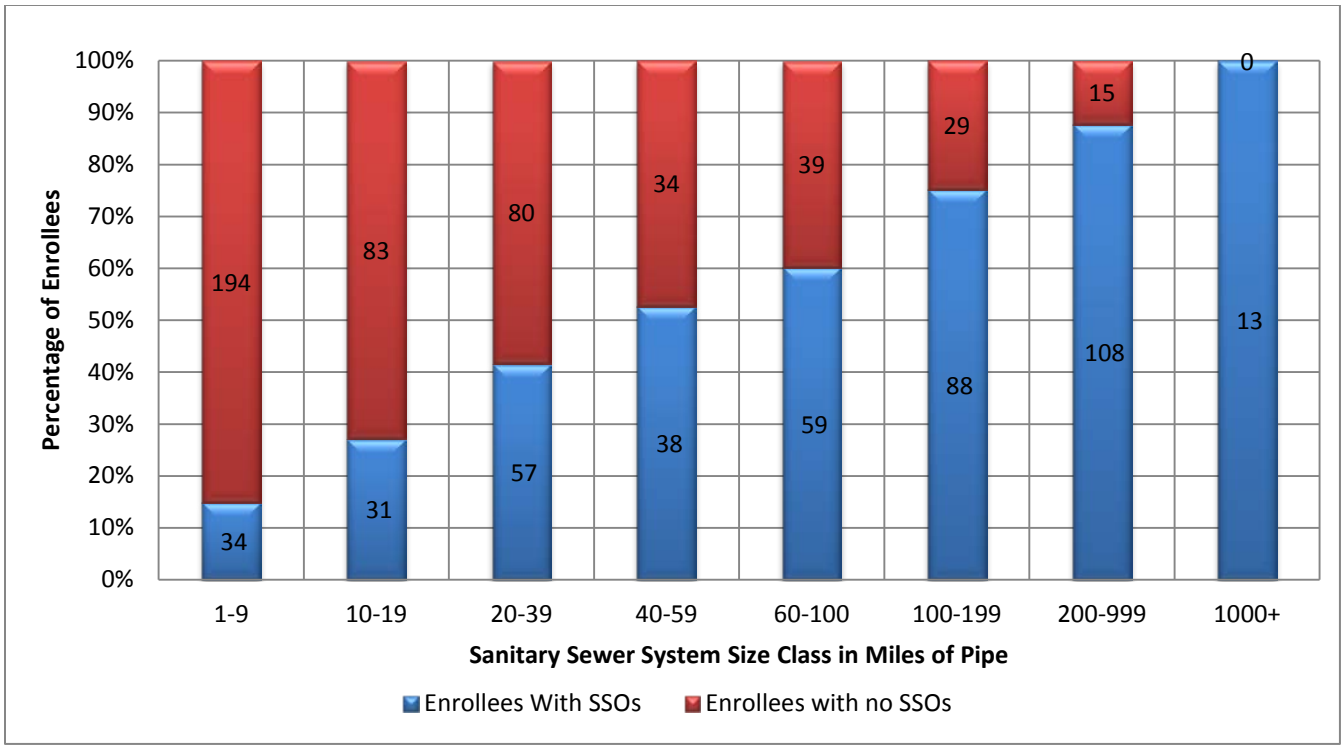


Figure 22 - Percentage and Number of Enrollees Reporting SSOs by System Size for Fiscal Year 2013-2014

The SSO volume per 1,000 people served per year (gallons/1,000 capita/year) is another metric that can be used to compare the relative performance of sanitary sewer systems. This metric is calculated as follows:

$$= \left(\frac{Total\ Volume\ Spilled\ \ per\ Year}{Population\ Served} \right) \times 1000$$

The SSO spill volume rate for enrolled municipal sanitary sewer systems by system size class for Fiscal Year 2013-2014 is illustrated in Figure 23. Sanitary sewer systems between 1 and 10 miles of pipe, and between 20 and 39 miles of pipe have the highest SSO volume rates at 3,240 gallons/1,000 capita/year and 1,441 gallons/1,000 capita/year, respectively. Sanitary sewer systems with more than 1,000 miles of pipe have the lowest average SSO spill volume rate at 130 gallons/1,000 capita/year.

