Sanitary Sewer Overflow (SSO) Reduction Program

Division of Water Quality

State Water Resources Control Board

Overview

- Background on Statewide SSO Reduction Program
- Roles and Responsibilities
- Monitoring and Reporting Program (MRP) Changes
- Data Trends and Analyses
- SSO Program Activities and Priorities

Background on Statewide SSO Reduction Program

Background

- Goal
  - Reduce Sanitary Sewer Overflows (SSOs) and the volume of sewage spilled statewide
  - Protect public health, safety, and the environment
  - Timely notification for spill responders

Background

- 2004: State Water Resources Control Board passed a Resolution to reduce number and volumes of SSOs
- Provides streamlined approach to permitting sewage collection systems, compared with numerous individual regional water board permits existing at the time
- Modeled after USEPA Capacity, Management, Operations and Maintenance (CMOM) national program efforts
- First comprehensive regulatory program in nation to address sanitary sewer systems (both for reporting spills and managing collection systems)
- Statewide SSO Program Permit adopted May 2, 2006
  - Applies to publicly owned sanitary sewer systems with a 1 mile or more in pipe length
    - 1,093 currently enrolled

Basic Requirements

- Requires Reporting of SSOs
  - Spills of untreated sewage from publicly owned portions of sanitary sewer systems upstream of a sewage treatment plant head-works
  - Treatment plant and permitted combined sewage overflow points not regulated
  - Private Lateral Sewage Discharges (PLSDs) not regulated, enrollees are encouraged to report them
- Complete and update Collection System Questionnaire
- Maintain Compliance with MRP (9/9/2014 Version)
- Sewer System Management Plan (SSMP) for their sanitary sewer system

Roles and Responsibilities

- State Water Board
  - Statewide General Order regulatory implementation (DWQ/WDR Unit)
  - Audits and Enforcement of General Order (DWQ, Office of Enforcement and RBs)
  - Support RBs with spill response, inspections, audits and compliance activities
  - Additional spill response / SSO Order training classes for RBs planned for Spring/Summer 2009)

Roles and Responsibilities

- Regional Boards
  - Spill Response
  - Spill Enforcement
  - Spill notification/reporting procedures
  - Assist State Board with enrollment coverage/NOI

- Other Agencies
  - Cal OES
  - County Health Departments
  - Other

MRP Changes

Review and Update Process

Monitoring and Reporting Program (MRP)

- The MRP establishes monitoring, record keeping, reporting and public notification requirements for the SSS WDRs
- The Executive Director may make revisions to this MRP at any time pursuant to the authority delegated by Water Code section 13267(f) & Resolution No. 2002-0104
- These revisions may include a reduction or increase in monitoring and reporting

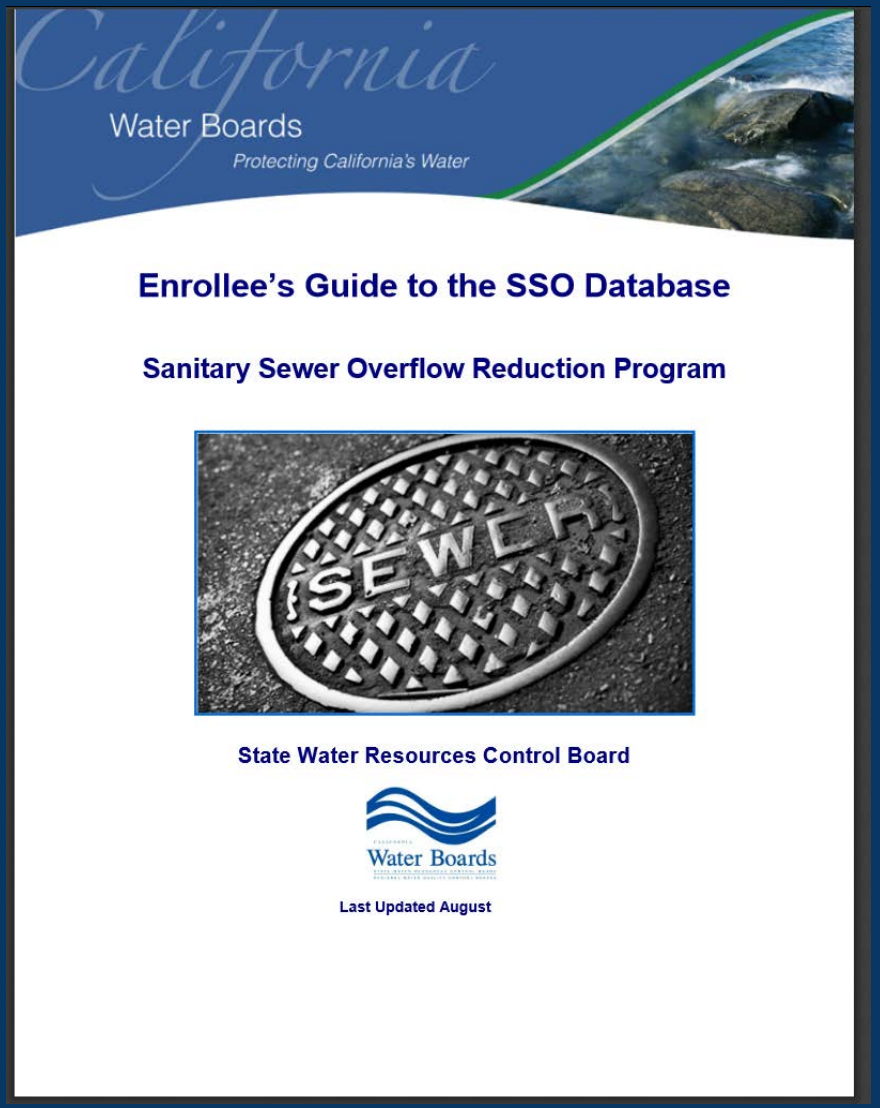
MRP Changes

- Re-categorization of SSOs
- Notification Streamlining
- Event Based Spill Reporting
- SSO Technical Report (required for SSOs where 50K gallons or more reach surface water)
- Water Quality Monitoring Plan
- Provide electronic copy of SSMP

Major MRP Changes (Cont.)

