# San Gabriel Valley Council of Governments

## AGENDA AND NOTICE OF THE JOINT MEETING OF THE WATER POLICY COMMITTEE & WATER TECHNICAL ADVISORY COMMITTEE (TAC)

**Tuesday, July 14, 2020, 10:00 AM**

**Teleconference Meeting: Livestream available via sgvcog.org**

**Water Policy Chair**
**Diana Mahmud**
City of South Pasadena

**Vice-Chair**
**Gloria Crudgington**
City of Monrovia

**MEMBERS**
*Claremont*
*Glendora*
*Monrovia*
*Rosemead*
*Sierra Madre*
*South Pasadena*
*LA County District 1*

**Water TAC Chair**
**Tom Love**
Upper San Gabriel Valley Municipal Water District

**Vice Chair**
**Alex Tachiki**
City of Monrovia

**MEMBERS**
*Alhambra*
*Arcadia*
*Bradbury*
*Covina*
*Duarte*
*Glendora*
*Monrovia*
*Pomona*
*Sierra Madre*
*LA County DPW*
*Upper San Gabriel Valley MWD*

**EX-OFFICIO**
*LA County Sanitation Districts*
*SG Basin Watermaster*

Thank you for participating in today's meeting. The Water Committee encourages public participation and invites you to share your views on agenda items.

**MEETINGS:** ***Regular Meetings of the Water Committee are held on the second Tuesday of each month at 10:00 AM at the Upper San Gabriel Valley Municipal Water District Offices (602 E. Huntington Drive, Suite B Monrovia, CA 91016).*** The agenda packet is available at the San Gabriel Valley Council of Government's (SGVCOG) Office, 1000 South Fremont Avenue, Suite 10210, Alhambra, CA, and on the website, www.sgvcog.org. Copies are available via email upon request (sgv@sgvcog.org). Documents distributed to a majority of the Committee after the posting will be available for review in the SGVCOG office and on the SGVCOG website. Your attendance at this public meeting may result in the recording of your voice.

**PUBLIC PARTICIPATION:** Your participation is welcomed and invited at all Water Committee and Water TAC meetings. Time is reserved at each regular meeting for those who wish to address the Committee. SGVCOG requests that persons addressing the Committee refrain from making personal, slanderous, profane or disruptive remarks.

**TO ADDRESS THE COMMITTEE:** At a regular meeting, the public may comment on any matter within the jurisdiction of the Committee during the public comment period and may also comment on any agenda item at the time it is discussed. At a special meeting, the public may only comment on items that are on the agenda. Members of the public wishing to speak are asked to complete a comment card or simply rise to be recognized when the Chair asks for public comments to speak. We ask that members of the public state their name for the record and keep their remarks brief. If several persons wish to address the Committee on a single item, the Chair may impose a time limit on individual remarks at the beginning of discussion. **The Water Committee and Water TAC may not discuss or vote on items not on the agenda.**

**AGENDA ITEMS:** The Agenda contains the regular order of business of the Water Committee and the Water TAC. Items on the Agenda have generally been reviewed and investigated by the staff in advance of the meeting so that the Committee/TAC can be fully informed about a matter before making its decision.

**CONSENT CALENDAR:** Items listed on the Consent Calendar are considered to be routine and will be acted upon by one motion. There will be no separate discussion on these items unless a Committee member or citizen so requests. In this event, the item will be removed from the Consent Calendar and considered after the Consent Calendar. If you would like an item on the Consent Calendar discussed, simply tell Staff or a member of the Committee.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the SGVCOG office at (626) 457-1800. Notification 48 hours prior to the meeting will enable the SGVCOG to make reasonable arrangement to ensure accessibility to this meeting.

***MEETING MODIFICATIONS DUE TO THE STATE AND LOCAL STATE OF EMERGENCY RESULTING FROM THE THREAT OF COVID-19:** On March 17, 2020, Governor Gavin Newsom issued Executive Order N-29-20 authorizing a local legislative body to hold public meetings via teleconferencing and allows for members of the public to observe and address the meeting telephonically or electronically to promote social distancing due to the state and local State of Emergency resulting from the threat of the Novel Coronavirus (COVID-19).

To follow the new Order issued by the Governor and ensure the safety of committee members and staff for the purpose of limiting the risk of COVID-19, in-person public participation at the Regular Water Committee/TAC meeting scheduled for June 9, 2020 at 10:00am will be not be allowed. Members of the public may view the meeting live on the SGVCOG's website. To access the meeting video, log onto www.sgvcog.org, click on the Water Committee Agenda text on the right-hand side of the homepage, then follow prompts to watch the meeting live during the scheduled meeting time.

Public comments can be submitted electronically by emailing smatthews@sgvcog.org at least 1 hour prior to the scheduled meeting time. Please indicate in the Subject Line of the email "FOR PUBLIC COMMENT." Emailed public comments are limited to 150 words each and will be included in the meeting minutes. If you wish to comment on a specific agenda item, please identify the item in your email. General public comments will be addressed during the general public comment item on the agenda.

Any member of the public requiring a reasonable accommodation to participate in this meeting should contact Samantha Matthews at least 48 hours prior to the meeting at (626) 457-1800 or at smatthews@sgvcog.org.

**PRELIMINARY BUSINESS**

**1.** Call to Order
**2.** Roll Call
**3.** Public Comment *(If necessary, the Chair may place reasonable time limits on all comments).*
**4.** Changes to Agenda Order: Identify emergency items arising after agenda posting and requiring action prior to next regular meeting.

**CONSENT CALENDAR** *(It is anticipated that the Water Committee/TAC may act on the following matters)*

**5.** Water Committee/TAC Meeting Minutes – Page 1
*Recommended Action: Approve June 9, 2020 Water Committee/TAC meeting minutes.*

**PRESENTATIONS**

**6.** Southern California Regional Energy Network (SoCalREN) Public Agency Programs – Nicol Manzanares, Program Manager, The Energy Coalition & Natalie Espinoza, Program Manager, The Energy Coalition – Page 5
*Recommended Action: For information only.*

**ACTION ITEMS**

**7.** H.R. 2 (DeFazio) – INVEST in America Act – Page 28
*Recommended Action: Recommend Governing Board support HR 2 – INVEST in America Act.*

**DISCUSSION ITEMS**

**8.** MS4 Permit Coordination – Page 35
*Recommended Action: For discussion.*
**9.** S.B. 205 (Hertzberg) Implementation and the Industrial General Permit – Page 37
*Recommended Action: For discussion.*

**UPDATE ITEMS** *(It is anticipated that the Water Committee/TAC may act on the following matters)*

**10.** Safe Clean Water Program – Page 65
*Recommended Action: For information only.*
**11.** MS4 Monitoring Data Review Report – Page 68
*Recommended Action: For information only.*
**12.** Legislative Update
*Recommended Action: For information only.*
**13.** Litigation Update
*Recommended Action: For information only*
**14.** E/WMP Update
*Recommended Action: For information only.*
**15.** Water TAC Chair Report
*Recommended Action: For information only.*
**16.** Water Supply Update
*Recommended Action: For information only.*
**17.** Water Boards Update
*Recommended Action: For information only.*

**CHAIR'S REPORT**

**ANNOUNCEMENTS**

**ADJOURN**

**SGVCOG Joint Water Policy Committee/TAC Meeting**
**Unapproved Minutes**
Date: June 9, 2020
Time: 10:00 AM
Location: Zoom/YouTube teleconference meeting

**PRELIMINARY BUSINESS**

**1.** Call to Order: The meeting was called to order at 10:05 A.M.

**2.** Roll Call

**Water Policy Committee Members Present**
G. Boyer, J. Nelson; Glendora
G. Crudgington; Monrovia
M. Clark; Rosemead
D. Mahmud; South Pasadena

**Water Policy Committee Members Absent**
LA County District #1
J. Stark; Claremont
J. Capoccia; Sierra Madre

**Water TAC Members Present**
D. Dolphin; Alhambra
K. Kearney; Bradbury
S. Costandi, S. Gallant; Covina
Y. Paez; Duarte
A. Sweet; Glendora
L. Chung; LA County Public Works
A. Tachiki; Monrovia
J. Carver; Pomona
E. Reyes; SGVWMD
T. Love, P. Cortez; USGVMWD

**Water TAC Members Absent**
Arcadia
Sierra Madre

**Ex Officio Members Present**
K. Gardner; SG Basin Watermaster
S. Green; LA County Sanitation Districts

**Ex Officio Members Absent**

**Guests**
K. Manning; Water Quality Association
T. Zampiello, Main San Gabriel Basin Watermaster
S. Armenta Lopez; Sen. Rubio's Office
V. Murphy; Sen. Portantino's Office

**SGVCOG Staff**
S. Matthews
C. Sims
A. Fung

**3.** Public Comment
No public comment.

**4.** Changes to Agenda Order.

No changes to agenda order.

**CONSENT CALENDAR**

**5.** Water Committee/TAC March Meeting Minutes

**There was a motion to approve the consent calendar.**
**(M/S: G. Crudgington/D. Dolphin)**

**[MOTION PASSED]**

| | |
|---|---|
| **AYES:** | Glendora; Monrovia; Rosemead; South Pasadena; Alhambra; Bradbury; Covina; Duarte; Glendora; Monrovia; Pomona; LA County Public Works; USGVMWD |
| **NOES:** | |
| **ABSTAIN:** | |
| **ABSENT:** | Arcadia; Claremont; Sierra Madre; LA County District 1 |

**PRESENTATIONS**

**6.** PFAS Contamination and How it Affects the San Gabriel Valley – Kenneth R. Manning, Executive Director, Water Quality Association and Tony Zampiello, Executive Officer, Main San Gabriel Basin Watermaster

K. Manning and T. Zampiello provided a presentation on perfluoroalkyl substances (PFAS) contamination of water and how it affects the San Gabriel Valley. They provided an overview of PFAS chemicals, the history of its manufacturing, where it can be found today, and how to remove it from water systems. They also gave an overview of the governmental and legislative action taken on PFAS. Due to the newfound ability to detect contaminants at parts per trillion levels, agencies can now detect PFAS in drinking water. In 2019, AB 756 (Garcia) passed requiring drinking water systems with PFAS levels at 70 ppt combined to be taken out of service and the State Division of Drinking Water (DDW) lowered Notification Levels (NLs) for PFOA and PFOS to 5.1 ppt and 6.5 ppt respectively. The California Office of Environmental Health Hazard Assessment (OEHHA) set NLs for PFOA and PFOS to lowest levels reliably detected in drinking water using current technologies.

**ACTION ITEMS**

**7.** H.R. 535 (Dingell) – PFAS Action Act of 2019

There was a discussion on H.R. 535, or the PFAS Action Act of 2019, to address perfluoroalkyl substances (PFAS) contamination. H.R. 535 would require the EPA to publish a maximum contaminant level goal for PFAS and establish national drinking water safeguards for PFAS chemicals. The bill would identify health risks by requiring comprehensive health testing for all PFAS and would issue guidance for first responders to limit their exposures.

**There was a motion for the Water Policy Committee to recommend the Governing Board support H.R. 535.**
**(M/S: M. Clark /D. Mahmud)**

**[MOTION PASSED]**

| | |
|---|---|
| **AYES:** | Glendora; Rosemead; South Pasadena |
| **NOES:** | |

| | |
|---|---|
| **ABSTAIN:** | Monrovia |
| **ABSENT:** | Claremont; Sierra Madre; LA County District 1 |

**The Water TAC abstained from recommending the Governing Board support H.R. 535.**

**[MOTION NOT PASSED]**

| | |
|---|---|
| **AYES:** | |
| **NOES:** | |
| **ABSTAIN:** | Alhambra; Bradbury; Covina; Duarte; Glendora; Monrovia; Pomona; LA County Public Works; USGVMWD |
| **ABSENT:** | Arcadia; Sierra Madre |

**DISCUSSION ITEMS**

**8.** Safe Clean Water Program Updates

a. Program and WASC Updates
D. Dolphin provided updates from the Rio Hondo WASC, which approved its SIP and all projects except for 2 scientific studies, and the Upper LA River (ULAR) WASC, which also approved its SIP. D. Mahmud expressed concern with the ULAR SIP and the funding to LA County for a project that is already completed. T. Love provided an update on the Upper San Gabriel River WASC, which approved its SIP. A. Tachiki recommends members speak during public comment at the Regional Oversight Committee meeting.

b. Call with LA County District Staff
D. Mahmud gave an overview of the call with District staff on concerns with the implementation of the Safe Clean Water program, the need to extend the Round 2 application deadline, the makeup of and vacancy on the Scoring Committee, and the scoring criteria's created bias against the San Gabriel Valley. G. Crudgington noted the need for community support to include local governments.

c. Round 2 Applications
There was a discussion on the extension of the Round 2 application deadline.

d. Watershed Coordinators
There was a discussion on the need for strong, unbiased watershed coordinators. D. Mahmud asked members to reach out to those who would be strong candidates and encourage them to apply.

e. Fund Transfer Agreements
There was a discussion on the updated fund transfer agreement templates and committees' requested changes that were not addressed in the updated versions. These concerns were primarily related to allowing for WASCs to allocate multi-year fund agreements, timing of annual plan submittal requirements, undispersed fund interest going to the District, and cities and recipients being responsible for funding own audits. D. Mahmud recommends we withhold execution until the agreement templates are further revised.

**9.** SB 205 (Hertzberg) Implementation

G. Crudgington announced the Regional Water Board has been slow in responding to city requests on the bill and requested feedback from cities on the problems and Board responsiveness. Members should check with business licensing staff and report back at July meeting.

**UPDATE ITEMS**

**10.** Water Infrastructure Stimulus Funding Update
There was announcement that water infrastructure stimulus funding is not moving forward at this time.

**11.** Legislative Updates
No updates.

**12.** Litigation Update
G. Crudgington provided an update on the Gardena litigation.

**13.** E/WMP Updates
D. Dolphin announced that the ULAR WMP group has not met in last few months but has been corresponding via email and is working on a website to publicize projects.

**14.** Water TAC Chair Report
A. Tachiki recognized T. Love's and the TAC's work on Safe Clean Water program implementation.

**15.** Water Supply Update
T. Love announced that State Water Project allocation rose from 15% to 20% and that MWD has a record amount of water in storage and will be sufficient for next 1-2 years if there are dry years.

**16.** Water Boards Update
No updates.

**CHAIR'S REPORT**

D. Mahmud announced that the Committee will meet in July via Zoom.

**ANNOUNCEMENTS**

**ADJOURN**

Meeting adjourned at 12:13 p.m.

DATE: July 14, 2020

TO: Water Policy Committee/TAC

FROM: Marisa Creter, Executive Director

**RE: SOUTHERN CALIFORNIA REGIONAL ENERGY NETWORK PUBLIC AGENCY PROGRAMS**

## RECOMMENDED ACTION

For information only.

## BACKGROUND

The Southern California Regional Energy Network (SoCalREN) was created to harness the collective power of residents, businesses, and the public sector to achieve energy savings across Southern California. Administered by Los Angeles County, the SoCalREN utilizes comprehensive and customized methods to support the unique needs of public agencies and assist agencies to save energy. Earlier last month, the SGVCOG officially partnered with the SoCalREN with the goal of leading San Gabriel Valley cities toward a safe, secure, resilient, affordable, and sustainable clean energy future.