Figure 24 shows the total SSO volume in the state by sanitary sewer system size class for Fiscal Year 2013-2014. Sanitary sewer systems with more than 60 miles of pipe contributed approximately 81 percent of the SSO volume in the state during Fiscal Year 2013-2014. Also, it is worth noting that the volume of SSOs during Fiscal Year 2013-2014 decreased by 44 percent from the previous fiscal year.

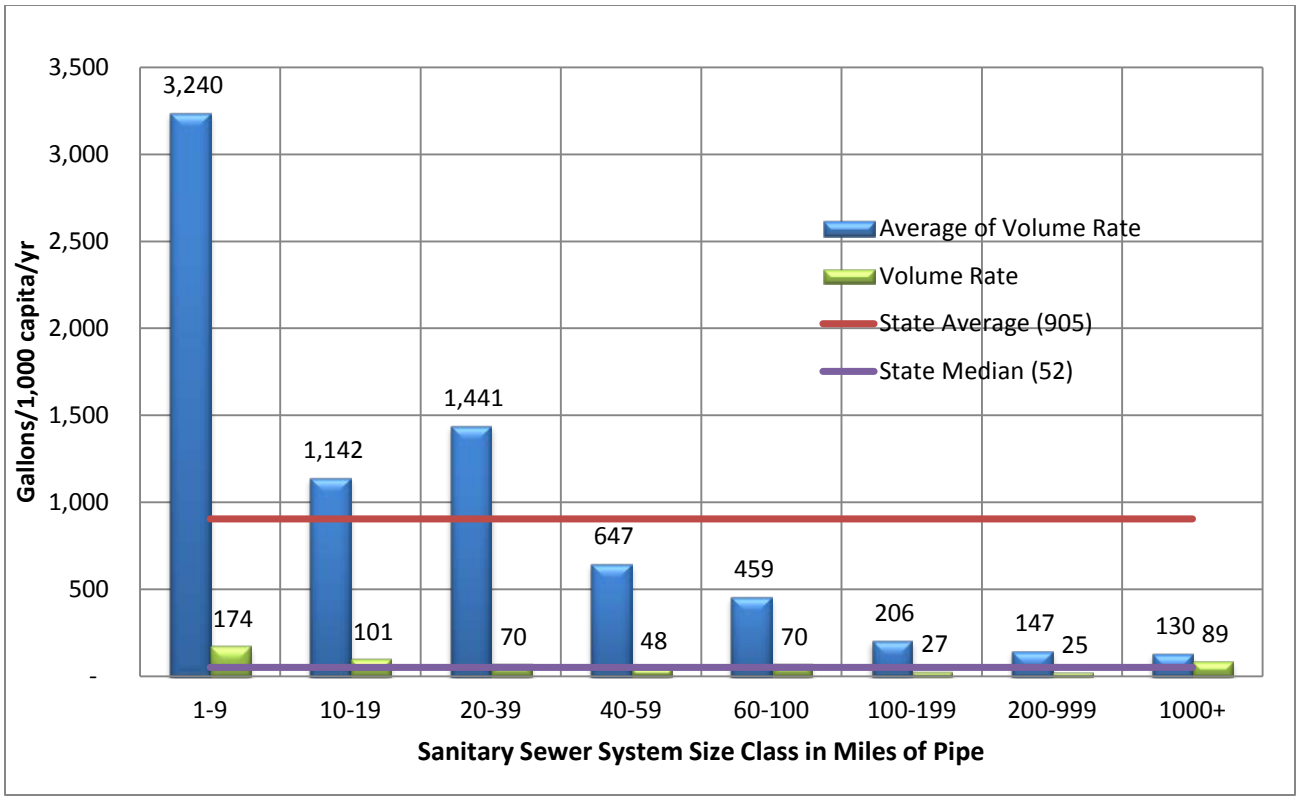


Figure 23 –SSO Volume Rates for Municipal Systems by System Size for Fiscal Year 2013-2014