- Enrollee's Guide to the SSO Database
  - Posted on the SSO Reduction Program Website:

    http://www.waterboards.ca.gov/water_issues/programs/sso/docs/discharger_workbook.pdf
  - Provides Step-by-step guidance, FAQs, Acronyms, glossary, etc.
  - Self-audit information, pre-inspection questionnaire, and other resources
  - Develop with assistance from enrollees



Data Trends and Analyses

Statewide Sewer Overflow Data

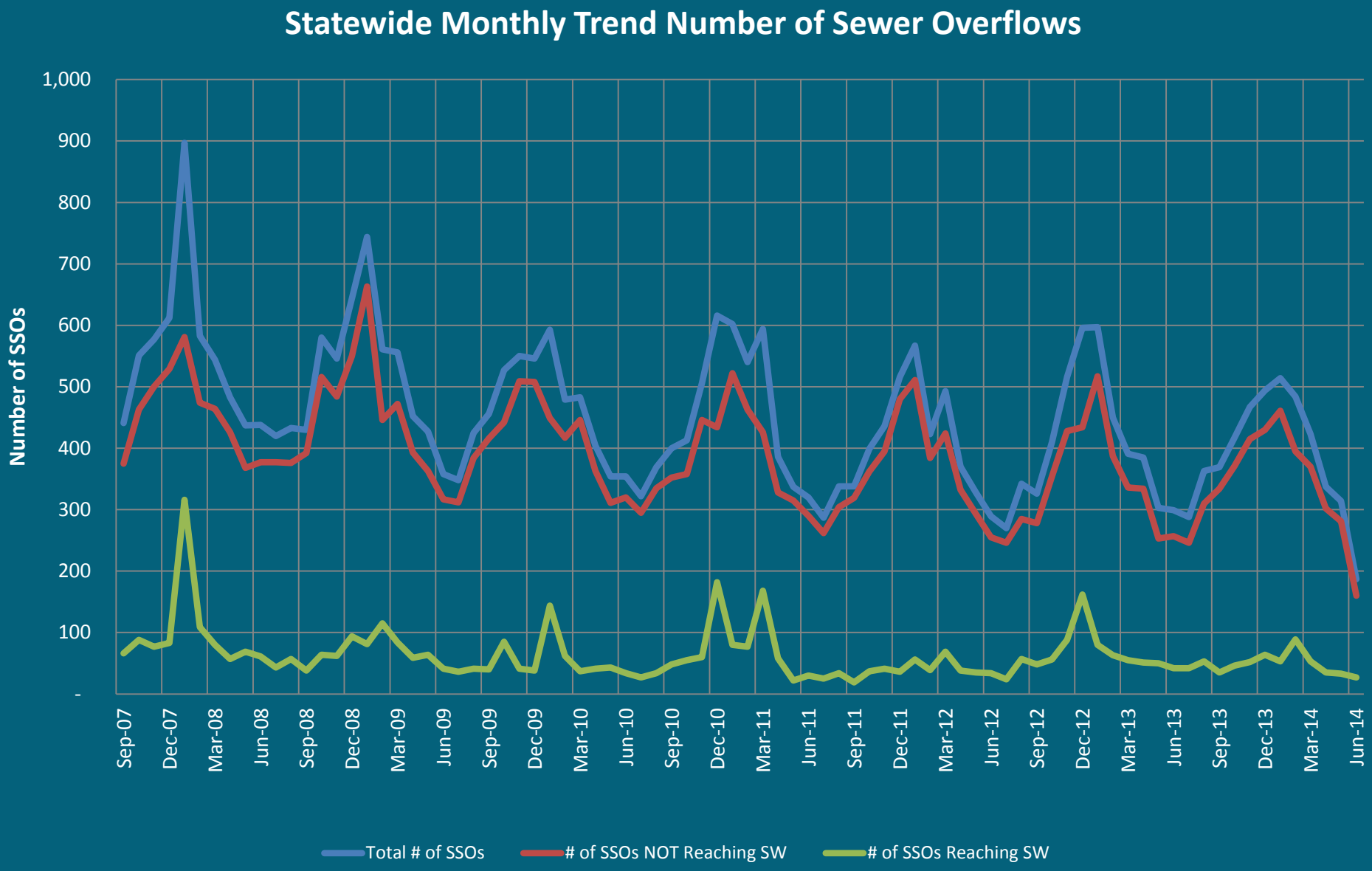
- Statewide data from January 2007 through June 2014:
  - 38,576 SSOs reported
    - 14% of sewer overflows reached surface water
  - ~196.6 million gallons of raw sewage overflow
    - 84% reached surface water

- SF Region data from January 2007 through June 2014:
  - 12,393 SSOs reported
    - 14% of sewer overflows reached surface water
  - ~72.9 million gallons of raw sewage overflow
    - 91% reached surface water