The SoCalREN offers the following Public Agency Programs:

- Project Delivery Program
- Metered Savings Program
- Pathway to Zero
- Revolving Loan Fund

These programs were designed to provide agencies with tailored project delivery approaches, funding recommendations, and procurement pathways to support the implementation of energy efficiency projects. Additionally, the SoCalREN provides benchmarking and energy analytical services to assist cities to identify facilities that are high energy consumers and prioritize energy efficiency retrofits at these facilities. For water agencies, the SoCalREN offers a variety of energy services, including water system and water/wastewater treatment plant optimization. Specific services include well sequencing, SCADA upgrades, booster sequencing and replacement, RAS optimization, and time-of-use rate maximization.

To access the benefits of the SoCalREN Public Agency Programs and resources, agencies must submit an enrollment form to the SoCalREN. Enrollment is non-binding and the following San Gabriel Valley cities are currently enrolled or are in the process of enrolling:

| | | |
|---|---|---|
| Alhambra | El Monte | San Dimas |
| Arcadia | Industry | San Gabriel |
| Baldwin Park | La Puente | South El Monte |
| Claremont | La Verne | South Pasadena |
| Covina | Monrovia | Temple City |
| Diamond Bar | Monterey Park | Walnut |
| Duarte | Pomona | West Covina |

Public agencies are encouraged to join the SoCalREN by submitting an enrollment form to SGVCOG or SoCalREN staff members. A copy of the enrollment form can be found in Attachment B. Qualifying agencies include cities, counties, school districts, water districts, sanitation districts, and other public agencies in the County of Los Angeles.

SoCalREN Project Managers, Nicol Manzanares and Natalie Espinoza, will provide a brief presentation at this meeting.

Prepared by: _____
Alexander P. Fung
Management Analyst

Approved by: Marisa Creter
Marisa Creter
Executive Director

**ATTACHMENTS**
Attachment A – Presentation
Attachment B – SoCalREN Enrollment Form

Southern California REGIONAL ENERGY NETWORK | SGVCOG San Gabriel Valley Council of Governments

# Introducing Energy Efficiency Resources & SoCalREN Programs

SGVCOG Water Committee Meeting
Tuesday, July 14th 2020
10:00AM - 12:00PM

# Southern California REGIONAL ENERGY NETWORK

The Southern California Regional Energy Network (SoCalREN) was created to harness the collective power of residents, businesses and the public sector to achieve an unprecedented level of energy savings across Southern California.

**Public Agencies**

**Residential**

**Financing**

**Workforce**

The SoCalREN Public Agency Programs are administered by the County of Los Angeles and funded by California utility ratepayers under the auspices of the California Public Utilities Commission. Learn more at **socalren.org**.

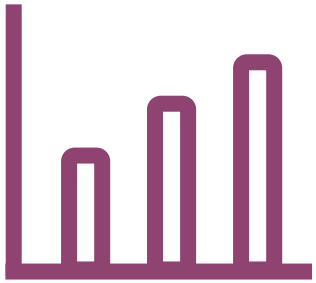
Our regional partnership is founded on the belief that public agencies have the power to lead their communities toward a safe, secure, resilient, affordable, and sustainable clean energy future.


Southern California REGIONAL ENERGY NETWORK | SGVCOG San Gabriel Valley Council of Governments

# Value of Regional Partners

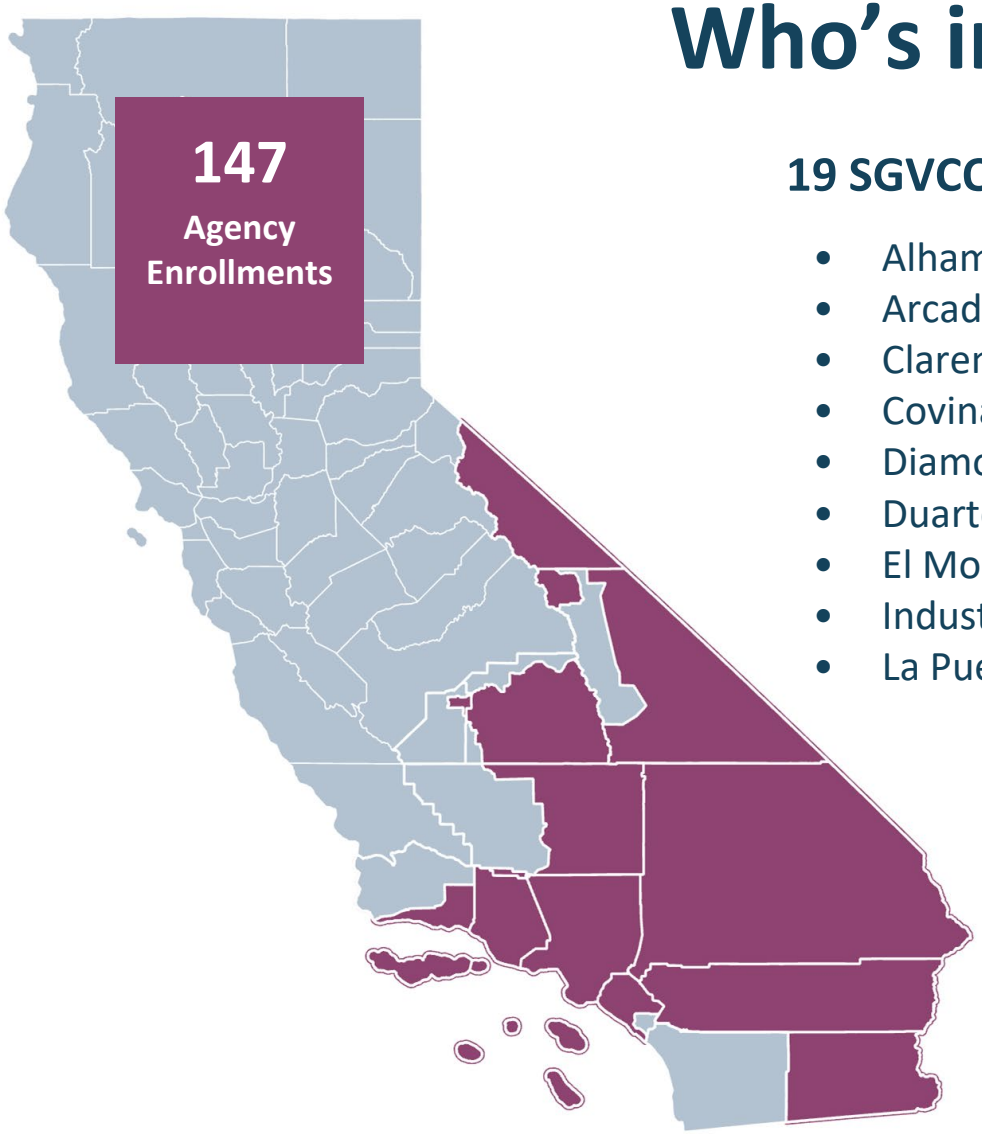
Awareness of Opportunity

Project Identification



Increase Energy Savings

# Who's in the Network?




## 19 SGVCOG Cities

- Alhambra
- Arcadia
- Claremont
- Covina
- Diamond Bar
- Duarte
- El Monte
- Industry
- La Puente
- La Verne
- Monrovia
- Monterey Park
- Pomona
- San Dimas
- South El Monte
- South Pasadena
- Temple City
- Walnut
- West Covina

Regional Enrollments

- El Monte Union School District
- Alhambra Unified School District
- Foothill Municipal Water District

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# SGVCOG + SoCalREN Collective Achievements

**29**
**Pipeline Projects**

**46**
**Jobs Created**

**28**
Audits Completed

**16**
Projects completed

**276**
Cars off the Road

**5,000+**
Annual
therms savings

**3+ Million kWh**
Annual energy savings

**$477,000+**
Lifetime Savings

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# SoCalREN Public Agency Programs

Project Delivery Program


Metered Savings Program

Pathway to Zero

Revolving Loan Fund

# How We Deliver Projects

**SoCalREN provides a tailored project delivery approach**

- Dedicated Project Manager
- Energy Analysis Services
- Technical Support Services
- Financing Support Services
- Procurement & Construction Support

**Enrollment**

**Benchmarking**

**Evaluation & Audit**

**Procurement**

**Construction**

**Completion**

# Energy Project Technical Expertise

Provided at no cost to public agencies (agencies pay for construction costs only)

aesc alternative energy systems consulting

Enpowered Solutions Energy•Commissioning•Controls

kW ENGINEERING

CLEAResult®

WILLDAN

DUDEK

LINCUS INCORPORATED

TRC

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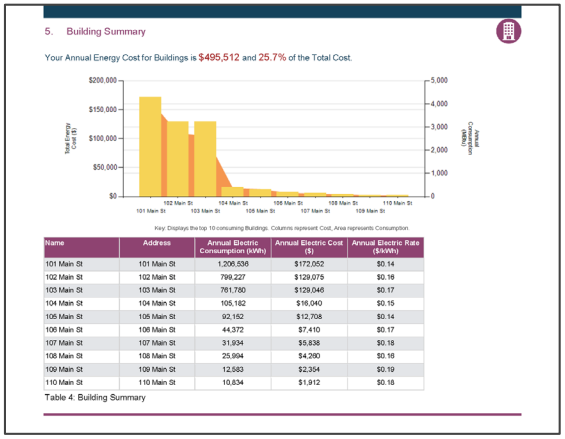
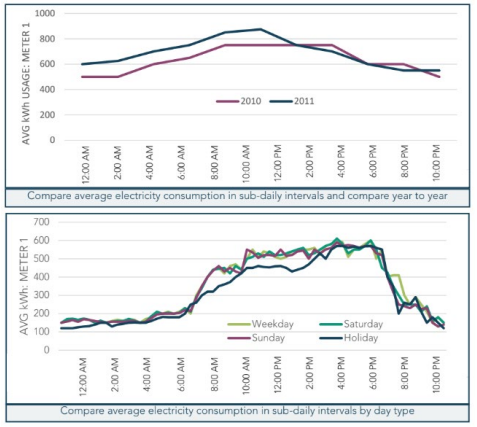
# SoCalREN Energy Analysis Services

## SoCalREN Comparative Energy Analysis




## ENERGY STAR Portfolio Manager®


## SCE Green Button Connect




*You can't manage what you don't measure...*

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# Energy Services for Water Agencies

# Project Identification Strategy

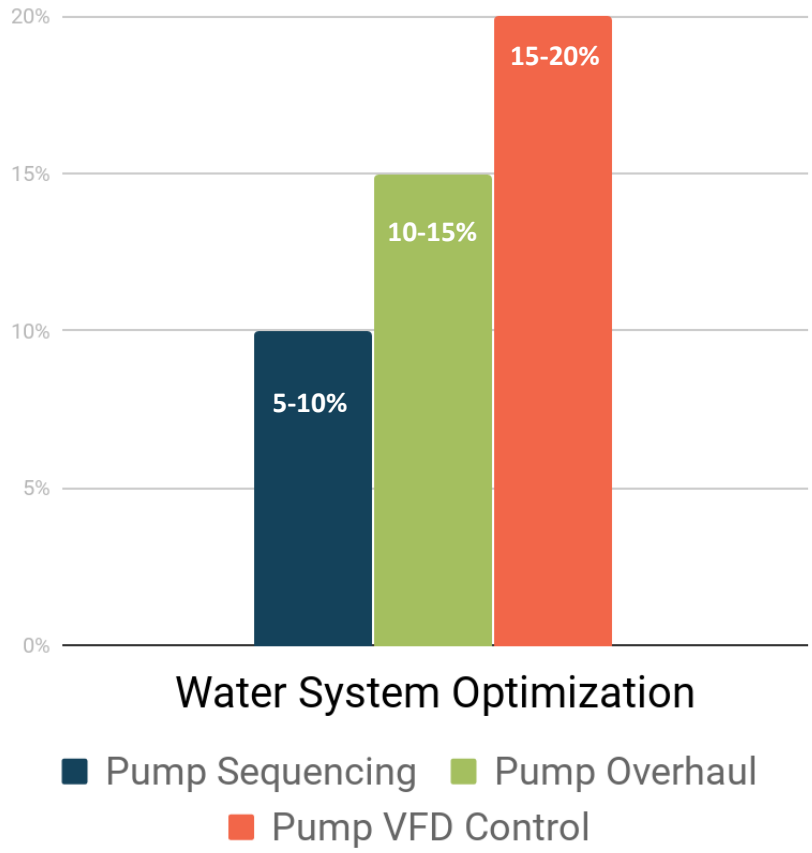
1. Improve component efficiencies

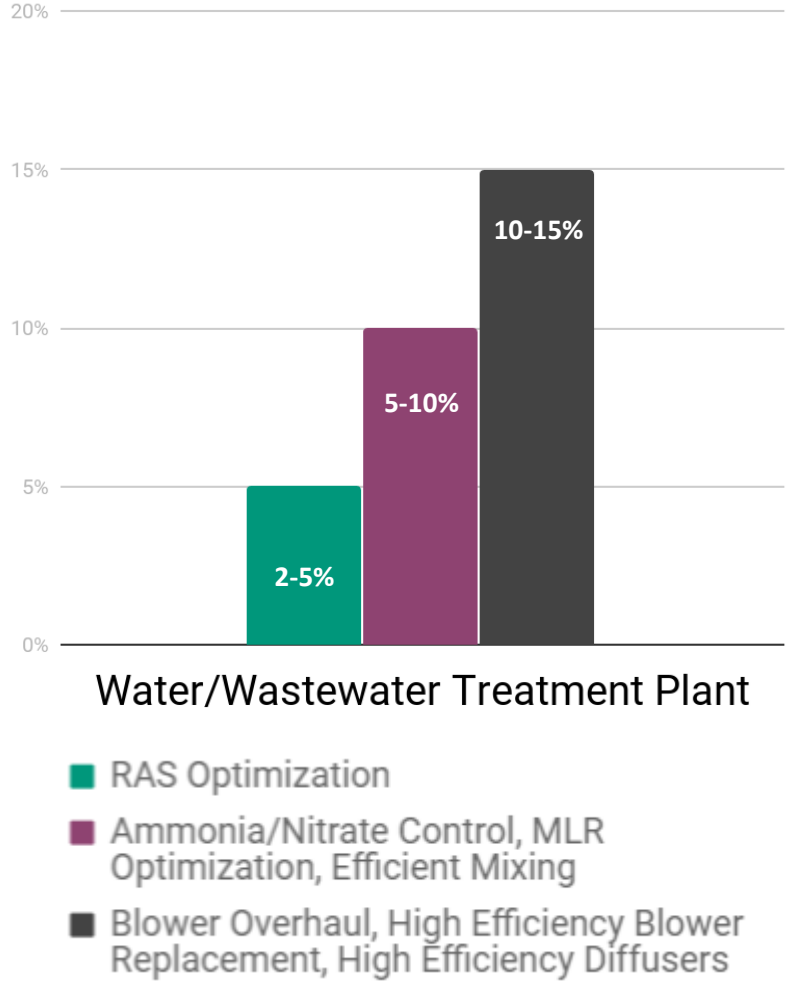
2. Controls optimization

3. System optimization

4. Treatment process optimization

# Energy Efficiency Strategies Yield Significant Energy Savings

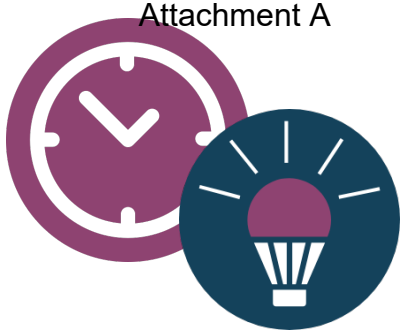


# Locally: City of Monrovia

- Well Sequencing
- SCADA Upgrades
- Booster Sequencing and Replacement
- Pressure Zone Optimization