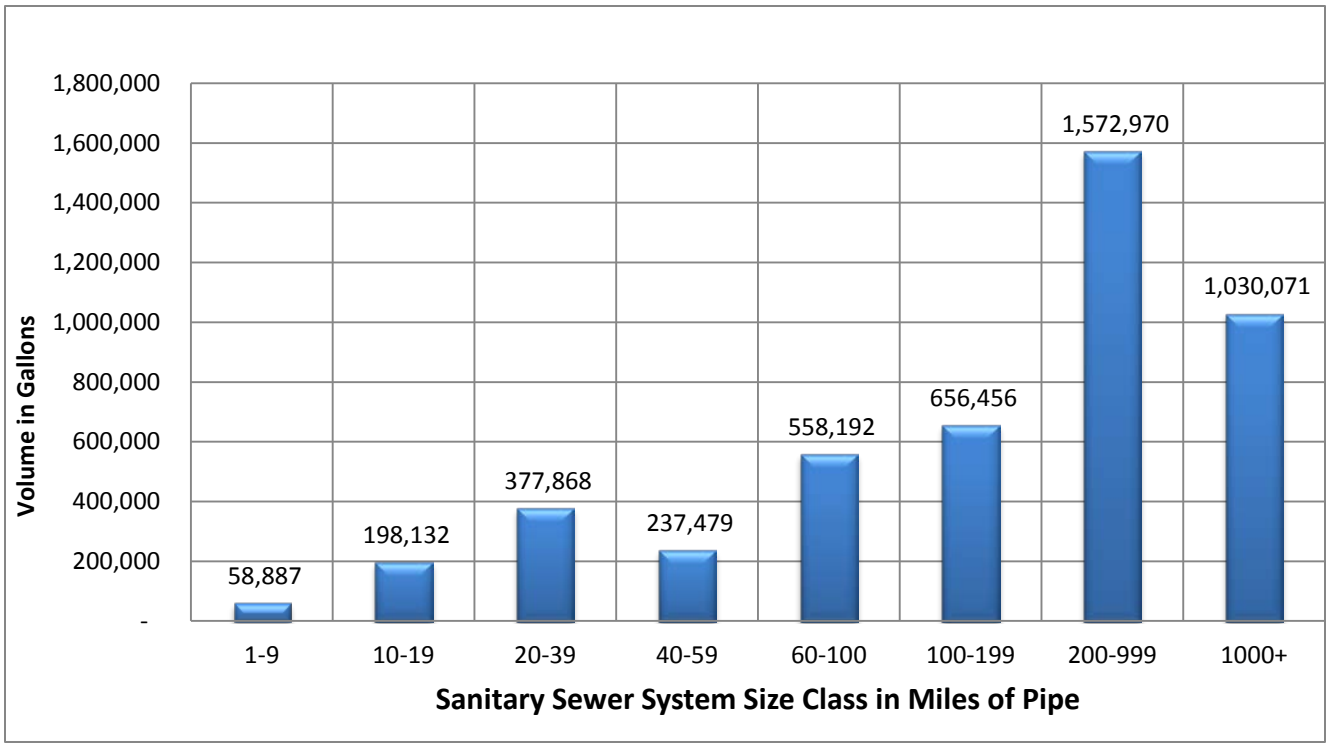


Figure 24 –Total SSO Volume for Municipal Sanitary Sewer Systems by System Size for Fiscal Year 2013-2014

As illustrated in Figures 18 and 22, there is a significant difference in mean and median rates for the spill rate indices. The median rate is the rate at which half the sanitary sewer systems in the category have rates higher and half have rates lower. The mean is the sum of the rates of all sanitary sewer systems in the category divided by the number of systems in the category. The large difference between the mean and median rates indicates that a number of sanitary sewer systems have significantly higher spill rates than others, and these poor performers are driving the average rates well above the median rates.

F. Regional Water Board Spill Data and Trends for Fiscal Year 2013-2014

Table 5 shows a summary of the statewide SSO data by Regional Water Board for Fiscal Year 2013-2014. As illustrated in Table 4, the Central Valley Water Board (Sacramento) and San Francisco Bay Water Board have the highest SSO rates with 11.96 SSOs/100mi/year and 7.14 SSOs/100mi/year, respectively. With respect to SSO volume rate, the North Coast Water Board and the San Francisco Bay Water Board have the highest SSO volume rates with 12,395 gallons/100mi/year and 6,444 gallons/100mi/year, respectively. The data also indicate that the San Francisco Bay, Los Angeles, Central Valley (Sacramento), Santa Ana, and San Diego Water Boards have the majority of sanitary sewer system piping owned by public agencies in the state. Regional Water Boards with more than office report separate data for their offices. Thus, Sacramento is specified for the Central Valley Water Board.