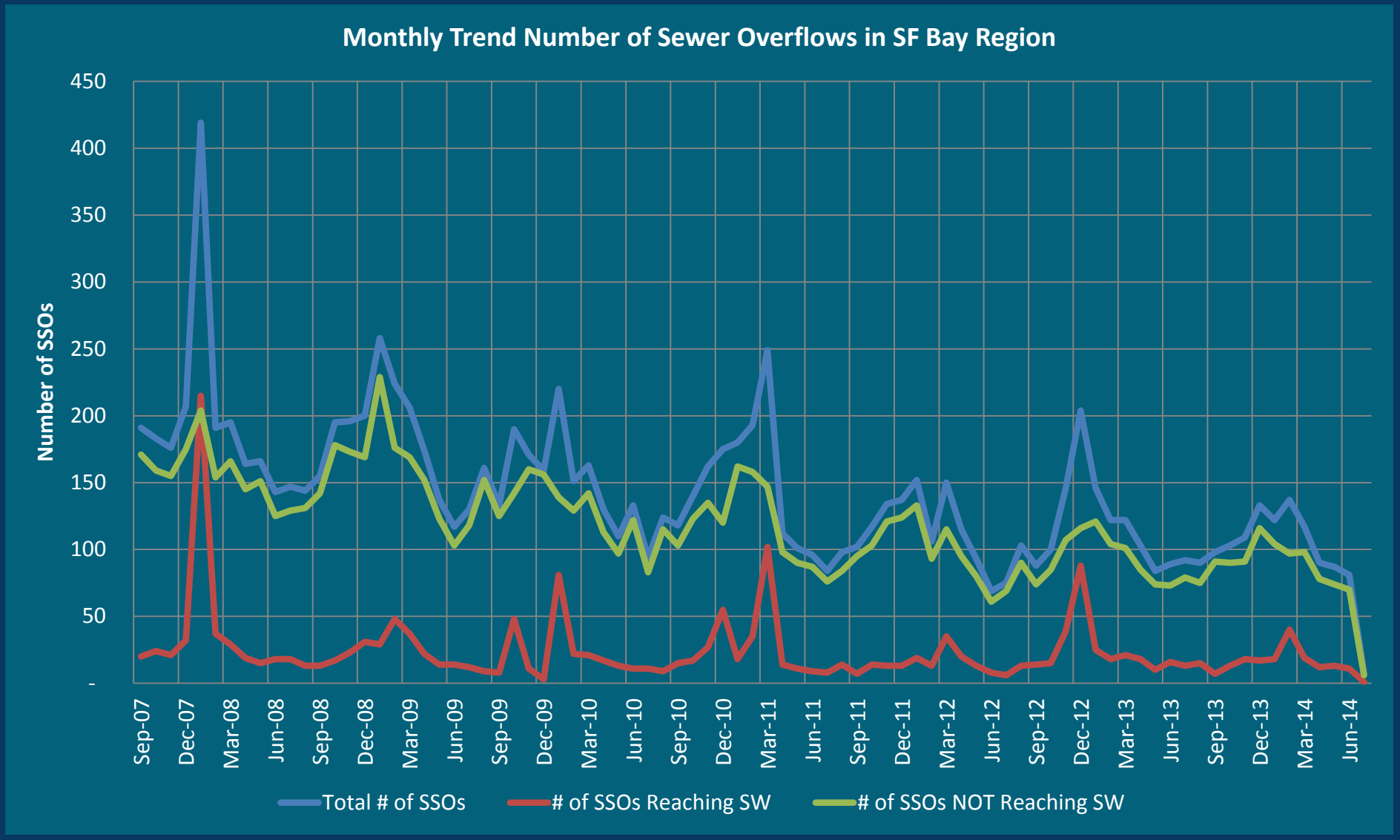
Statewide Spill Data Trends

- Trends in sewer overflow characteristics:
  - ~91% of sewer overflows are < 1,000 gallons
    - Leading causes are roots, fats\oils\grease, and debris
  - ~5% of total sewer overflow volumes resulted from these 91% of sewer overflow events
  - ~9% are > 1,000 gallons
    - Leading causes are capacity and structural issues
  - 5% of enrollees (57) Responsible for 90% of the volume

Sewer Overflows Trend



Sewer Overflows Trend



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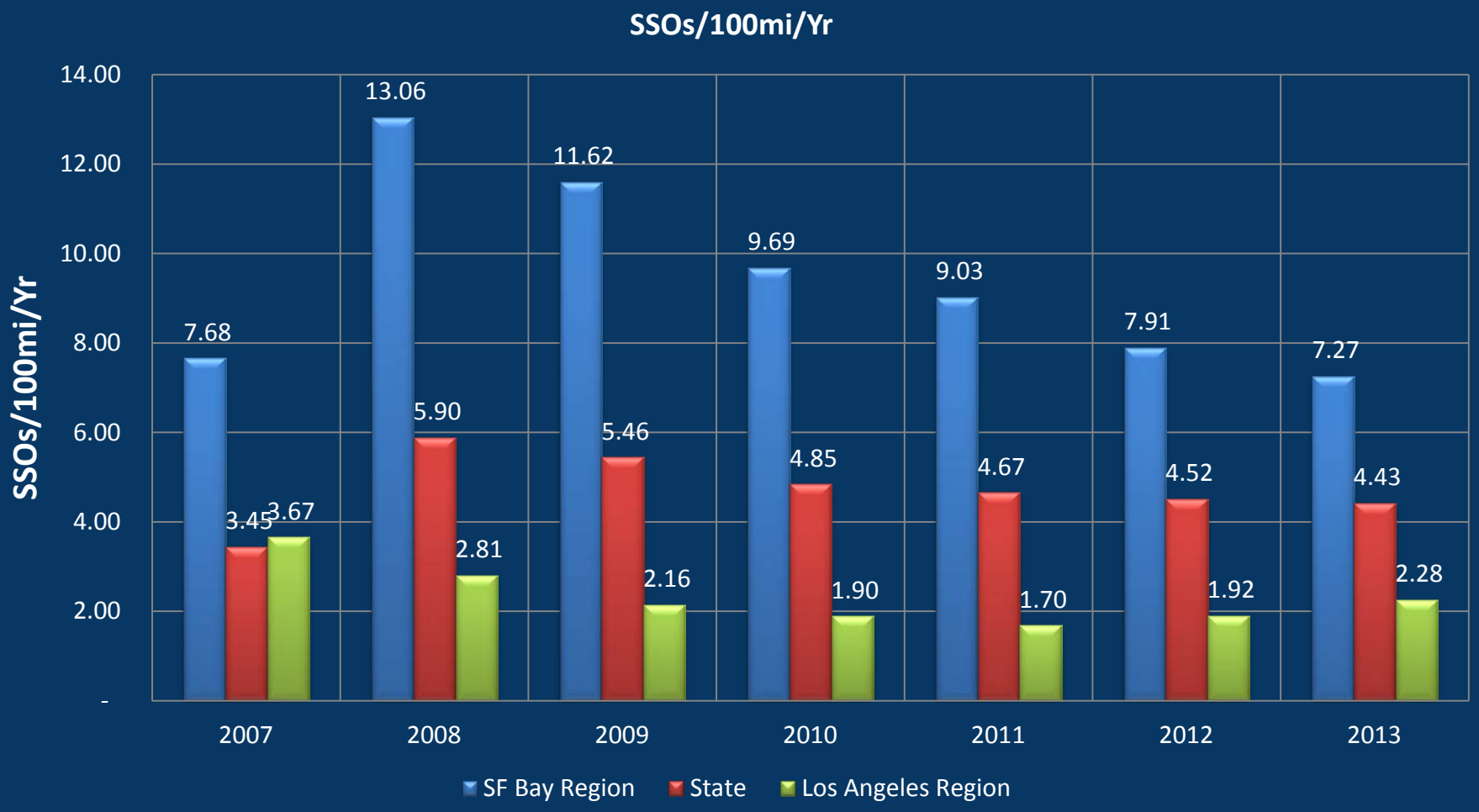
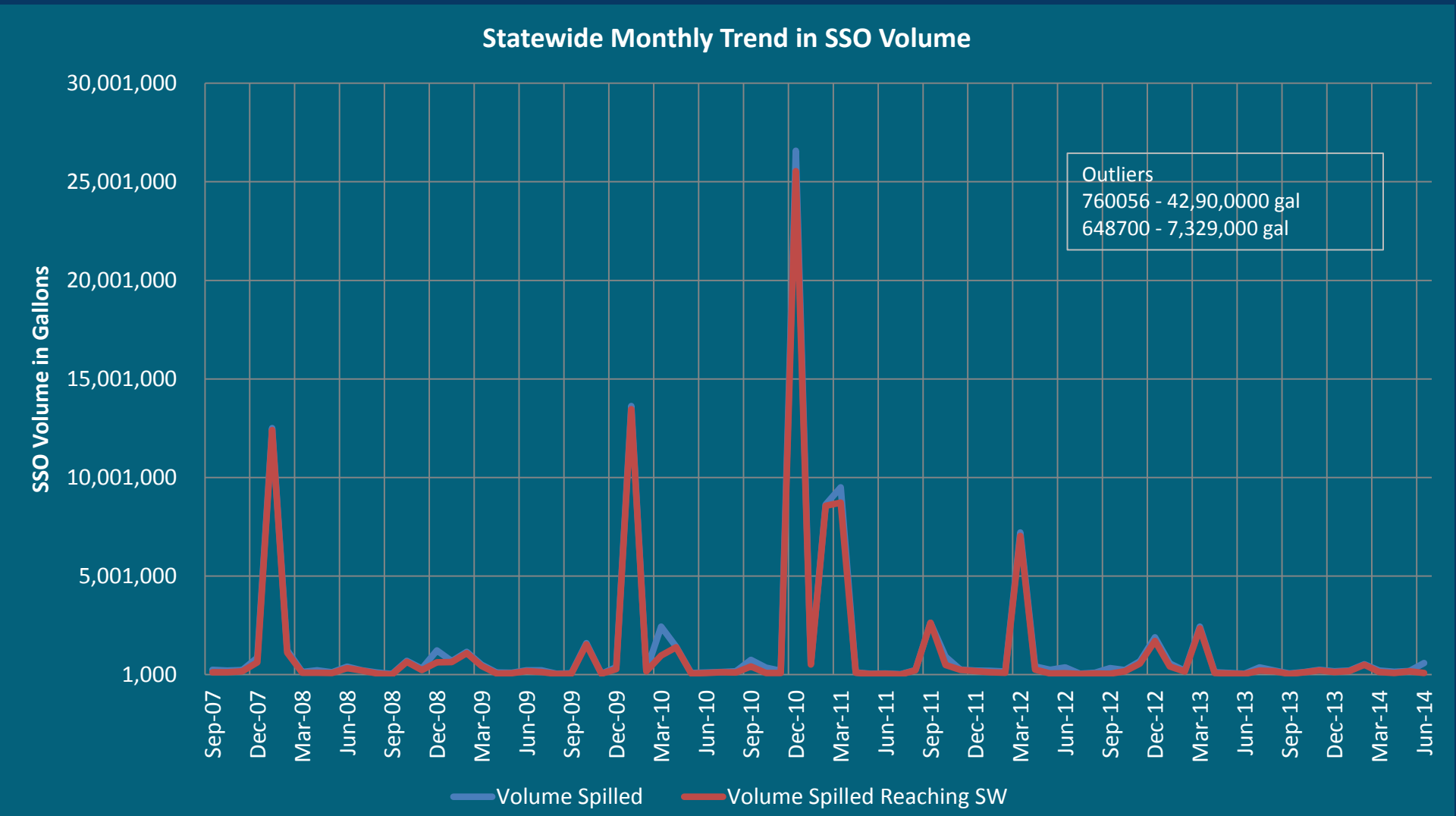