# Maximizing Time of Use Rates



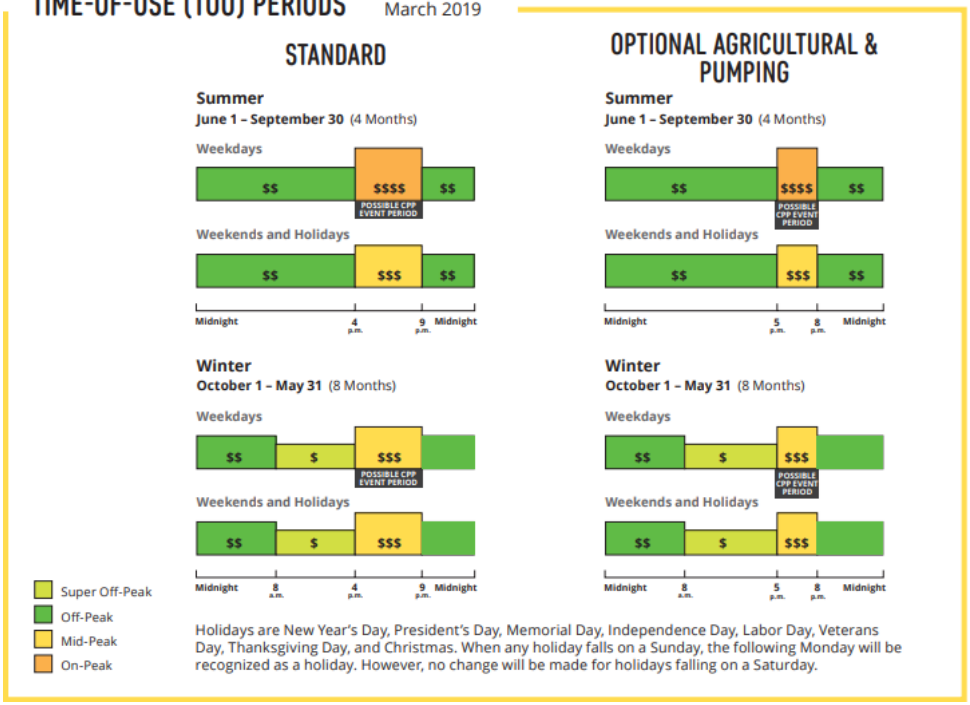
The California Public Utilities Commission (CPUC) has issued a statewide initiative to simplify rates and encourage conservation by having utilities transition most California customers to a new Time-Of-Use rate. Making these changes will help California achieve its climate and air quality goals.

- TOU rates were changed in early 2019
  - Incentivizes the agency to plan lower usage during peak periods (5-8pm customer can opt in)
- Standard for pumping is (4-9pm default) only pumping

# Maximizing Time of Use Rates

What to consider:

- What systems can you delay until after 8pm?
- What systems can you automate or control remotely for overnight?
- Flow equalization basins, other ex.



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# Strategies for Waste Water Treatment Plants - City of Barstow

**City of Barstow Wastewater Treatment Project: From Project Identification to Completed in 16 months!**

Project Timeline

- Audit Completed  May ‘14
- Agency Approval Sept ‘14
- Construction Start Oct ‘14
- Construction Completed Mar ‘15
- Incentive Received Nov ‘15

Key Savings!

- Over 200,000 in kWh annual savings
- Over $19,000 in annual savings
- Received over $13,000 in utility incentives

The SoCalREN’s technical review team found that the plant’s influent pumps were operating inefficiently, and identified opportunities to upgrade their gravity thickener as well as the reverse activated sludge (RAS) pumps.



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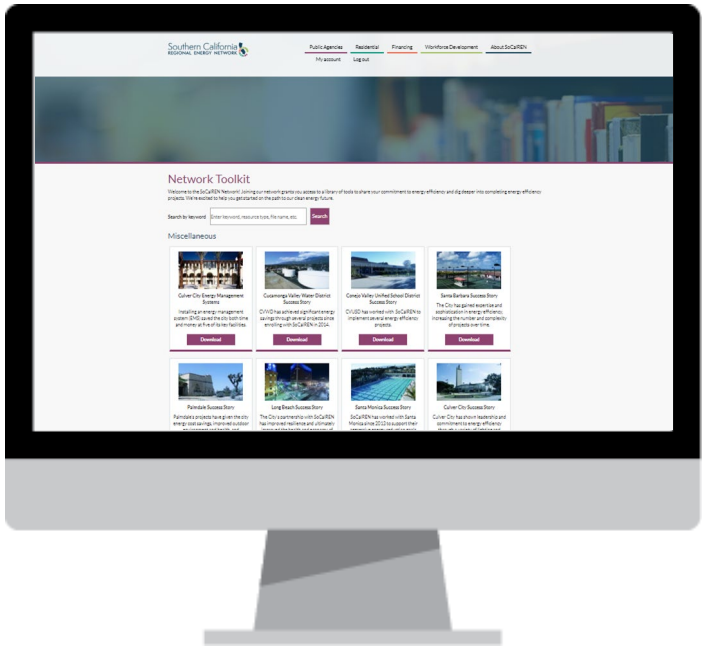
# Register now for access to free energy efficiency resources

SoCalREN's online toolkit contains free webinars, guidebooks, marketing resources, and more to help public agencies on the path towards a sustainable energy future. **Join now to check it out!**




**socalren.org/join**



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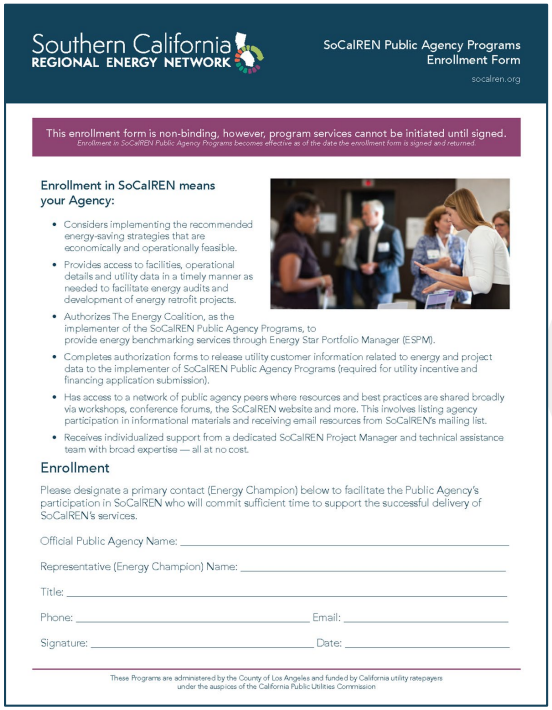
# SoCalREN Enrollment

Enrollment is non-binding and enables access to all SoCalREN Programs & Regional Partnership resources



Southern California REGIONAL ENERGY NETWORK

SoCalREN Public Agency Programs Enrollment Form

socalren.org

This enrollment form is non-binding, however, program services cannot be initiated until signed.
*Enrollment in SoCalREN Public Agency Programs becomes effective as of the date the enrollment form is signed and returned.*

**Enrollment in SoCalREN means your Agency:**

- Considers implementing the recommended energy-saving strategies that are economically and operationally feasible.
- Provides access to facilities, operational details and utility data in a timely manner as needed to facilitate energy audits and development of energy retrofit projects.
- Authorizes The Energy Coalition, as the implementer of the SoCalREN Public Agency Programs, to provide energy benchmarking services through Energy Star Portfolio Manager (ESPM).
- Completes authorization forms to release utility customer information related to energy and project data to the implementer of SoCalREN Public Agency Programs (required for utility incentive and financing application submission).
- Has access to a network of public agency peers where resources and best practices are shared broadly via workshops, conference forums, the SoCalREN website and more. This involves listing agency participation in informational materials and receiving email resources from SoCalREN's mailing list.
- Receives individualized support from a dedicated SoCalREN Project Manager and technical assistance team with broad expertise — all at no cost.

**Enrollment**

Please designate a primary contact (Energy Champion) below to facilitate the Public Agency's participation in SoCalREN who will commit sufficient time to support the successful delivery of SoCalREN's services.

Official Public Agency Name: _____

Representative (Energy Champion) Name: _____

Title: _____

Phone: _____ Email: _____

Signature: _____ Date: _____

These Programs are administered by the County of Los Angeles and funded by California utility ratepayers under the auspices of the California Public Utilities Commission

- If you are already enrolled you are a part of our Regional Partnership!
- If not, just reach out to SGVCOG to get started!



Southern California REGIONAL ENERGY NETWORK | SGVCOG San Gabriel Valley Council of Governments

Southern California REGIONAL ENERGY NETWORK

# Thank you!

info@socalren.org

nespinoza@energycoalition.org

socalren.org | @ SoCalREN

Southern California REGIONAL ENERGY NETWORK

SGVCOG
San Gabriel Valley Council of Governments

# SoCalREN Public Agency Programs Enrollment Form

socalren.org

**This enrollment form is non-binding, however, program services cannot be initiated until signed.**
*Enrollment in SoCalREN Public Agency Programs becomes effective as of the date the enrollment form is signed and returned.*

## Enrollment in SoCalREN means your Agency:

- Considers implementing the recommended energy-saving strategies that are economically and operationally feasible.
- Provides access to facilities, operational details and utility data in a timely manner as needed to facilitate energy audits and development of energy retrofit projects.
- Authorizes The Energy Coalition, as the implementer of the SoCalREN Public Agency Programs, to provide energy benchmarking services through Energy Star Portfolio Manager (ESPM).
- Completes authorization forms to release utility customer information related to energy and project data to the implementer of SoCalREN Public Agency Programs (required for utility incentive and financing application submission).
- Has access to a network of public agency peers where resources and best practices are shared broadly via workshops, conference forums, the SoCalREN website and more. This involves listing agency participation in informational materials and receiving email resources from SoCalREN's mailing list.
- Receives individualized support from a dedicated SoCalREN Project Manager and technical assistance team with broad expertise—all at no cost.

## Enrollment

Please designate a primary contact (Energy Champion) below to facilitate the Public Agency's participation in SoCalREN who will commit sufficient time to support the successful delivery of SoCalREN's services.

Official Public Agency Name: _____

Representative (Energy Champion) Name: _____

Title: _____

Phone: _____ Email: _____

Signature: _____ Date: _____

# REPORT

DATE: July 14, 2020

TO: Water Policy Committee/Water TAC

FROM: Marisa Creter, Executive Director

**RE: H.R. 2 (DEFAZIO) – INVEST IN AMERICA ACT**

## RECOMMENDED ACTION

Recommend Governing Board support HR 2 – INVEST in America Act.

## BACKGROUND

On June 11, 2020, Congressman Peter DeFazio (D-Oregon-4) introduced H.R. 2, known as the Investing in a New Vision for the Environment and Surface Transportation in America Act, the INVEST in America Act, or the Moving Forward Act. H.R. 2 provides over $1.5 trillion in federal spending across a range of infrastructure areas including surface transportation, water, aviation, broadband, healthcare, and energy. The bill would invest $100 billion in mass transit, $75 billion in clean energy, $40 billion in wastewater, and $25 billion in drinking water.

H.R. 2 includes provisions that would provide federal assistance to clean water projects, water supply projects, and environmental improvements. These include the following:

- Authorization of $5.6 billion for clean water act grant programs (including $1 billion for treatment of PFAS chemicals and other emerging contaminants) that can provide direct assistance to local water agencies.
- Authorization of $3.4 billion to reauthorize various regional water programs over the next five years that the Water Resources and Environment Subcommittee recently passed, which include: the National Estuary Program, the San Francisco Bay Program, the Puget Sound Program, the Great Lakes Program, the Chesapeake Bay Program, and the Lake Pontchartrain Program.
- Appropriation of $10 billion to the Army Corps of Engineers for construction projects for flood control, navigation, and environmental restoration. This funding could be used to perform the Whittier Narrows Dam renovation project that will protect Southern California from major flooding events.
- Appropriation of $5 billion for operation and maintenance of Army Corps projects which can be used on the Los Angeles, San Gabriel, and Rio Hondo rivers to improve the river landscape and maintain proper flood control.

H.R. 2 was passed by the House of Representatives by 233-188 on July 1, 2020 and will be referred to the Senate. Please contact Samantha Matthews at smatthews@sgvcog.org to receive a copy of the bill language and the bill section-by-section summary.

Prepared by: _____
Samantha Matthews
Management Analyst

Approved by: _____
Marisa Creter
Executive Director

**ATTACHMENTS**
Attachment A – H.R. 2 Fact Sheet


# Fact Sheet

**H.R. 2, the Moving Forward Act, is a more than $1.5 trillion plan** to rebuild American infrastructure—not only our roads, bridges, and transit systems, but also our schools, housing, broadband access, and so much more. By investing in families, workers, and communities across the country, we can support American manufacturing and ingenuity and create millions of jobs that cannot be exported, all while putting our country on a path toward zero carbon emissions, making communities and roads safer, and addressing long-standing disparities. It's about investing in infrastructure that is **smarter, safer, and made to last**.

**Highways, Bridges, Transit, Rail, Airports, Ports/Harbors:**

- Delivers better roads and bridges faster with more than $300 billion of investment that prioritizes fixing what we already have, including tens of thousands of structurally deficient bridges.
- Invests more than $100 billion in transit to put more zero-emission buses on the road, add new routes, and provide more reliable service, resulting in better transit options and fewer single-occupant cars clogging highways.
- Modernizes infrastructure to reduce traffic congestion and address bottlenecks, and makes roads smarter and safer for all users, including pedestrians and bicyclists.
- Invests in programs, projects, and materials that emphasize resiliency while reducing carbon pollution from the transportation sector, including $1.4 billion in alternative fuel charging infrastructure.
- Triples funding for Amtrak to $29 billion, allowing for upgrades and expansion of the passenger rail network, and improves rail crossing safety and addresses increasingly long trains that block crossings for 10+ minutes, which impacts local traffic and emergency response times.
- Keeps cargo moving by funding the essential dredging and upkeep of American harbors, ports, and channels.

**Schools and Child Care:**

- Invests in schools with the *Reopen and Rebuild America's Schools Act*, which invests $100 billion targeted at high-poverty schools with facilities that endanger the health and safety of students and educators. This investment will help students get back to school and create 1.9 million jobs to help workers get back to work.
- Leverages a 5-year, $10 billion federal investment in addressing structural challenges and upgrading child care facilities to generate additional state and private investments in making sure that child care settings are safe, appropriate, and able to comply with current and future public health directives.