Table 5– Regional Water Board SSO Data for Fiscal Year 2013-2014

Regional Water Board	Total Miles of Sewer Owned by Enrollees	Facilities Regulated	Enrollees Reporting SSOs	Enrollees with No SSOs	Number of SSOs	Volume of Sewage Spilled	Volume Reaching Surface Water	Percent Reaching Surface Water	SSOs Per 100 miles of Sewer	SSOs Volume Per 100 miles of Sewer
North Coast	2,409	69	21	48	82	298,555	196,081	66%	3.40	12,395
San Francisco Bay	17,845	132	96	36	1,275	1,149,904	634,699	55%	7.14	6,444
Central Coast	4,596	104	47	57	244	207,093	43,996	21%	5.31	4,506
Los Angeles	21,883	144	76	68	505	564,300	251,520	45%	2.31	2,579
Central Valley - Sacramento	17,050	182	79	103	2,040	490,672	345,354	70%	11.96	2,878
Central Valley - Redding	1,765	51	16	35	46	189,472	161,765	85%	2.61	10,733
Central Valley - Fresno	8,296	157	43	114	138	516,809	4,615	1%	1.66	6,230
Lahontan - Tahoe	1,188	22	8	14	29	48,890	35,118	72%	2.44	4,114
Lahontan - Victorville	3,034	50	14	36	50	172,183	4,273	2%	1.65	5,676
Colorado River Basin	3,144	32	11	21	37	41,263	20,660	50%	1.18	1,312
Santa Ana	16,717	87	44	43	142	655,829	283,787	43%	0.85	3,923
San Diego	11,214	62	32	30	200	671,531	101,973	15%	1.78	5,988
TOTAL	**109,140**	**1,092**	**487**	**605**	**4,788**	**5,006,501**	**2,083,841**	**44%**	**3.52**	**5,565**

The statewide distribution of the total number and volume of SSOs reported for Fiscal Year 2013-2014 is illustrated in Figure 25 as the percentage of total statewide SSO volume reported in each Regional Water Board. These data indicate that:

(1) Central Valley (Sacramento office), San Francisco Bay, and Los Angeles Water Boards account for 80 percent of reported spills in the state (Central Valley (Sacramento office) Water Board = 43 percent, San Francisco Bay Water Board = 27 percent, Los Angeles Water Board = 11 percent); and

(2) San Francisco Bay, San Diego Water and Santa Ana Water Board Regions account for approximately 50 percent of reported spill volume in the state (San Francisco Bay = 23 percent, San Diego = 13 percent, Santa Ana Region = 13 percent).