Sewer Overflow Volume



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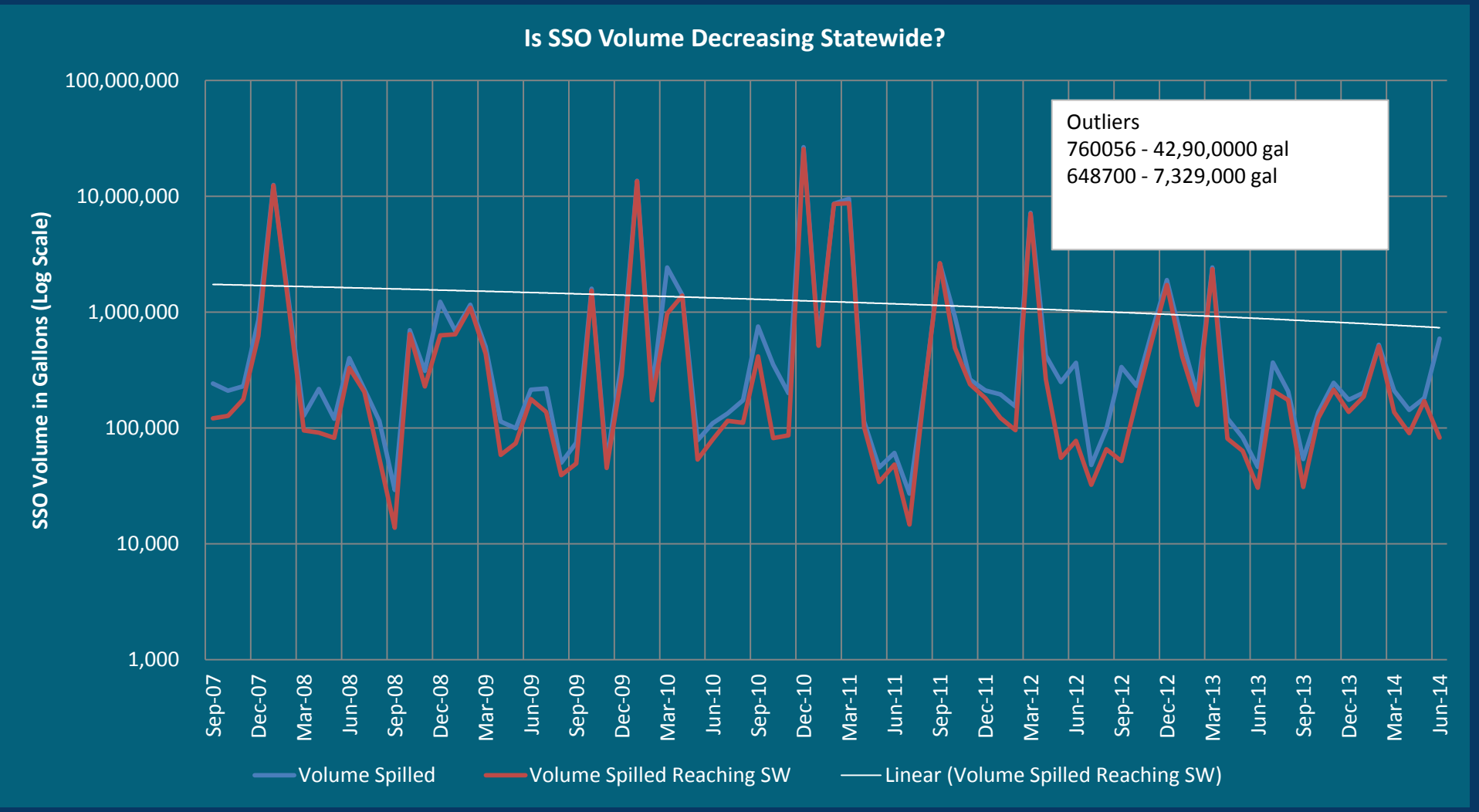