**Local Financing & Community Development:**

- Provides financing support for state and local government investments and spurring private investment through the tax code by permanently reinstating Build America Bonds and Advance Refunding Bonds, and increasing and expanding the issuance of Private Activity Bonds.
- Promotes revitalization in economically distressed communities by making permanent and expanding the New Markets Tax Credit.
- Encourages the rehabilitation of historic buildings by temporarily increasing the Historic Tax Credit program for all projects, permanently expanding the credit for small projects, and eliminating rules that prevent access for non-profits, including public schools.
- Promotes further development in and parity for tribal communities by making long-overdue changes to tax rules related to tribal issuance of government bonds, treatment of tribal government charitable organizations, and the treatment of tribal projects in the New Markets Tax Credit program.

**Housing:**

- Invests over $100 billion into our nation's affordable housing infrastructure to create or preserve 1.8 million affordable homes, helping to reduce housing inequality, create jobs, and stimulate the broader economy, increase community and household resiliency in the face of natural disasters, improve hazardous living conditions, and increase the environmental sustainability of our housing stock.
- Increases federal investment in low-income housing through a robust expansion of the Low-Income Housing Tax Credit with new, targeted housing incentives for rural and tribal communities and individuals at risk of homelessness.

- Establishes a new Neighborhood Investment tax credit that would subsidize certain development costs to encourage the rehabilitation of vacant homes or construction of new homes in distressed areas. The credit requires homes to be owner-occupied and contains other limits meant to maintain affordable housing prices in these communities.

**Broadband:**

- Delivers affordable high-speed broadband Internet access to all parts of the country by investing $100 billion to promote competition for broadband internet infrastructure to unserved and underserved rural, suburban, and urban communities, prioritizing communities in persistent poverty and ensuring that broadband-related support is being administered in an efficient, technology-neutral, and financially sustainable manner.
- Gets kids connected to remote learning with digital equipment and affordable broadband options, connects school buses to Wi-Fi and helps schools and libraries close the "homework gap" outside school,
- Closes other gaps in broadband adoption and digital skills, and enhances payment support for low-income households and the recently unemployed.

**Drinking Water and Wastewater:**

- Protects access to safe drinking water by investing over $25 billion in the Drinking Water State Revolving Fund and other programs to ensure all communities have clean drinking water and to help remove dangerous contaminants like PFAS from local water systems.
- Invests $40 billion in new wastewater infrastructure to encourage efficiency and affordability, and helps communities address stormwater needs, preventing pollution in local rivers.
- Invests in clean water and wastewater infrastructure to meet the federal government's trust obligations to Indian Country and making responsible investments to repair severely damaged federal canals, leveraging taxpayer dollars to maximize public benefits.
- Unlocks more tax-exempt bond financing for water infrastructure projects by exempting bonds funding these projects from State allocation caps for Private Activity Bonds.

**Clean Energy:**

- Modernizes our energy infrastructure for a clean energy future by investing more than $70 billion to transform our electric grid to accommodate more renewable energy, expand renewable energy, strengthen existing infrastructure, help develop an electric vehicle charging network, and support energy efficiency, weatherization, and Smart Communities infrastructure.
- Reinvigorates our commitment to renewable energy and combatting the climate crisis by building on current successful tax incentives that promote the deployment of green energy technologies while providing new incentives for activities that reduce carbon pollution.
- Encourages "greening the fleet" by supporting widespread adoption of zero-emission cars, vans, and buses through tax credits for purchasing vehicles, supporting zero-emission vehicle manufacturing, and deployment of publicly accessible electric vehicle charging infrastructure including underserved communities.
- Promotes green energy and efficiency projects that adopt high-road labor practices.

**Health Care:**

- Modernizes the nation's health care infrastructure by investing $30 billion to upgrade hospitals to increase capacity and strengthen care, help community health centers respond to COVID-19 and future public health emergencies, improve clinical laboratory infrastructure, support the Indian Health Service's infrastructure, and increase capacity for community-based care.

**U.S. Postal Service:**

- Invests $25 billion to modernize postal infrastructure and operations, including a zero emissions postal vehicle fleet, processing equipment and other goods.

**Environment/Public Lands:**

- Puts Americans to work strengthening our coasts through a $3 billion grant program for shovel-ready projects to restore Great Lakes and coastal habitats and marine ecosystems, with priority given to qualifying communities of color.

- Cleans up abandoned coal mines and orphaned oil and gas wells, putting drillers, miners and engineers to work clearing the way for new infrastructure and economic redevelopment.
- Promotes new renewable energy infrastructure by incentivizing the development of wind and solar on public lands and building a workforce for offshore wind.
- Invests in modern water infrastructure to provide drought preparedness and improved water supply reliability in a changing climate.

# REPORT

DATE: July 14, 2020

TO: Water Policy Committee/TAC

FROM: Marisa Creter, Executive Director

**RE: MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT REISSSUANCE**

## RECOMMENDED ACTION

For discussion.

## BACKGROUND

In December 2019, the Los Angeles Regional Water Quality Control Board (Regional Board) released the "Working Proposal" of the 2020 Regional Phase 1 Municipal Separate Storm Sewer Permit (MS4 Permit) to stakeholders. The Regional Board subsequently held a workshop on January 6, 2020, to allow stakeholders, including representatives from the San Gabriel Valley Council of Governments (SGVCOG), to provide initial comments on the Working Proposal. The Regional Board also asked for additional comments on the Working Proposal from stakeholders, including the SGVCOG, in advance of the release of the Draft MS4 Permit. In response to this request and with direction from the Water Policy Committee/TAC, SGVCOG staff submitted a comment letter to the Regional Board in February 2020.

## DISCUSSION

In its comment letter to the Regional Board on the Working Proposal of the MS4 Permit, the SGVCOG expressed the need to further integrate the County's Safe Clean Water (SCW) Program into the MS4 Permit. This included better aligning compliance schedules with the SCW Program's Stormwater Investment Plans and, to the extent possible, mimicking the SCW Program reports with the Permit's reporting requirements. With the completion of the first funding round and development of the SIPs, the need for integration is even more apparent.

In early July 2020, the Regional Board held a virtual meeting to hear comments from stakeholders regarding a potential delay in adoption of the 2020 MS4 Permit, given the current circumstances facing all communities. At the meeting, the Regional Board determined that the adoption of the 2020 MS4 Permit would not be delayed but would move forward, incorporating considerations and concerns heard regarding challenges related to COVID-19. At this time, the Regional Board anticipates that the Draft MS4 Permit will be released in the fall, for a 60-day public comment period. At this time, it's anticipated that the MS4 Permit would be considered by the Regional Board in early 2021. With this compressed timeline, it's critical that the SGVCOG and its member cities can engage and respond quickly.

To that end, SGVCOG staff recommends retaining technical support to provide analysis and support Permit discussions with the Regional Board. This could include but not be limited to recommendations and analysis on how the Safe Clean Water Program could be better integrated with the MS4 Permit.

**NEXT STEPS**

With concurrence from the Committees, the SGVCOG would develop a scope of work and complete the procurement and execute a contract.

Prepared by: _____
Samantha Matthews
Management Analyst

Approved by: Marisa Creter
Marisa Creter
Executive Director

# REPORT

DATE: July 14, 2020

TO: Water Policy Committee/Water TAC

FROM: Marisa Creter, Executive Director

RE: **SB 205 (HERTZBERG) IMPLEMENTATION AND THE INDUSTRIAL GENERAL PERMIT**

## RECOMMENDED ACTION

For discussion.

## BACKGROUND

In October 2019, Governor Newsom signed SB 205 (Hertzberg). SB 205 requires that an applicant from a business operation in a regulated industry must demonstrate enrollment with the NPDES permit program when applying for a business license. The applicant must demonstrate enrollment with the NPDES permit program by providing specified information, such as the business's Standard Industrial Classification (SIC) code. This requirement would apply to all business license applications and renewals submitted on or after January 1, 2020.

As of 2015, the Industrial General Permit regulates industrial storm water discharges and authorized non-storm water discharges from industrial facilities in California. The State Water Resources Control Board and Regional Water Quality Control Boards implement and enforce the Industrial General Permit.

## INDUSTRIAL SITES TASK FORCE

On May 28, 2020, the Los Angeles Regional Water Quality Control Board's Industrial Sites Task Force met to discuss the status of SB 205, the Industrial General Permit, and the permit's July 2020 amendment. The Industrial General Permit amendment was adopted by the State Board in November 2018 to be effective July 1, 2020. The new requirements incorporate TMDL waste load allocations and include numeric effluent limits (NELs) in impaired watersheds, on-site and off-site compliance options, sensitive analytical test method requirements for analyzing samples, and TMDL implementation requirements. The TMDL specific requirements for NELs apply to LA River nitrogen and metals and San Gabriel River metals. Presentations from the meeting with further information are included as Attachment A.

At the meeting, there will be a discussion on the cities' SB 205 implementation efforts.

Prepared by: _____

Samantha Matthews
Management Analyst

Approved by: Marisa Creter

Marisa Creter
Executive Director

**ATTACHMENTS**

Attachment A – Industrial Sites Task Force Meeting Presentations

# The Industrial General Permit and Senate Bill 205

Industrial Sites Task Force Meeting
May 28, 2020

Presented By:
Storm Water Compliance & Enforcement Program
Los Angeles Regional Water Quality Control Board

1

## Region 4 Coverage Area


- Region 4 includes the majority of Los Angeles and Ventura Counties
- Stormwater is a major concern within Region 4

2

## Federal Law

The Federal Clean Water Act (CWA) prohibits certain discharges of storm water containing pollutants except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit.

3

## Industrial General Permit (IGP)

**The IGP is a Storm Water NPDES Permit:**

- ❑ Adopted in 2014
- ❑ Defines the types of industries that need coverage
- ❑ Regulates the storm water discharges from regulated industries
- ❑ Requirements:
  - Storm Water Pollution Prevention Plan (SWPPP)
  - Monitoring and Reporting of storm water discharges
  - Implementation of Best Management Practices (BMPs)
  - Good Housekeeping Practices
  - Protect industrial activities and equipment from exposure to rain
- ❑ Stormwater Multiple Application and Tracking System (SMARTS)

4

## Industrial Facilities Requiring IGP Coverage

- ❑ Manufacturing Facilities
- ❑ Oil and Gas/Mining Facilities
- ❑ Hazardous Waste Treatment, Storage, or Disposal Facilities
- ❑ Landfills, Land Application Sites, and Open Dumps
- ❑ Recycling Facilities
- ❑ Steam Electric Power Generating Facilities
- ❑ Transportation Facilities
- ❑ Sewage or Wastewater Treatment Works
- ❑ Facilities Subject to Stormwater Effluent Limitation Guidelines

5

## Senate Bill 205 Overview

- ❑ Signed on October 2, 2019
- ❑ Effective January 1, 2020
- ❑ Sponsored by Senator Hertzberg
- ❑ Industrial Sites Task Force and Partners
- ❑ Bring non-filers into compliance

6

6

## SB 205 Requirements

- ❑ City/County to verify businesses regulated under the IGP and require proof of permit coverage during business license renewal or application
- ❑ State Water Resources Control Board to provide a list of regulated industry Standard Industrial Classification (SIC) codes

7

7

## SB 205 Requirements (Cont.)

- ❑ SIC code vs. North American Industry Classification System (NAICS)
  - State Water Board website
  - USEPA Multi-General Permit – Appendix N
- ❑ Industrial General Permit Types
  - Notice of Intent – Waste Discharger Identification (WDID) Number
  - No Exposure Certification – NEC Identification Number
  - Notice of Non-Applicability – NONA Identification Number

8

8

## What is Not Required of City/County

- ❑ Industrial General Permit Type Determination or Assistance
  - Only verify if SIC code is on regulated list
  - Refer permit questions to the State or Regional Water Boards
- ❑ IGP Compliance Inspections

9

9

## Los Angeles Regional Board SB 205 Update

- ❑ Facilitated frequently asked questions (FAQs) development
- ❑ Coordinated with State Board on other SB 205 resources
- ❑ Conducted presentations
  - San Gabriel Valley Council of Government (SGVCOG)
  - California Municipal Revenue & Tax Association (CMRTA) – rescheduled due to Covid-19
  - Westside Cities Council of Government – rescheduled due to Covid-19
- ❑ Responded to various city's questions

10

10

# Los Angeles Regional Board SB 205 Update (Cont.)

- ❑ Assistance and response provided to various cities and businesses: 20-30 per day (average)
- ❑ Current average IGP enrollment: 100 active permits per month
- ❑ 73 cities
- ❑ At a constant monthly rate throughout 2020: 1,200 permits
- ❑ Calendar year 2019 enrollment: 500 permits

11

11

# Resources

❑ **State Water Resources Control Board**

- SB 205 Business License Requirements
  https://www.waterboards.ca.gov/water_issues/programs/stormwater/sb_205_business_license_requirements.html
- List of Regulated SIC codes
  https://www.waterboards.ca.gov/water_issues/programs/stormwater/sicnum.shtml
- SIC Code Search
  https://www.osha.gov/pls/imis/sicsearch.html
- NAICS Crosswalk
  https://www.naics.com/naics-to-sic-crosswalk-2/
- Industrial Stormwater Program
  https://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.html
- Stormwater Multiple Application and Report Tracking System (SMARTTS)
  https://smarts.waterboards.ca.gov
- Stormwater Help Desk
  Email: stormwater@waterboards.ca.gov
  Phone: (866) 563-3107

12

12

# Resources (Cont.)

- **Los Angeles Regional Water Board**
  https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/sw_index.html
- **USEPA Multi-Sector General Permit**
  https://www.epa.gov/npdes/final-2015-msgp-documents

13

13

# Storm Water Program Contacts

## Los Angeles Regional Water Quality Control Board

| Name | Phone Number | Email |
|---|---|---|
| General Inquires (Toll Free) (SMARTS) | (866) 563-3107 | stormwater@waterboards.ca.gov |
| Nerissa Schrader, PE<br>SWCE (IGP) Unit Chief<br>Senior Water Resource Control Engr | (213) 620-2237 | Nerissa.Schrader@waterboards.ca.gov |
| Andrew Veloz<br>Water Resource Control Engr (SWCE) | (213) 620-2243 | Andrew.Veloz@waterboards.ca.gov |
| Harumi Goya, MS<br>Engineering Geologist (SWCE) | (213) 620-2283 | Harumi.Goya@waterboards.ca.gov |
| Lesley Walther, MS, EIT<br>Water Resource Control Engr (SWCE) | (213) 620-2120 | Lesley.Walther@waterboards.ca.gov |
| Luz Vargas, MS<br>Engineering Geologist (SWCE) | (213) 620-2219 | Luz.Vargas@waterboards.ca.gov |
| Sean Lee<br>Water Resource Control Engr (SWCE) | (213) 620-2202 | Sean.Lee@waterboards.ca.gov |
| Ivar Ridgeway<br>MS4 Permitting Unit Chief<br>Senior Environmental Scientist | (213) 620-2150 | Ivar.Ridgeway@waterboards.ca.gov |