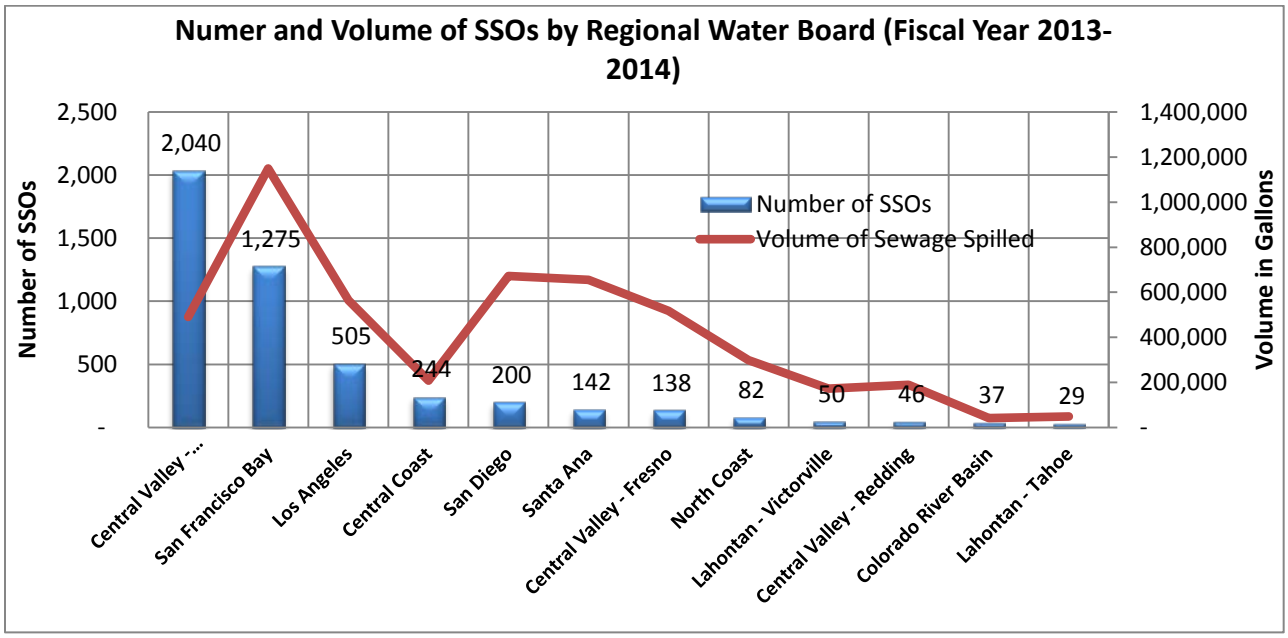


Figure 25 – Regional Trends in SSO Volume for Fiscal Year 2013-2014

G. Spill Ranking Tool

Limited Water Board enforcement resources have necessitated the development of criteria for ranking and a prioritization tool. State Water Board staff has developed spill ranking tool that would help identify enrollees that have the highest SSO numbers and volume of sewage spilled. Staff developed the tool using available applications, enrollee data, and rate indices developed with the SSO Reduction Program Data Review Committee.

Water Board staff ranked all enrollees based on several performance factors to provide a measure of each enrollee's overall compliance with the SSS WDRs and performance in terms of SSO and volume rates. The ranking methodology will provide an overall measure of collection system performance and identify enrollees most in need of compliance and enforcement attention.

The criteria used for spill ranking include volume rate (gallons spilled/1000 capita/year), SSO rate (number SSOs/100mi pipe/year), number of SSOs over 50,000 gallons, number of Category 1 SSOs, and percent of volume of SSOs reaching surface water. Each criterion is given a weighted percentage factor; the sum of all criteria factors totaled one hundred percent. All calculations are automated, using real-time data, to reflect the most up-to-date rankings.

Table 6 shows the 20 sanitary sewer systems that ranked the highest using the spill ranking tool from highest to lowest for Fiscal Year 2013-2014. The population served and pipe mileage of the ranked sanitary sewer systems for Fiscal Year 2013-2014 vary from small to large systems. Table 6 also shows the total SSO volume reported in millions of gallons, the number of spill events that exceeded 50,000 gallons, and spill rates.

In Fiscal Year 2013-2014, 91 enrollees were responsible for approximately 90 percent of the

reported SSO volume. However, during fiscal year 2013-2014, the state experienced the lowest volume of SSOs spilled in comparison to the past six fiscal years. Approximately, five million gallons of sewage spilled during fiscal year 2013-2014 in comparison to 8.6 million gallons of sewage spilled during fiscal year 2012-2013.

Table 6 – Top 20 Sanitary Sewer Systems Ranked Spill Criteria for Fiscal Year 2013-2014

Region	Collection System	Population	Miles	Volume (Gallons)	% Volume Reaching Surface Water	#50k SSOs	SSO Rate	Volume Rate	FY 13-14 Ranking (Low is Better)
San Francisco Bay	San Dist #1 of Marin CS	55,000	204	131,584	93%	2	14.8	2,399	100%
San Francisco Bay	Sonoma Valley County S.D. CS	44,706	159	127,990	99%	1	6.9	2,871	89%
Central Valley - Redding	Mt Shasta CS	3,627	30	97,949	100%	1	30.1	27,080	85%
North Coast	SCWA Russian River CSD CS	7,305	46	133,004	100%	1	8.8	18,257	83%
San Francisco Bay	West County WW District CS	93,000	255	84,546	88%	1	6.7	912	83%
Central Valley - Sacramento	Sacramento Area Sewer District CS	1,170,000	4,463	198,243	80%	No SSO	31.4	170	83%
Los Angeles	Whittier City CS	87,000	194	9,353	76%	No SSO	11.4	108	75%
Central Valley - Sacramento	Amador City CS	179	4	3,600	100%	No SSO	128.6	20,167	74%
Central Valley - Sacramento	Discovery Bay CS	14,000	52	215	98%	No SSO	7.7	15	72%
San Francisco Bay	Delta Diablo SD CS	190,567	71	46,553	100%	No SSO	7.1	245	71%
San Francisco Bay	Napa Sd CS	79,360	418	32,295	94%	No SSO	31.2	408	71%
Los Angeles	La Habra Heights City CS	5,712	2	1,340	100%	No SSO	87.2	235	71%
Central Valley - Redding	City Of Oroville CS	15,000	69	61,761	100%	1	5.8	4,129	71%
North Coast	Fort Bragg City CS	7,273	36	5,711	94%	No SSO	22.5	787	70%
San Francisco Bay	Oak Knoll SMD	1,521	1	212	99%	No SSO	71.6	140	70%
Los Angeles	Inglewood City CS	120,000	145	15,598	86%	No SSO	4.8	130	70%
Central Valley - Sacramento	Yuba City CS	45,000	180	86,315	100%	1	2.8	1,923	70%
Santa Ana	Eastern Municipal Water District CS	570,400	1,144	162,145	98%	1	0.6	285	70%
Santa Ana	Costa Mesa SD CS	111,918	229	79,885	96%	1	1.3	716	69%
San Francisco Bay	Port of San Francisco CS	5,000	13	1,990	79%	No SSO	69.4	399	68%