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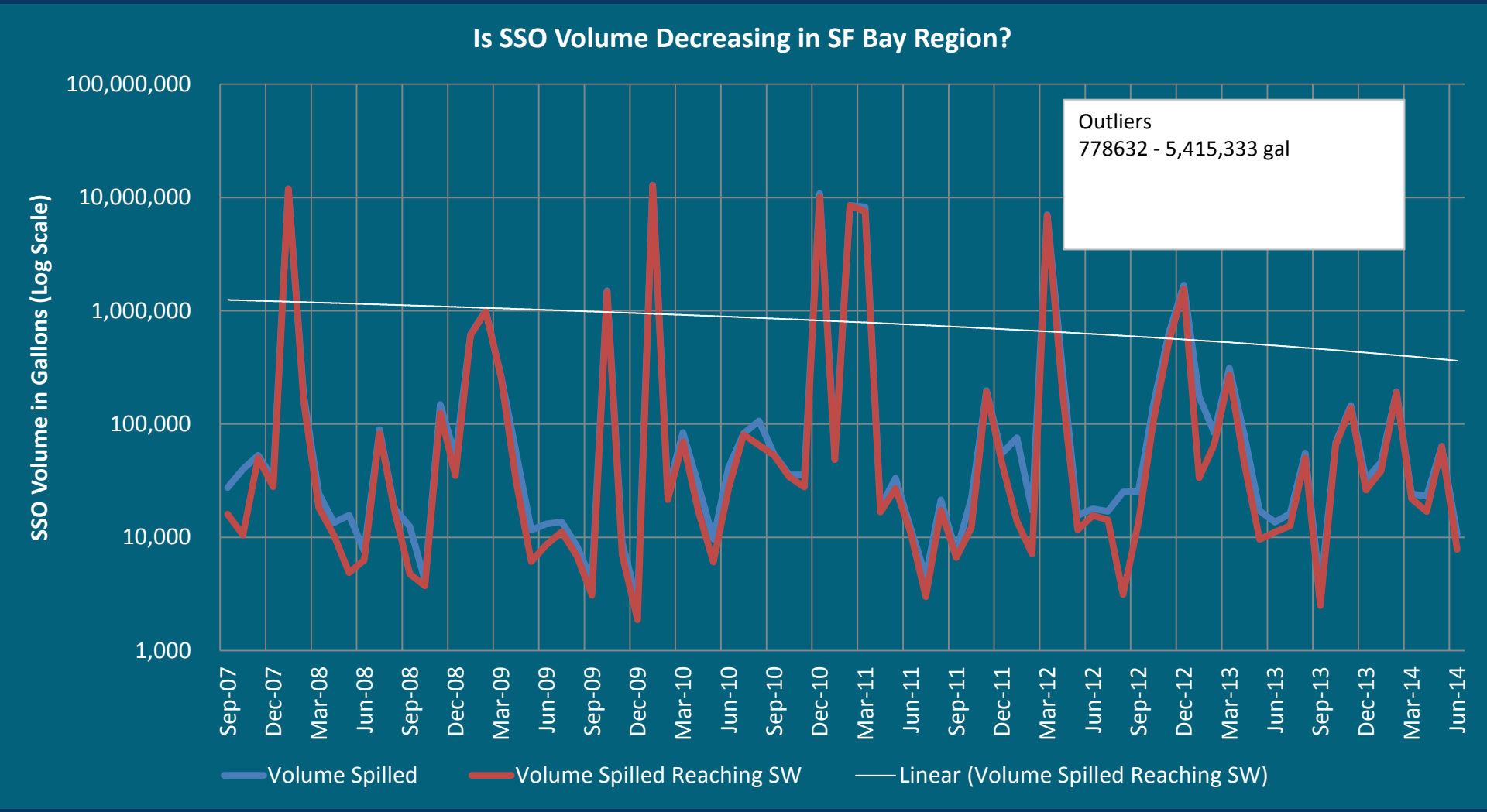

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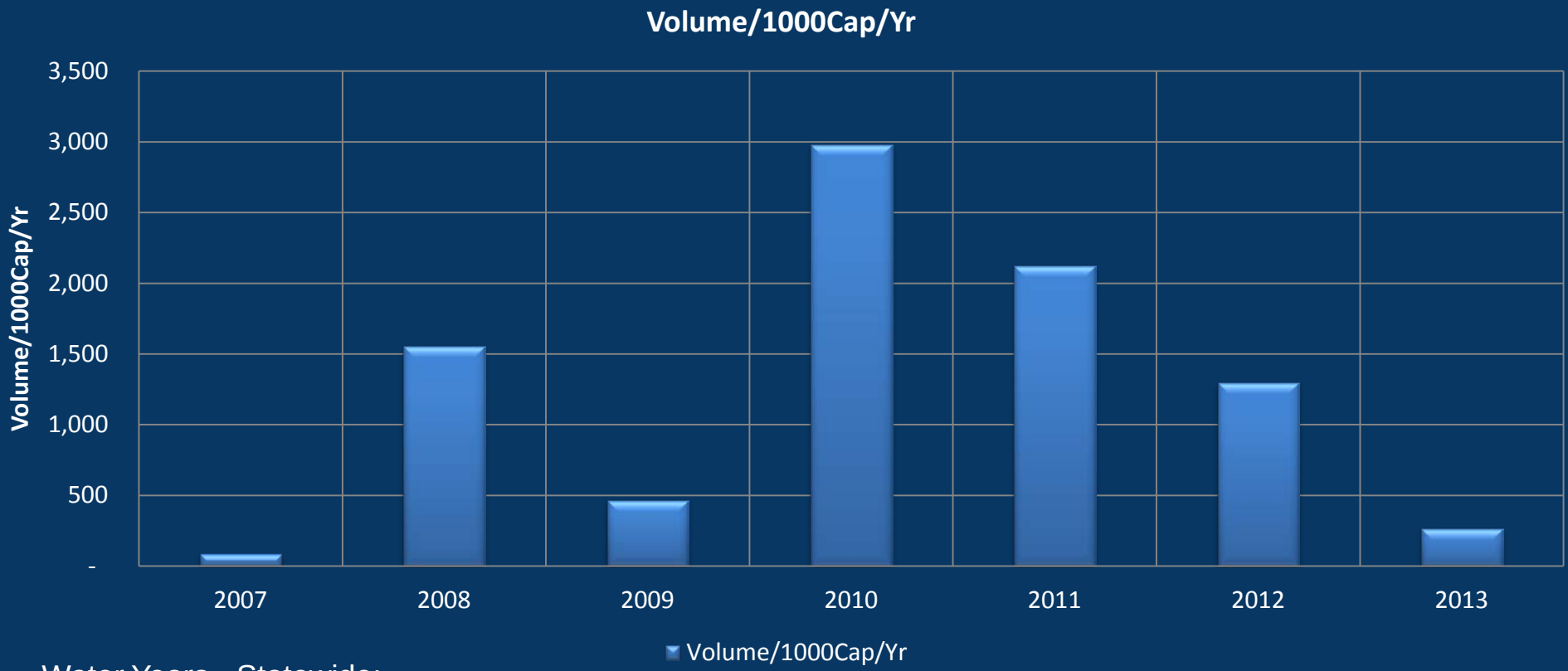
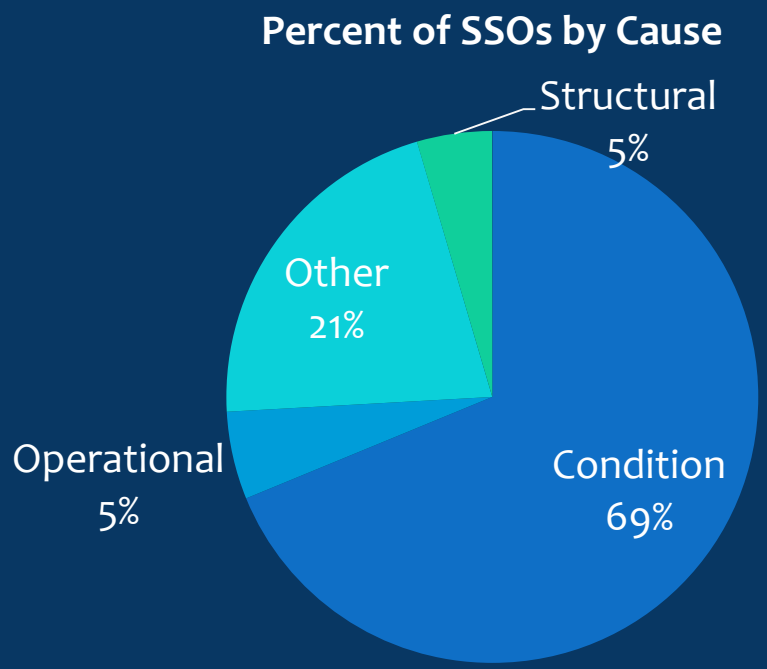