14

# Other State / Regional Board Contacts

- General Inquires

  stormwater@waterboards.ca.gov

  **Toll Free: 1-(866)-563-3107**

- State Water Resources Control Board

  **Patrick Otsuji**
  patrick.otsuji@waterboards.ca.gov
  **(916) 341-5292**

  **Amy Kronson**
  amy.kronson@waterboards.ca.gov
  **(916) 341-5552**

- Los Angeles Regional Water Quality Control Board

  **Russ Colby**
  russ.colby@waterboards.ca.gov
  **(213) 620-6375**

  **Pavlova Vitale**
  pavlova.vitale@waterboards.ca.gov
  **(213) 576-6751**

  **Nerissa Schrader**
  nerissa.schrader@waterboards.ca.gov
  **(213) 620-2237**

15

15

# ENFORCEMENT II

## Industrial General Permit Amendment
## Outreach to Permittees in Affected Watersheds

**Pavlova Vitale**
**Senior Environmental Scientist**
**LA Water Board**

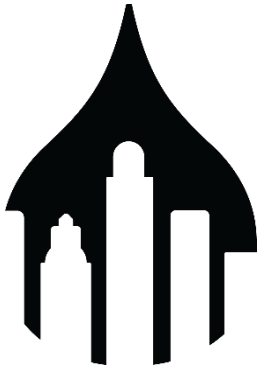
# Overview

IGP Amendment – November 2018

Outreach workshops – 2019 and 2020

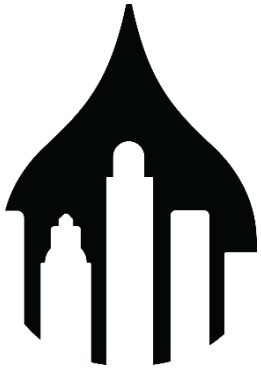
Time Schedule Orders

# IGP AMENDMENT



# New Requirements

- Incorporates TMDL waste load allocations
- Extensive public outreach conducted by State Board
- Regional Boards provided input on the new requirements
- Adopted by the State Board in November 2018
- Effective July 1, 2020

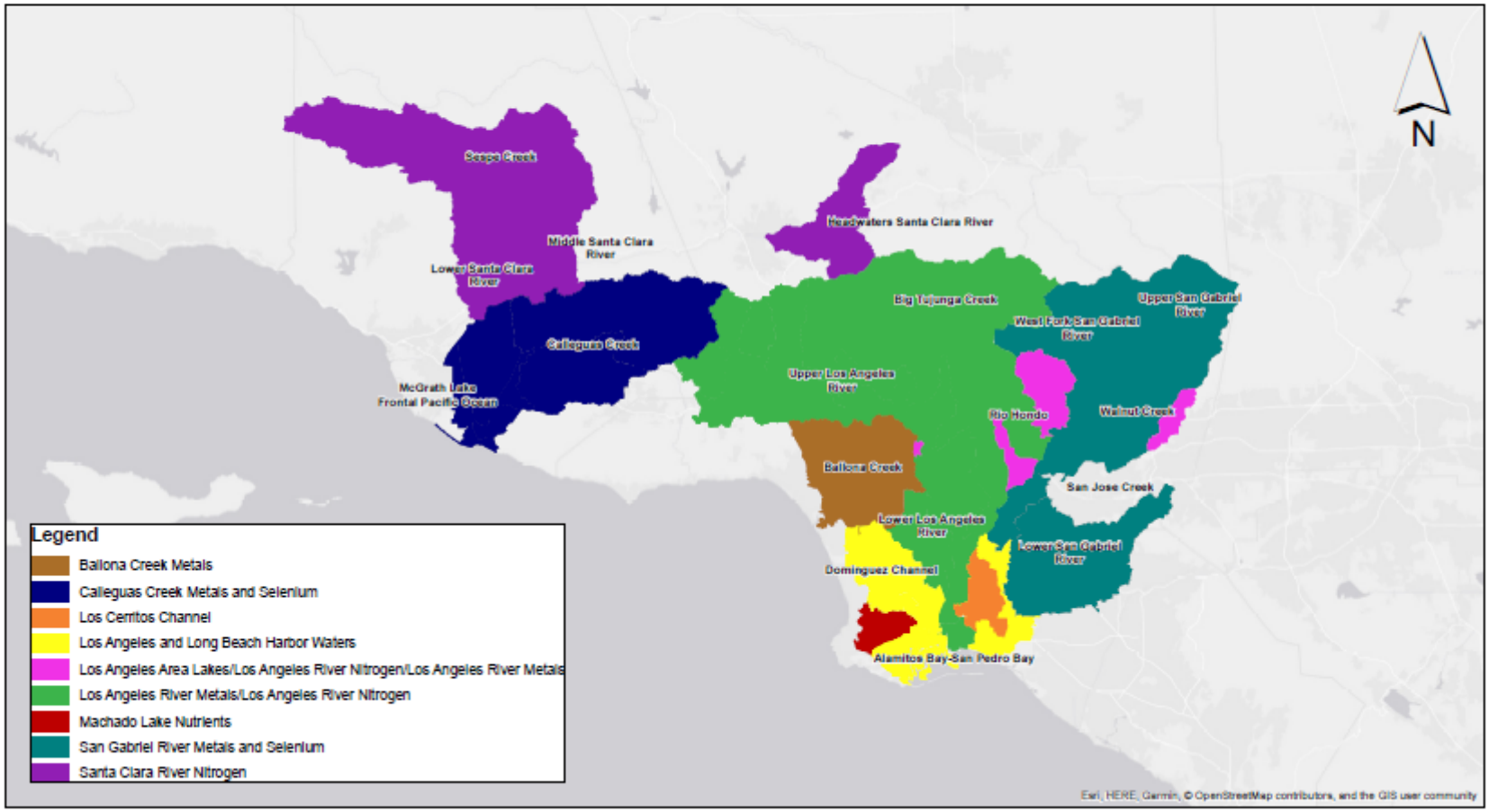


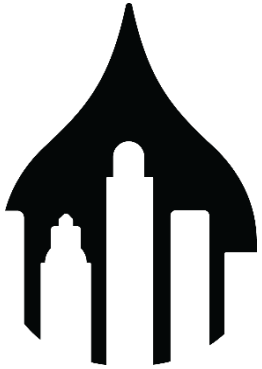
# New Requirements

- Numeric Effluent Limits in impaired watersheds
- New TMDL related Numeric Action Levels
- On-site and off-site compliance options
- Sensitive analytical test method requirements for analyzing samples
- TMDL implementation requirements

# OUTREACH

# Los Angeles Regional Water Quality Control Board
# Areas with Numeric Effluent Limits





# Outreach

- Ballona Creek - **May 24, 2019** in Inglewood
- San Gabriel River - **August 12, 2019**
- Santa Clara River and Calleguas Creek - **December 12, 2019** in Fillmore

# Outreach

- Los Angeles River - **February 7, 2020** in South Gate & **February 13, 2020** in Commerce
- Machado Lake, Los Angeles and Long Beach Harbor Waters, Los Cerritos Channel - **May 18, 2020** via webinar

# Outreach

- Industrial Environmental Association (IEA) Vernon Regulatory Committee - **January 28, 2020** in Vernon
  - TNAL/NEL - How do these affect my business?

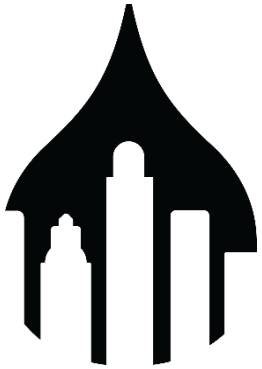
# Outreach

- QISP Training Workshop - **July 10, 2019** in Downtown Los Angeles
  - Discussed Level 1 and Level 2 status requirements and NALs

# TIME SCHEDULE ORDERS

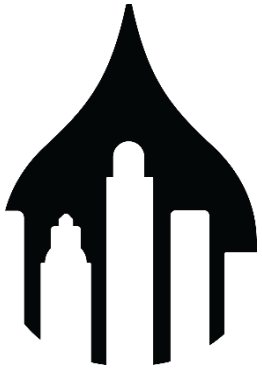
# TMDL Specific Requirements with NELs Effective July 1, 2020

- Ballona Creek metals
- LA Area Lakes
- Santa Clara River nitrogen
- LA River nitrogen, metals
- Los Cerritos Channel metals
- Machado Lake Nutrients
- San Gabriel River metals



# TSO's

- May be requested pursuant to CWC 13300
- Compliance with TSO may exempt discharger from MMPs
- Must contain statutory elements in CWC 13385 (j)(3)
- Contain time schedule to comply with NELs up to 5 years

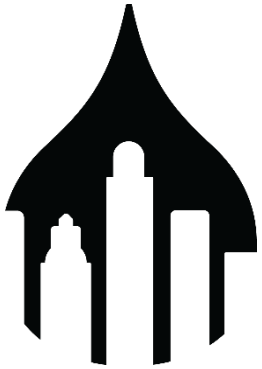


# TSO Requests

- Description of industrial activities
- Name of impaired water body/watershed
- Pollutant of concern
- Justification for requesting a TSO
- NEL requirements applicable to the discharge
- Monitoring data demonstrating NEL will be exceeded

# TSO Requests

- Detailed plan and schedule of planned changes to BMPs to comply with NELs
- Discussion explaining that new or modified changes cannot be implemented within 30 days
- Discussion of technological and economic factors that may affect the design, operation and implementation of the BMPs



# Regional Board's Role in TSO's

- Developed a TSO guide for dischargers
- Discussed consequences of non-compliance
- Developed a tracking system
- Developed collaborative approach with OE, OCC, State Board, and discharger
- Currently working on the release of TSOs for public comment

# ENFORCEMENT II

# QUESTIONS?

Pavlova Vitale | Unit Chief
Los Angeles Regional Water Quality Control Board Enforcement Unit II
320 West 4th Street Suite 200, Los Angeles, CA 90013
t 213 .576 .6751 | f 213 .576 .1323
Pavlova.Vitale@waterboards.ca.gov|www.waterboards.ca.gov/losangeles

# REPORT

DATE: July 14, 2020

TO: Water Policy Committee/Water TAC

FROM: Marisa Creter, Executive Director

**RE: SAFE CLEAN WATER PROGRAM UPDATES**

## RECOMMENDED ACTION

For information only.

## PROGRAM AND WASC UPDATES

The Safe Clean Water Program's Regional Oversight Committee (ROC) and Scoring Committee are continuing to meet via Cisco Webex video conference. Upcoming meetings are listed at the end of this report. The full schedule and Webex details can be found on the Program's website here: safecleanwaterla.org.

On June 18, the Regional Oversight Committee (ROC) met to consider the Watershed Area Steering Committee (WASC) Stormwater Investment Plans (SIPs). The ROC approved the Upper Los Angeles River and Rio Hondo SIPs for recommendation to the LA County Board of Supervisors. The ROC did not approve the Upper San Gabriel River SIP. On July 6, the Upper San Gabriel River WASC revised and confirmed a final recommended SIP to return to the ROC. The It is anticipated that the Board of Supervisors will approve the SIPs in August.

## WATERSHED COORDINATORS

The Watershed Coordinator Request for Statement of Qualifications (RFSQ) was released on May 26, 2020 and proposals are due by July 20, 2020 at 5:30 p.m. The RFSQ may be obtained by accessing the link at http://pw.lacounty.gov/brcd/servicecontracts or by emailing Samantha Matthews at smatthews@sgvcog.org.

LA County Public Works will award 12 Watershed Coordinator contracts for the following 9 Watershed Areas:

| Watershed Areas | Number of Contracts Being Awarded | Estimated Maximum Annual Amount of Each Contract |
|---|---|---|
| Central Santa Monica Bay | 2 | $200,000 |
| Lower Los Angeles River | 1 | $200,000 |
| Lower San Gabriel River | 1 | $200,000 |
| North Santa Monica Bay | 1 | $100,000 |
| **Rio Hondo** | **1** | **$200,000** |
| Santa Clara River | 1 | $200,000 |
| South Santa Monica Bay | 1 | $200,000 |

| | | |
|---|---|---|
| **Upper Los Angeles River** | **3** | **$200,000** |
| **Upper San Gabriel River** | **1** | **$200,000** |

Proposers may be individuals or entities and an individual person may only provide services in one Watershed Area. A proposing entity may receive one or more contract awards if they have identified more than one individual on their staff to perform Watershed Coordinator services. Each contract has been designed to have a potential maximum contract term of 4 years, consisting of an initial 1-year term and potential 1-year option renewals.

Proposing entities must have experience in the following:

- Community engagement (engaging diverse communities and/or agencies, municipalities, elected officials, and NGOs)
- Communication (developing education and engagement communication)
- Project development (compiling information and resources to support project teams and developing strategies for integrating diverse priorities into projects)
- Funding coordination (identifying, securing, and leveraging public and private funding and grant writing)

Proposing entities must have subject matter knowledge in the following:

- Watershed/integrated approaches to developing multi-benefit, stormwater and urban runoff capture projects/programs
- Local and regional NGOs and public agencies
- Local water quality regulations
- Current local and regional plans, planning processes, and resources related to Safe, Clean Water (SCW) Program
- Green stormwater infrastructure, Low Impact Development Ordinance(s) in effect within Los Angeles County (including cities), or Nature-Based Solutions as defined in the SCW Program
- Identification of current equity, social, or environmental justice issues in the region

LA County Public Works will evaluate each Statement of Qualification (SOQ) based on experience, work plan, price, performance history, and references. Proposers that receive a qualifying score will be placed on a Qualified Proposer List for that Watershed Area. The proposers on the Qualified Proposer List will be invited to provide a presentation to the applicable WASC who will conduct an interview at a public meeting. The WASCs will review potential candidates in August with Board approval in September.

**UPCOMING MEETINGS**

- Regional Oversight Committee – Monday, July 20, 2020, time TBD
- Scoring Committee – Tuesday, August 4, 2020, 9:00 a.m. – 12:00 p.m.
- Upper Los Angeles River WASC – TBD
- Upper San Gabriel River WASC – TBD
- Rio Hondo WASC – TBD

Prepared by: _____
Samantha Matthews
Management Analyst

Approved by: _____
Marisa Creter
Executive Director

DATE: July 14, 2020

TO: Water Policy Committee/TAC

FROM: Marisa Creter, Executive Director

**RE: MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) MONITORING DATA REVIEW REPORT**

## RECOMMENDED ACTION

For information only.

## BACKGROUND

The Los Angeles Regional Water Quality Control Board has released the Regionwide Trends section of the MS4 Monitoring Data Review Report. Data from mass emission stations in LA County were assessed from Fall 2012 through Spring 2017. Data from outfall and other receiving water stations in LA County were assessed from 2015 through Spring 2017. The Board reviewed the MS4 monitoring data and compared them to TMDL requirements and water quality objectives. The results for the Los Angeles River and San Gabriel River are as follows.

Los Angeles River

*Total Copper, Total Lead, and Total Zinc*
Total copper and zinc have exceeded wet weather TMDL targets over time, but concentrations have been decreasing in recent years. Total lead concentrations have been mostly below the target with no obvious trend over time. While total copper and lead concentrations have dry weather TMDL targets, zinc concentrations do not and instead are compared against the hardness-adjusted CTR chronic criterion. The metals are below their respective targets or criterion and show a gradual decrease over time.

*Nutrients (Total Nitrogen)*
All wet weather results are below the TMDL target with a slight decreasing trend over time. All dry weather results are below the TMDL target with a slight decreasing trend over time.

*E. coli*
All wet weather sampling results are over the TMDL target with little change through time. About half of the dry weather sampling results are over the TMDL target though it appears there may be a slight decreasing trend.