Since September 2007, when all enrollees were required to start reporting, 56 enrollees have reported approximately 90 percent of the reported SSO volume in the state. The 56 enrollees responsible for 90 percent of the volume spilled have reported three or more SSOs reaching

surface waters. The total reported SSO volume reaching surface water from these 56 enrollees is approximately 156 million of gallons.

Table 7 shows the 20 sanitary sewer systems that ranked the highest using the spill ranking tool from highest to lowest since September 2007. Table 7 also shows the total SSO volume reported in millions of gallons, the number of spill events that exceeded 50,000 gallons and spill rates.

Table 7 – Top 20 Sanitary Sewer Systems Ranked Spill Criteria Since 2007

Region	Collection System	Population	Miles	Volume (Gallons)	% Volume Reaching Surface Water	#50k Spills	SSO Rate	Volume Rate	Ranking (Low is Better)
San Francisco Bay	Richmond City CS	68,280	199	45,992,150	100%	38	20.64	98,580	100%
San Francisco Bay	San Mateo CS	99,670	237	5,157,093	99%	27	18.59	7,572	92%
San Francisco Bay	Sonoma Valley County S.D. CS	44,706	159	1,239,161	100%	6	8.46	4,057	75%
San Francisco Bay	Town Of Hillsborough CS	11,016	98	5,143,694	72%	12	30.28	68,336	71%
Central Valley - Sacramento	Sacramento Area Sewer District CS	1,170,000	4,463	1,489,685	83%	2	32.88	186	71%
San Francisco Bay	San Dist #1 of Marin CS	55,000	204	3,545,889	81%	7	18.77	9,435	69%
San Francisco Bay	San Bruno City CS	40,165	89	1,739,088	94%	4	33.38	6,337	68%
San Francisco Bay	Oakland City CS	400,000	920	1,372,187	57%	4	14.31	502	68%
San Francisco Bay	Port of San Francisco CS	5,000	13	23,342	94%	No SSO	66.42	683	67%
San Francisco Bay	Novato And Ignacio CS	56,000	229	561,868	89%	3	8.55	1,468	66%
Lahontan - Victorville	Victor Valley Wastewater CS	110,000	44	43,514,818	100%	4	5.99	57,895	66%
San Francisco Bay	Millbrae City CS	20,718	67	88,845	91%	No SSO	55.92	628	65%
San Diego	City Of La Mesa CS	58,244	155	1,341,018	99%	2	9.06	3,370	65%
San Francisco Bay	Berkeley City Public Works CS	112,580	385	88,851	76%	No SSO	7.42	116	64%
San Francisco Bay	Rodeo SD CS	8,000	27	156,517	97%	No SSO	28.19	2,863	64%
San Francisco Bay	Sam CS	25,000	8	143,396	98%	1	25.37	839	64%
Central Coast	Oceano Comm. Serv. Dist. CS	7,700	24	94,782	99%	No SSO	14.03	1,801	64%
Central Coast	South San Luis Obispo Sd CS	40,000	9	440,658	95%	2	35.77	1,612	64%
Central Valley - Redding	Mt Shasta CS	3,627	30	99,327	99%	1	12.20	4,008	64%
North Coast	Loleta CS	750	2	97,000	99%	1	30.49	18,928	63%