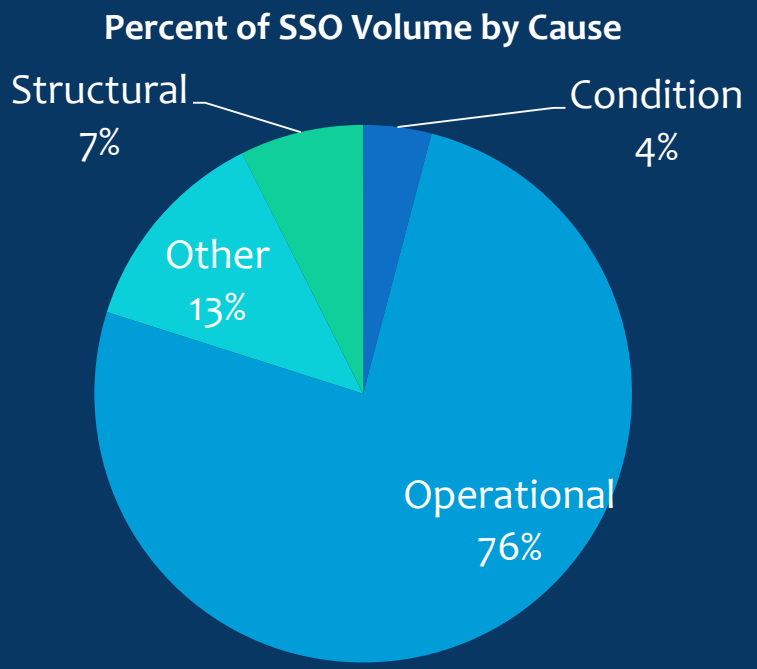
- Water Years - Statewide:
  - 2008-2009 – 82% of normal
  - 2009-2010 – 108% of normal
  - 2010-2011 – 135% of normal
  - 2011-2012 – 77% of normal
  - 2012-2013 – 79% of Normal
  - 2013-2014 – 49.5% of Normal (up to June)

http://cdec.water.ca.gov/cgi-progs/prevprecip/PRECIPSUM

- Water Years – SF Bay:
  - 2008-2009 –
  - 2009-2010 –
  - 2010-2011 – 131% of normal
  - 2011-2012 – 82% of normal
  - 2012-2013 – 84% of Normal
  - 2013-2014 – 43% of Normal (up to June)