San Gabriel River

*Total Copper, Total Lead, and Total Zinc*
While total lead concentrations in the San Gabriel River have a wet weather TMDL target, total copper and zinc concentrations do not and instead are compared against average hardness-adjusted CTR acute criteria. The results for total copper and zinc at the mass emissions station are

decreasing through time with more recent results below the CTR acute criteria during wet weather while earlier results were at times above the criteria. Total lead results remain below the TMDL target with no clear trend over time.

The San Gabriel River does not include dry weather targets for copper, zinc, and lead so the concentrations are compared against hardness-adjusted CTR chronic criteria. There were very few datapoints available, but the results are all well below the chronic criteria.

*Nutrients (Total Nitrogen)*
The San Gabriel River has a Basin Plan objective for nitrogen. Wet weather nitrogen results are below the Basin Plan objective and show a slight decreasing trend over time. Dry weather results are scarce, but all were below the Basin Plan objective.

*E. coli*
While the E. coli bacteria TMDL has not yet been formally incorporated into the MS4 permit, the TMDL target is the same as the Basin Plan objective. Almost all datapoints during wet weather are over the TMDL target with lower results in recent years.

Prepared by: _____
Samantha Matthews
Management Analyst

Approved by: _____
Marisa Creter
Executive Director

**ATTACHMENTS**
Attachment A – MS4 Monitoring Data Review Report – Sections on Los Angeles River and San Gabriel River
Attachment B – MS4 Monitoring Data Review Report – Full Report

## Los Angeles River

The Los Angeles River Watershed is one of the largest in the Region at 824 square miles; the river is 55 miles long. It is also one of the most diverse in terms of land use patterns. Approximately 324 square miles of the watershed are covered by forest or open space land including the area near the headwaters which originate in the Santa Monica, Santa Susana, and San Gabriel Mountains. The rest of the watershed is highly developed.


### *Total Copper, Total Lead, and Total Zinc*

There are wet weather TMDL targets in place for total copper, zinc, and lead with a final compliance date in 2028. As shown in the boxplots below, total copper and zinc have exceeded the targets through time, but concentrations have been decreasing in recent years. Total lead concentrations have been mostly below the target with no obvious trend through time.

*Figure 81: Boxplots of Total Copper during Wet Weather*

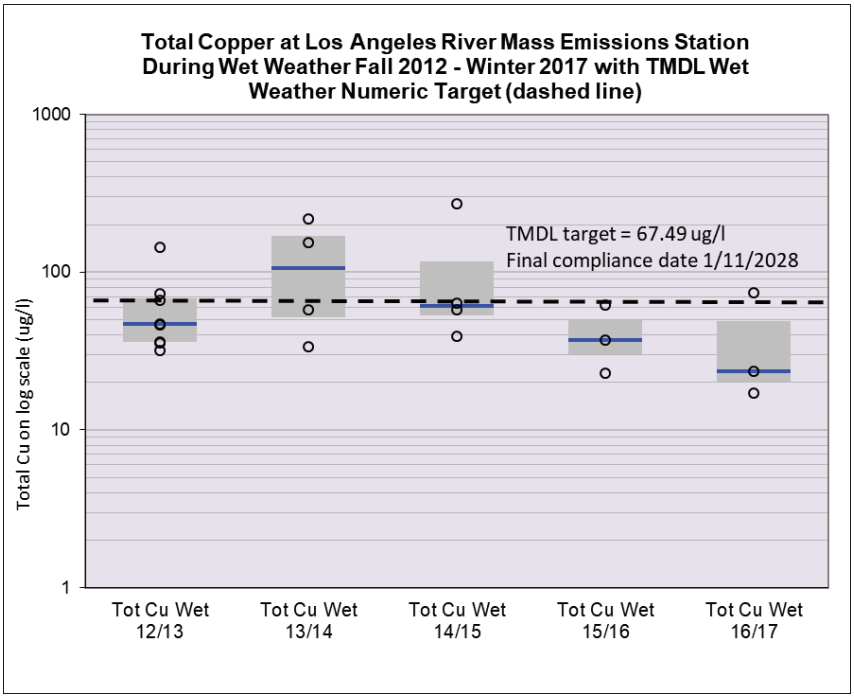


*Figure 82: Boxplots of Total Zinc during Wet Weather*

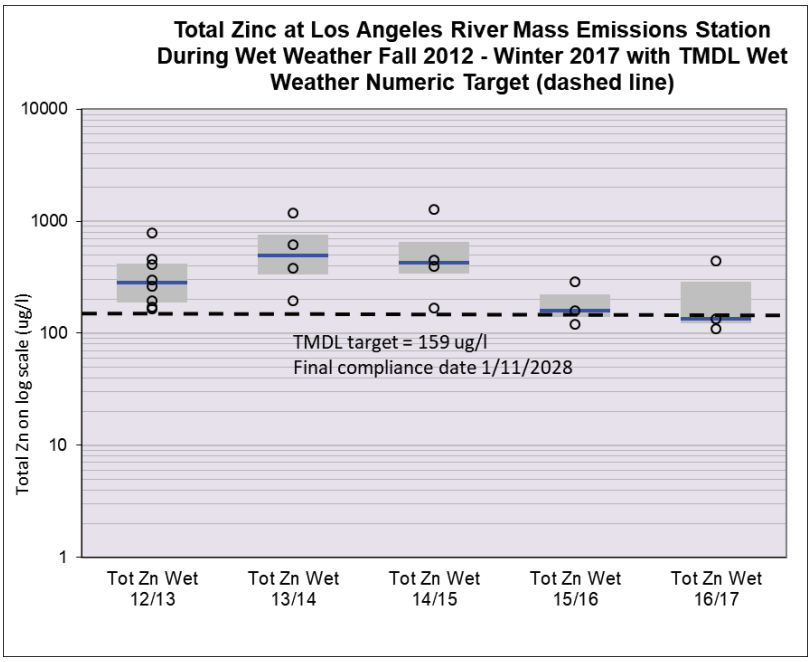
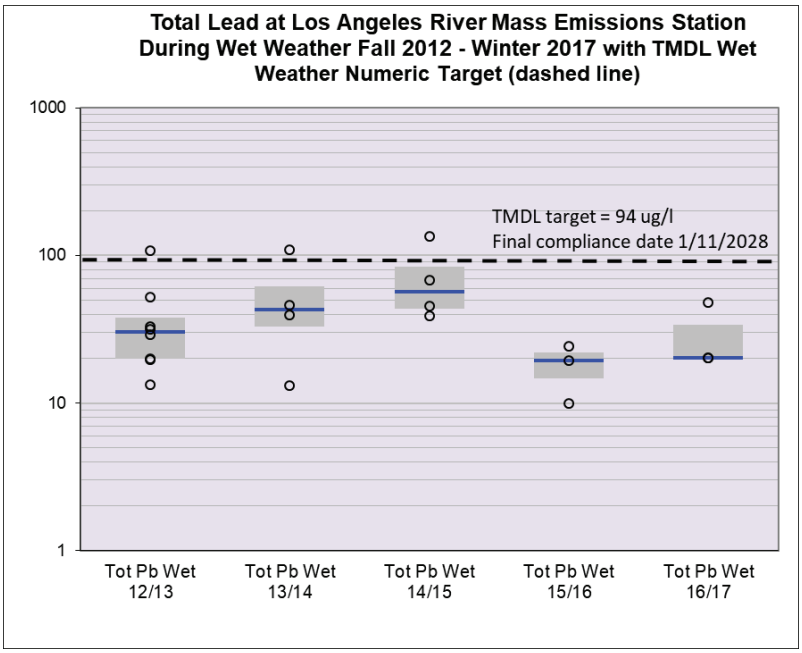



*Figure 83: Boxplots of Total Lead during Wet Weather*




There are dry weather TMDL targets in place for total copper and lead but not for zinc; concentrations of the latter are compared against the hardness-adjusted CTR chronic criterion. As shown in the boxplots below, the metals are below their respective targets or criterion and show a gradual decrease through time.

*Figure 84: Boxplots of Total Copper during Dry Weather*

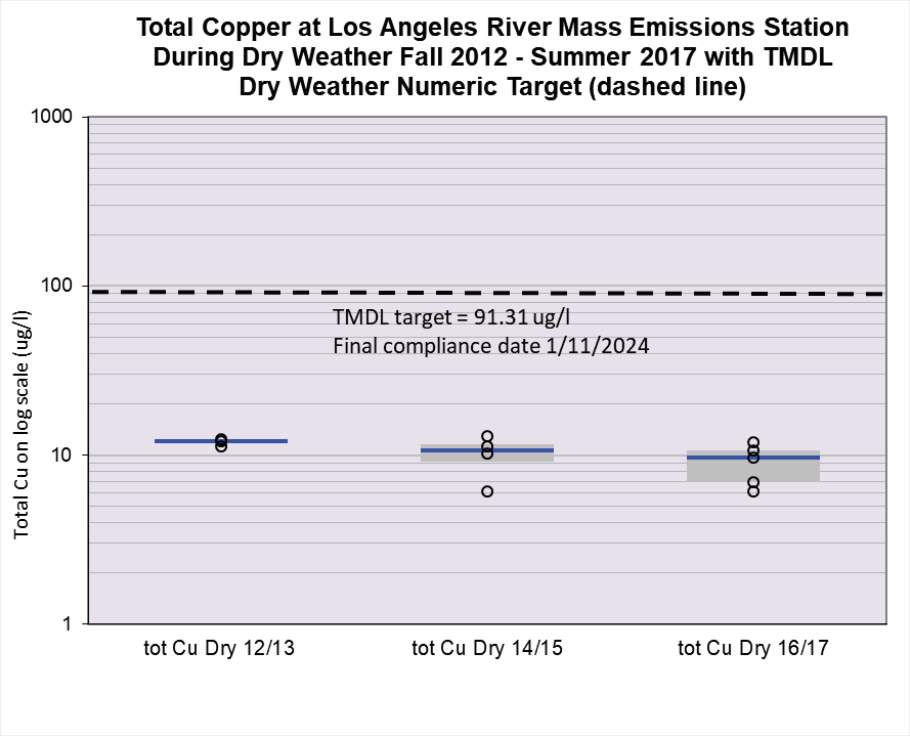



*Figure 85: Boxplots of Total Zinc during Dry Weather*

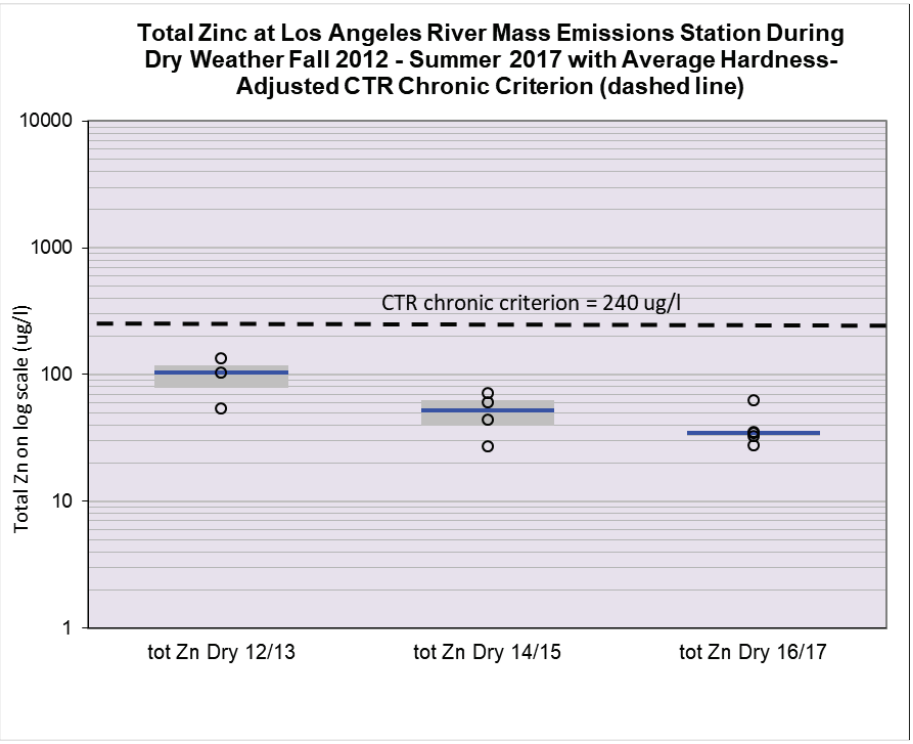
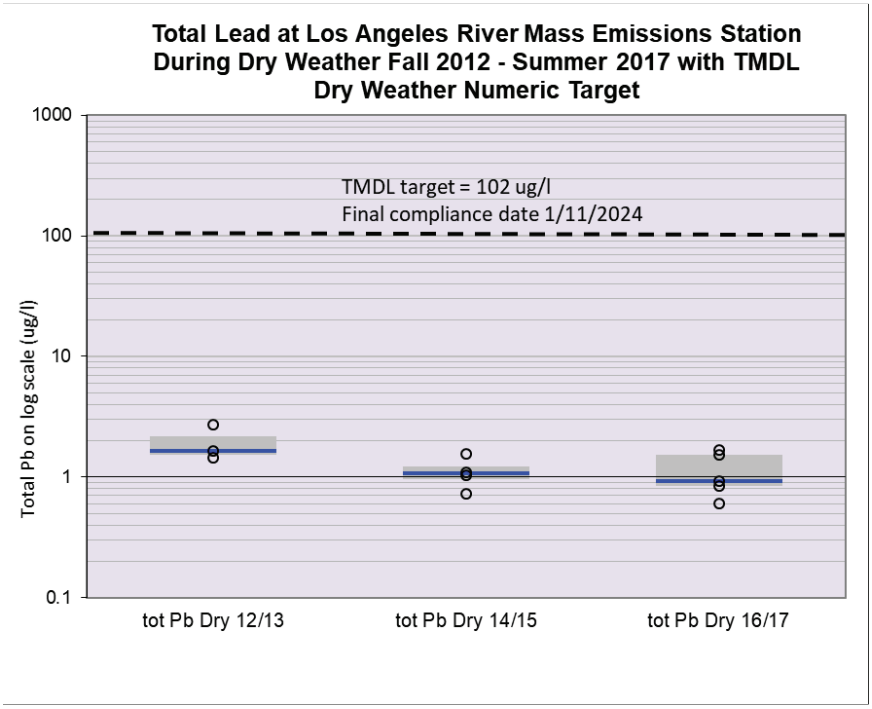