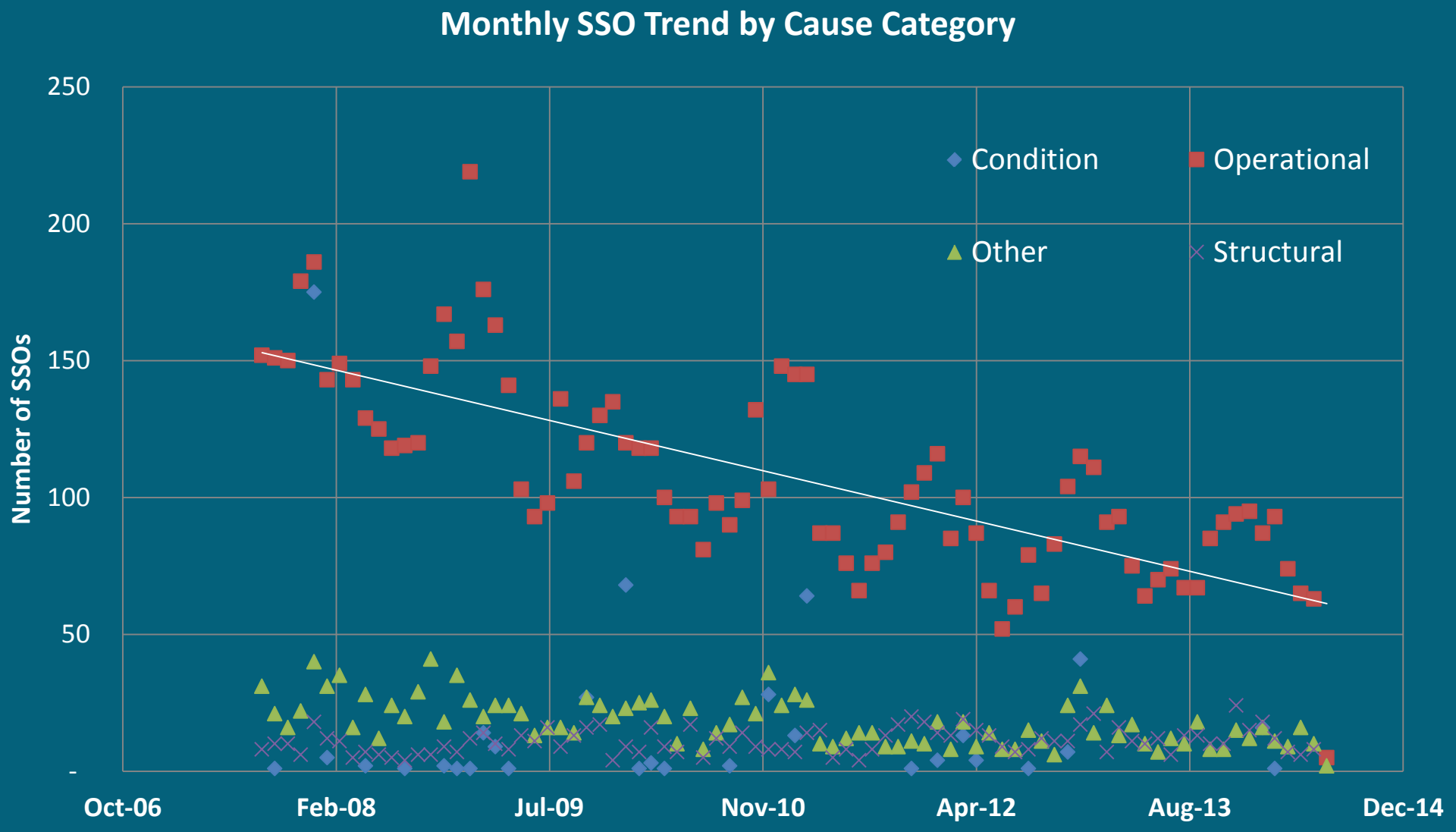
Causes of Sewer Overflows 2007-2014 in SF Bay Region



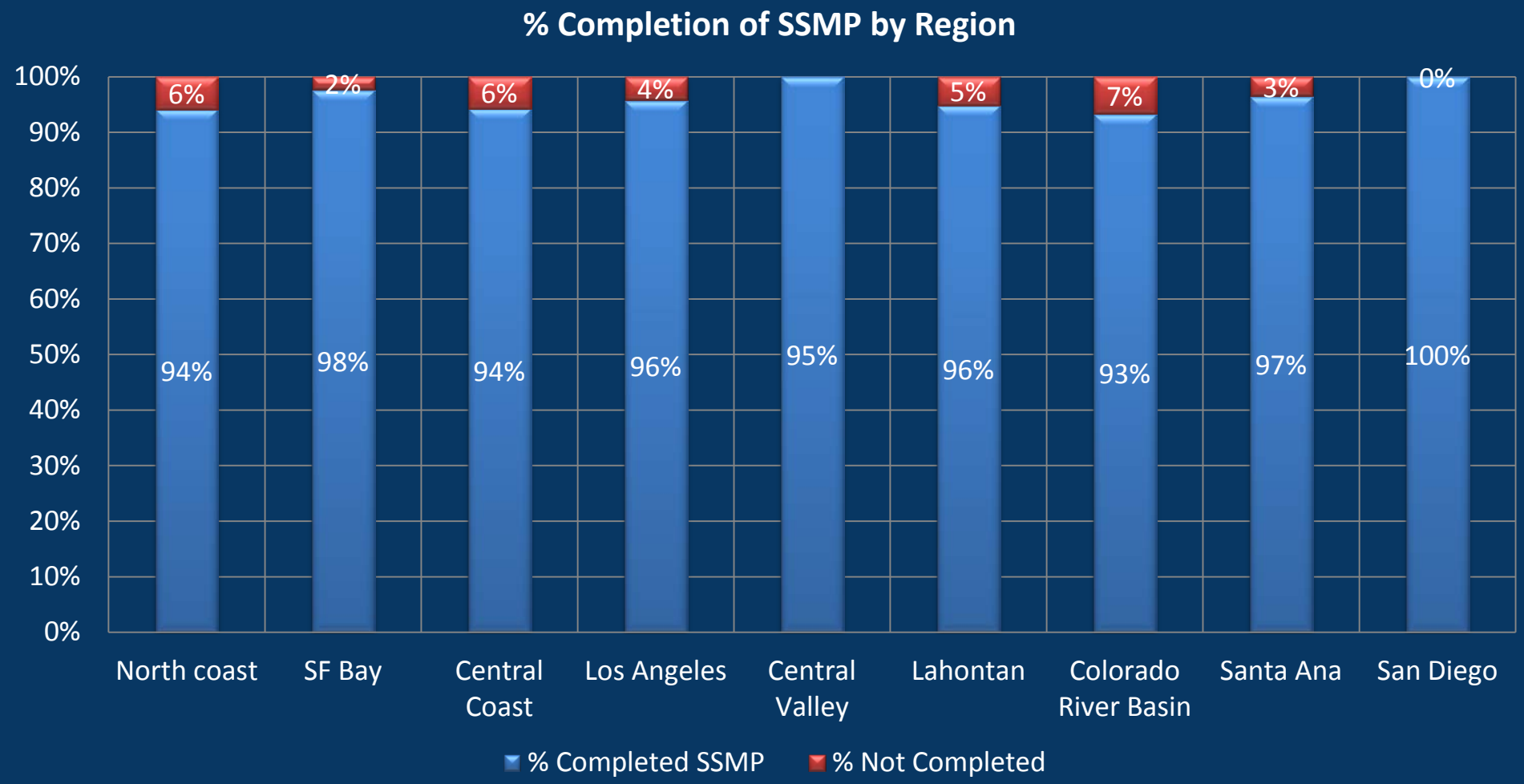


- Operational – Caused by debris; fats, oil, and grease; and roots.
- Condition – Caused by flow exceeded capacity issues.
- Structural – Caused by pipe structural failures and pump station failure.
- Other – Includes unknown cause, multiple causes, vandalism, operator error, maintenance, improper installation,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