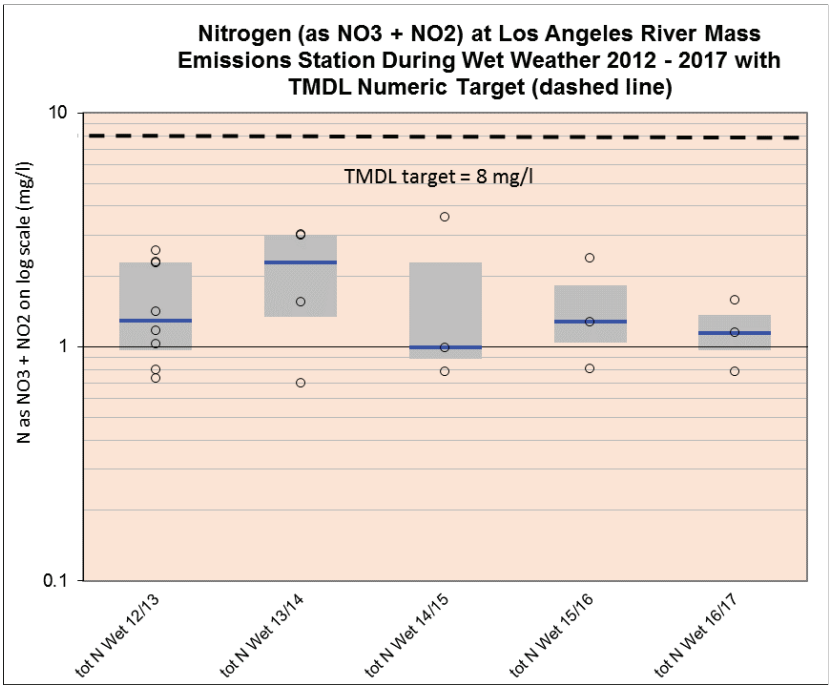
*Figure 86: Boxplots of Total Lead during Dry Weather*




## *Nutrients (Total Nitrogen)*

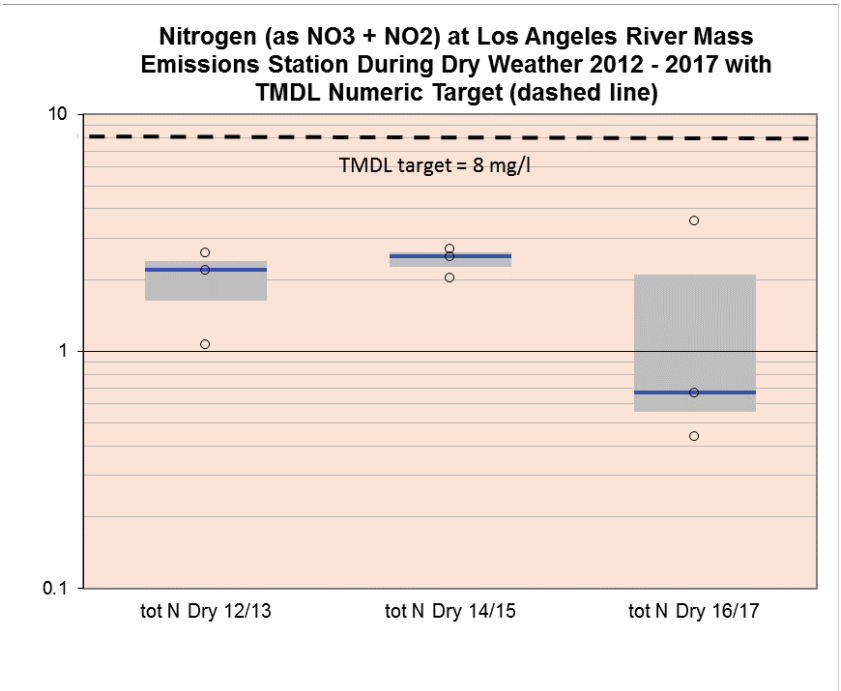
A nitrogen TMDL exists for the Los Angeles River and the results shown below are plotted with the TMDL target. All the wet weather results are below the target with a slight decreasing trend through time.

*Figure 87: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*



All the dry weather results are below the target with a slight decreasing trend through time.

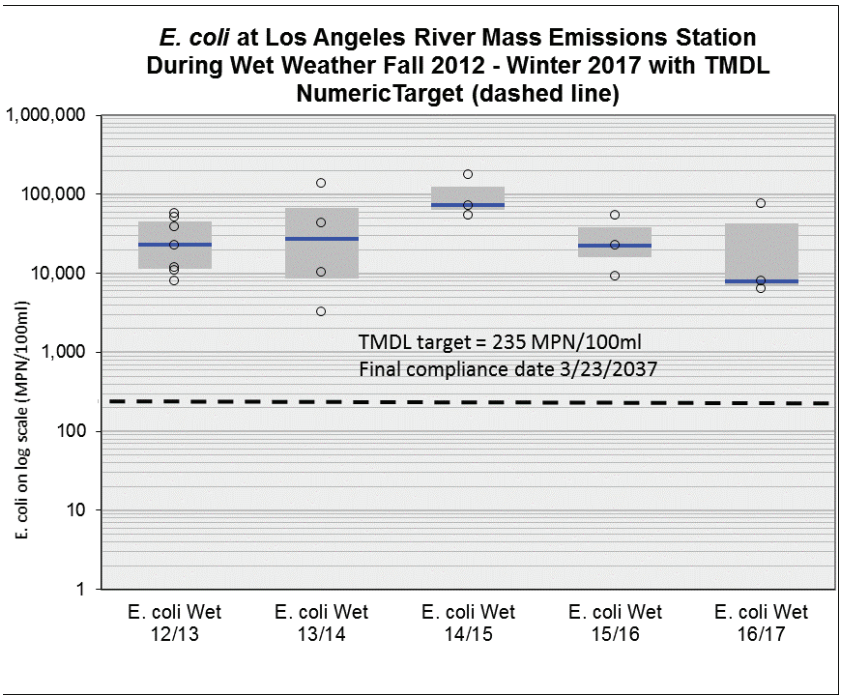
*Figure 88: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Dry Weather*




## *E. coli*

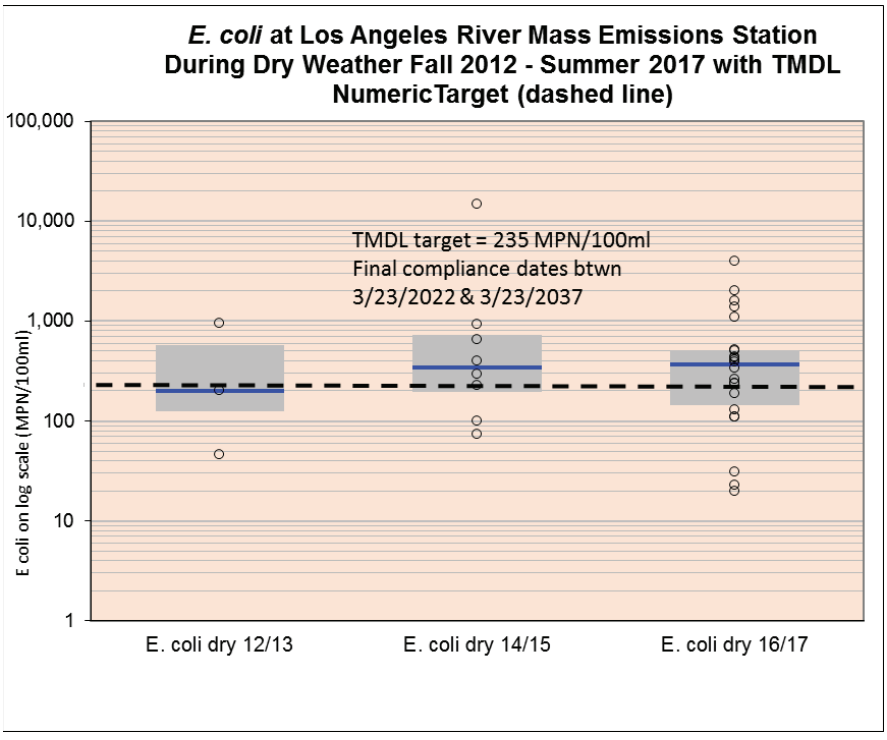
A bacteria TMDL is in place for the Los Angeles River with a final compliance date in 2037. All wet weather sampling results are over the TMDL target with little change through time.

*Figure 89: Boxplots of E. coli during Wet Weather*



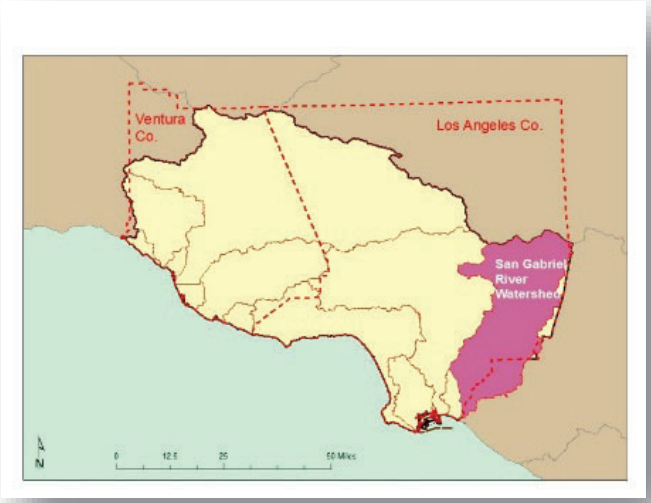

About half of the dry weather sampling results are over the TMDL target though it appears there may be a slight decreasing trend when comparing the interquartile ranges from 14/15 to 16/17.

*Figure 90 Boxplots of E. coli during Dry Weather*



## San Gabriel River

The three forks of the San Gabriel River originate in the San Gabriel Mountains within the Angeles National Forest of Los Angeles County before joining into the mainstem that eventually descends to the San Gabriel Valley and thence south to the ocean. The river is highly managed through a series of dams and reservoirs; during much of the year, water is diverted from the river to spreading grounds to recharge groundwater basins. The upper watershed in the San Gabriel Mountains is predominately open space while once it reaches the lower elevations below it passes through the intensely urbanized Los Angeles Basin.




### *Total Copper, Total Lead, and Total Zinc*

The USEPA metals TMDL for the San Gabriel River includes a wet weather target for total lead in Reach 2; total copper and zinc are compared against average hardness-adjusted CTR acute criteria. The boxplots below show that the results for total copper and zinc at the mass emissions station are decreasing through time with more recent results below the CTR acute criteria during wet weather while earlier results were at times above the criteria. Total lead results remain below the TMDL target with no clear trend through time.

*Figure 91: Boxplots of Total Copper during Wet Weather*

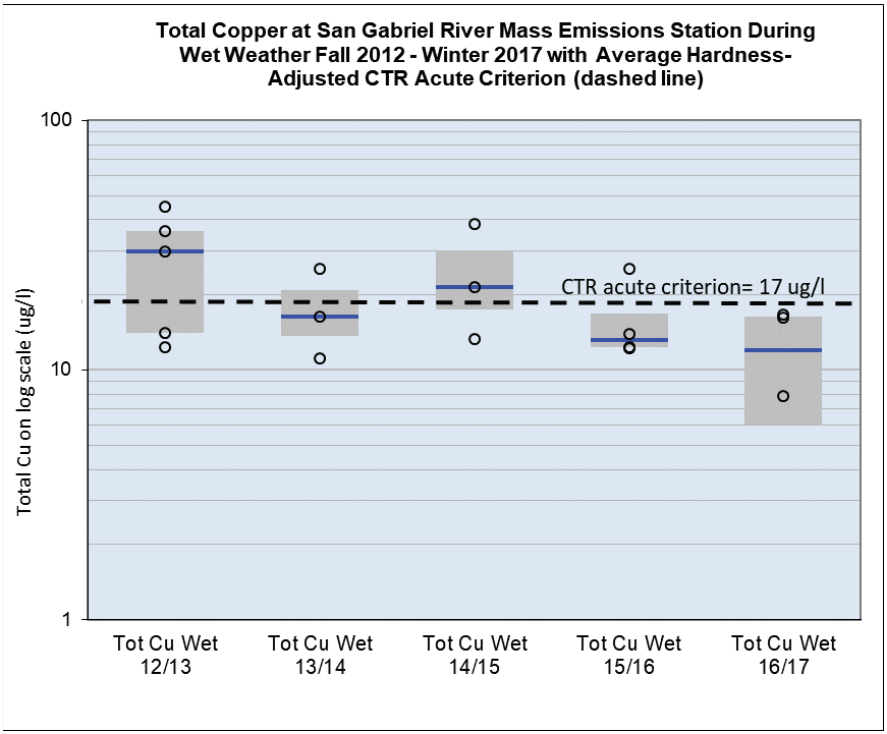



*Figure 92: Boxplots of Total Zinc during Wet Weather*

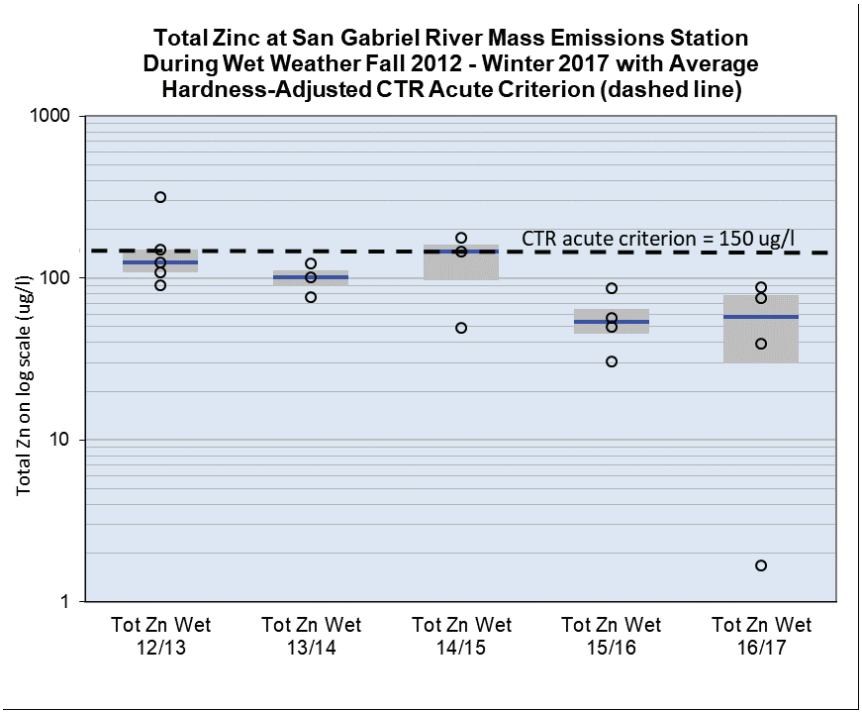
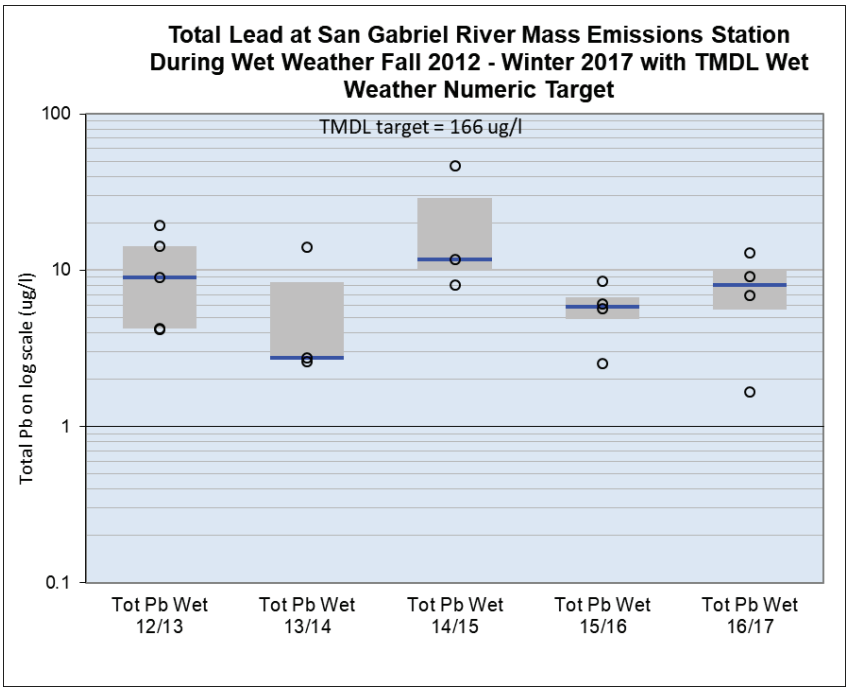


*Figure 93: Boxplots of Total Lead during Wet Weather*




The USEPA metals TMDL for the San Gabriel River does not include dry weather targets for copper, zinc, and lead in Reach 2 so the concentrations are compared against hardness-adjusted CTR chronic criteria. There were very few datapoints available, but the results shown in the boxplots below are all well below the chronic criteria.