Causes of Sewer Overflows 2007-2014 in San Francisco Region



SSMP Compliance



SSMP Recertification

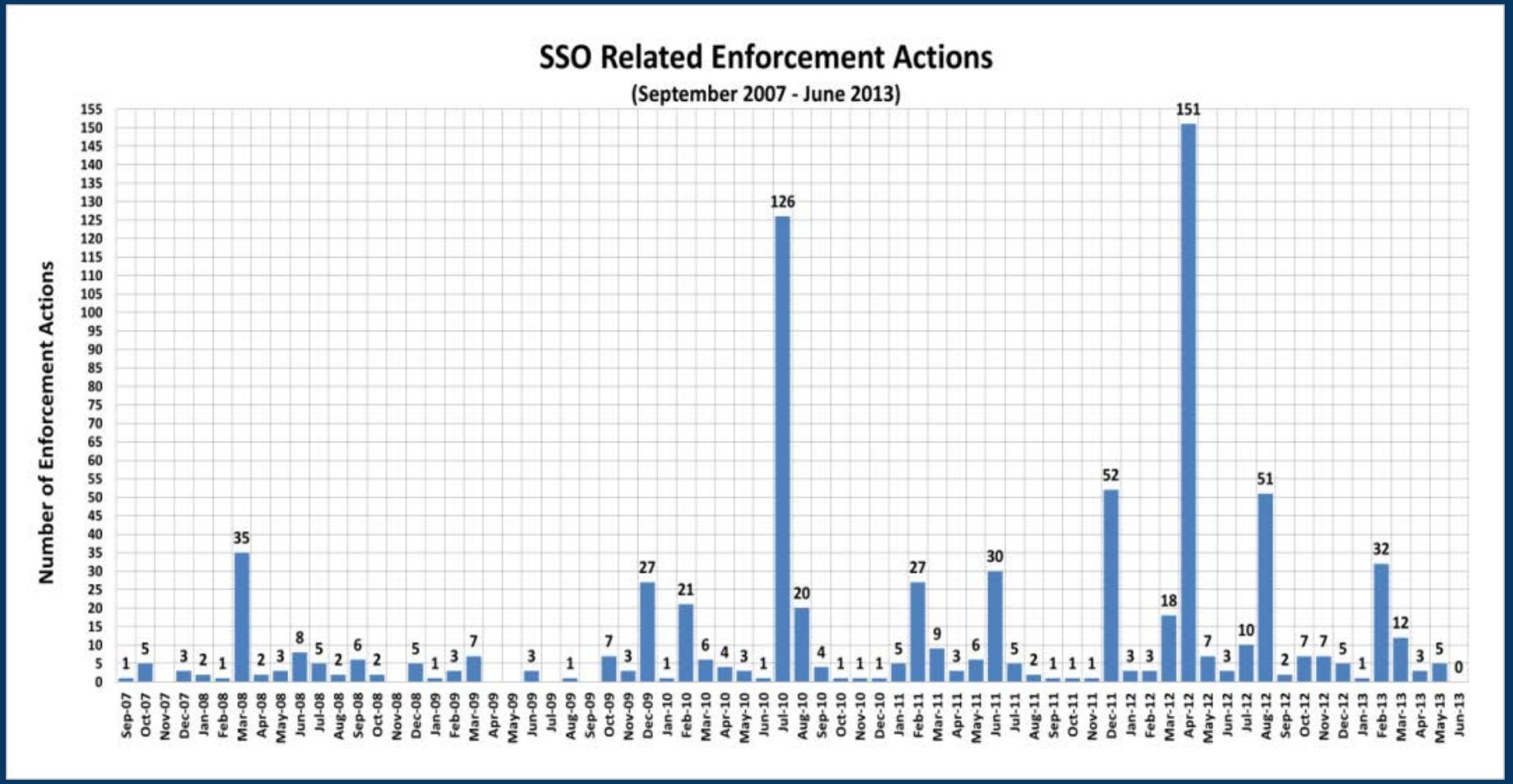
Sewer System Management Plan Time Schedule

Task and Associated Section	Completion Date			
	Population > 100,000	Population between 100,000 and 10,000	Population between 10,000 and 2,500	Population < 2,500
Application for Permit Coverage ***Section C***	6 months after WDRs Adoption			
Reporting Program ***Section G***	6 months after WDRs Adoption[1]			
SSMP Development Plan and Schedule ***No specific Section***	9 months after WDRs Adoption[2]	12 months after WDRs Adoption[2]	15 months after WDRs Adoption[2]	18 months after WDRs Adoption[2]
Goals and Organization Structure ***Section D 13 (i) & (ii)***	12 months after WDRs Adoption[2]		18 months after WDRs Adoption[2]	
Overflow Emergency Response Program ***Section D 13 (vi)***	24 months after WDRs Adoption[2]	30 months after WDRs Adoption[2]	36 months after WDRs Adoption[2]	39 months after WDRs Adoption[2]
Legal Authority ***Section D 13 (iii)***				
Operation and Maintenance Program ***Section D 13 (iv)***				
Grease Control Program ***Section D 13 (vii)***				
Design and Performance ***Section D 13 (v)***	36 months after WDRs Adoption	39 months after WDRs Adoption	48 months after WDRs Adoption	51 months after WDRs Adoption
System Evaluation and Capacity Assurance Plan ***Section D 13 (viii)***				
Final SSMP, incorporating all of the SSMP requirements ***Section D 13***				

SSMP Re-certification

Action	Population> 100,000	Population Between 100,000 and 10,000	Population Between 10,000 and 2,500	Population < 2,500
Completion Deadline	5/2/2009	8/2/2009	5/2/2010	8/2/2010
5-year Update and Recertification	5/2/2014	8/2/2014	5/2/2015	8/2/2015

Compliance and Enforcement Activities



- Sanitary Sewer System Inspections
  - Office of Enforcement and Regional Water Board staff conducted 23 inspections in FY 2012 – 2013

Data Availability

- All sanitary sewer overflow (SSO) data are publicly available:
  - SSO Incident Maps
  - Interactive SSO Report
  - Operational Report
  - Raw Data

SSO Program Activities and Priorities

SSO Program Activities

- SSO Database (CIWQS) improvements/updates
  - Data Review Committee
  - Update SSO Database guide as needed
- Oversee SSMP 5-year Update and Recertification
  - Send Compliance notifications via email and informal enforcement actions (NOVs)
- SSMP Development Guide update
- Compliance Assistance
- Compliance Inspections

Statewide Spill Data Trends

Phase I – Focus on sanitary sewer systems that:

- Are located in disadvantaged communities;
- May be impacting drinking water supply;
- May be impacting public health protection;
- Are identified through human bacteriological tracing methods developed by the Southern California Coastal Water Research Project (SCCWRP); or
- May have further capacity issues due to sea level rise.

Phase II – Appropriate actions necessary to address the issues currently preventing these systems from being properly rehabilitated, managed, operated and maintained.

Questions?

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SSO Main Website:

http://www.waterboards.ca.gov/water_issues/programs/sso/

List Serve Sign-Up:

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