*Figure 94: Boxplots of Total Copper during Dry Weather*

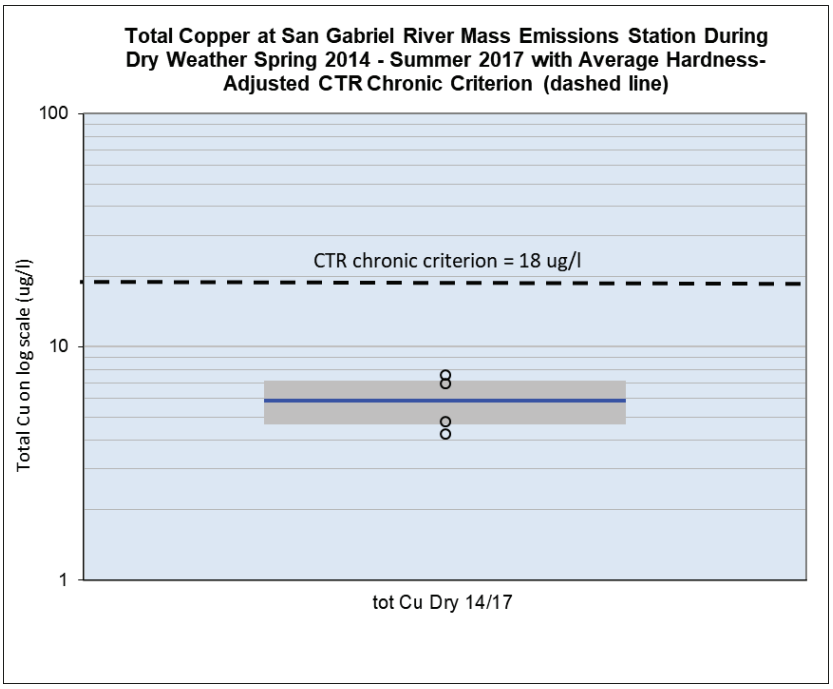



*Figure 95: Boxplots of Total Zinc during Dry Weather*

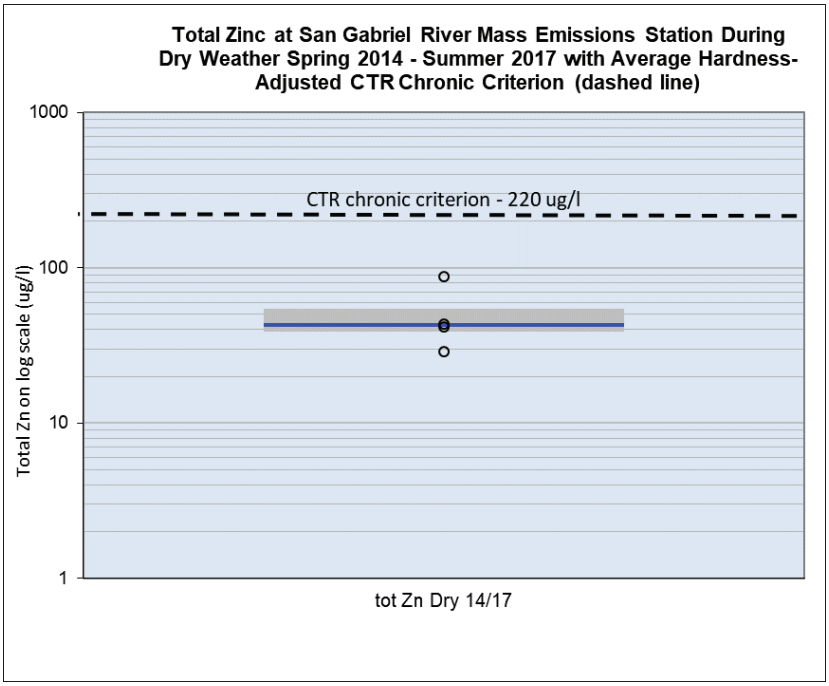
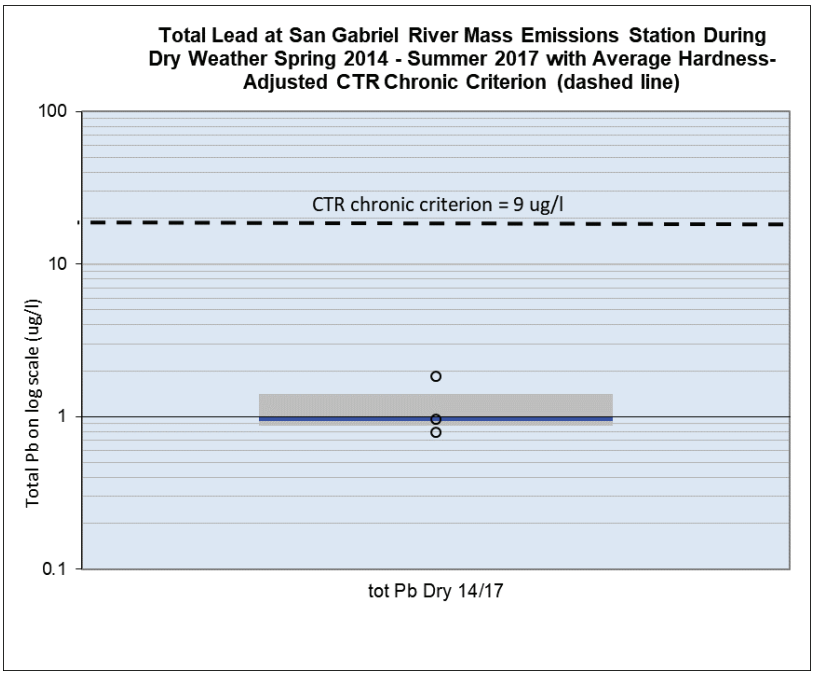


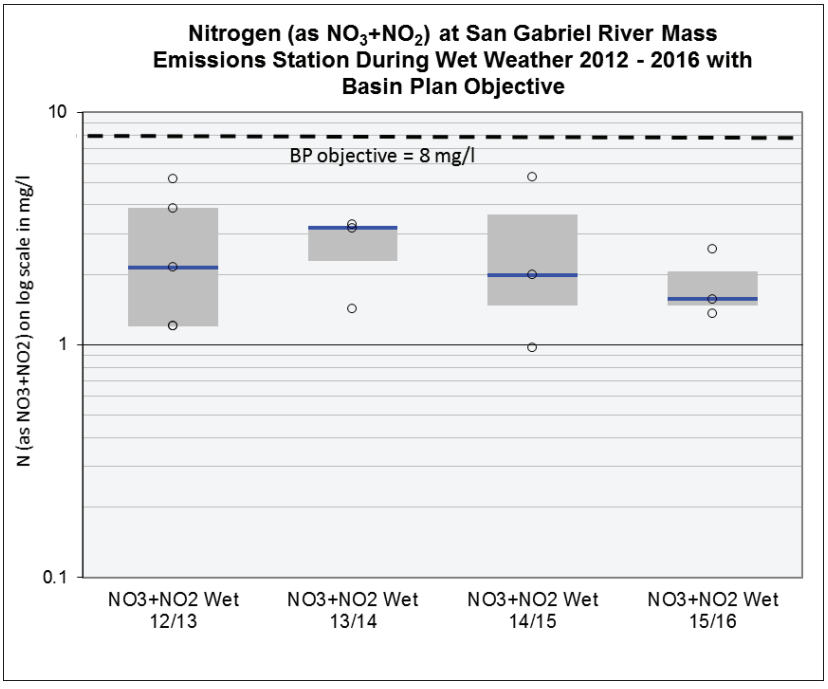
*Figure 96: Boxplots of Total Lead during Dry Weather*




## *Nutrients (Total Nitrogen)*

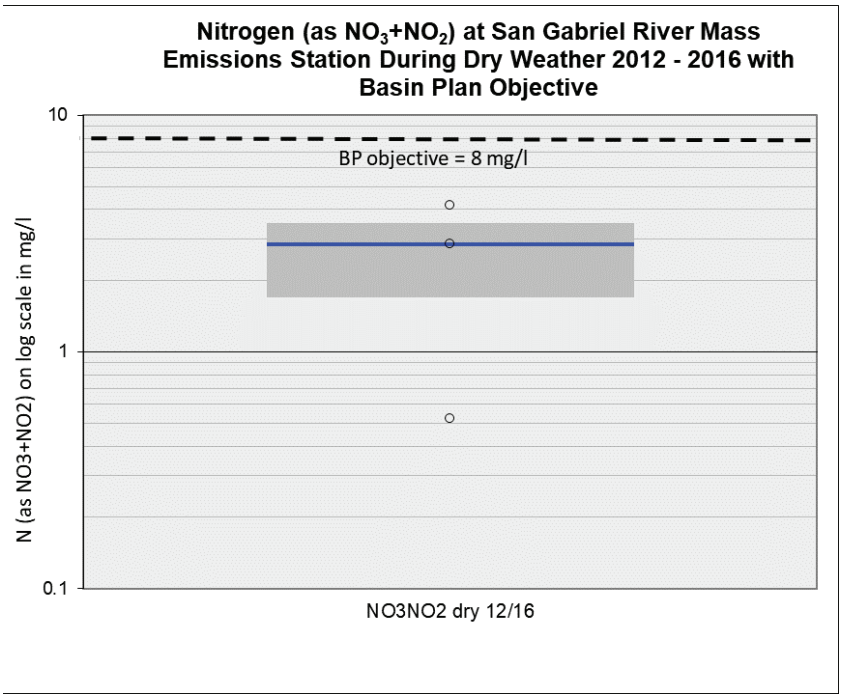
Wet weather nitrogen results in the San Gabriel River are below the Basin Plan objective as shown below and show a slight decreasing trend through time.

*Figure 97: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*



The San Gabriel River has a Basin Plan objective for nitrogen against which dry weather datapoints are compared in the plot below. Dry weather results are scarce, but all were below the Basin Plan objective.

*Figure 98: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Dry Weather*

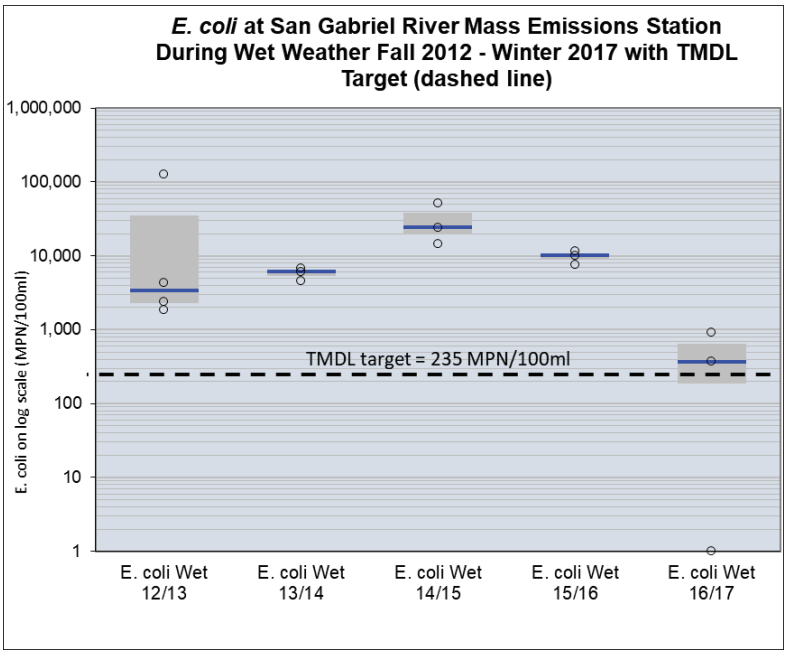



## *E. coli*

A bacteria TMDL is in place for the San Gabriel River with final compliance dates of June 14, 2026, for the dry weather target, and June 14, 2036, for the wet weather target. While the TMDL has not yet been formally incorporated into the MS4 permit, the TMDL target for E. coli is the same as the Basin Plan objective for E. coli (at the time of writing).

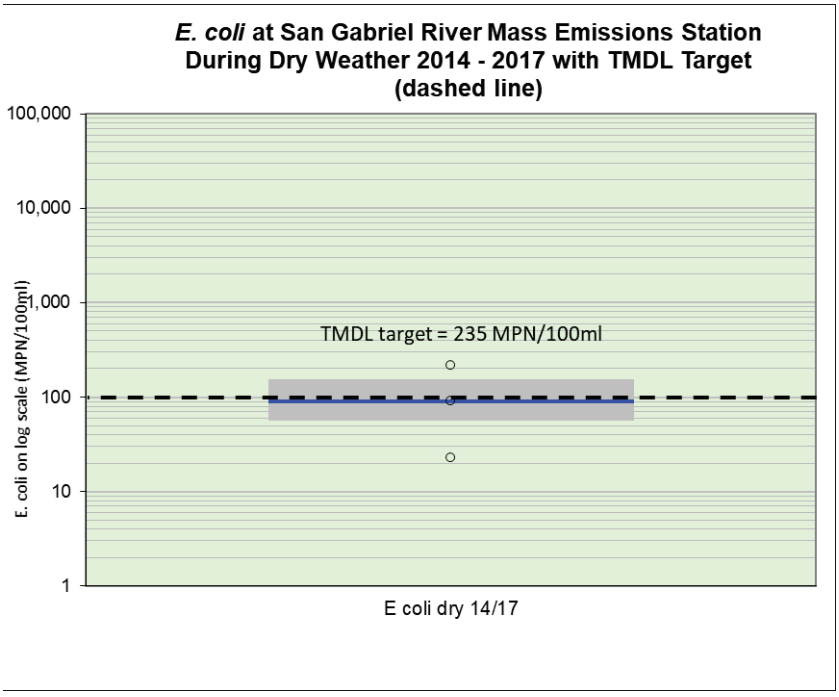
Almost all datapoints during wet weather are over the TMDL target with lower results in recent years.

*Figure 99: Boxplots of E. coli during Wet Weather*




There are very few datapoints available for dry weather, but they are evenly above and below the TMDL target.

*Figure 100: Boxplots of E. coli during Dry Weather*




# MS4 Monitoring Data Review Report

**Ventura County MS4 Permit (R4-2010-0108)**

**Los Angeles County MS4 Permit (R4-2012-0175)**

**Long Beach MS4 Permit (R4-2014-0024)**

**JULY 2020**

**LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD**

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

# Acronyms and Abbreviations

## Regulatory Acronyms

| | |
|---|---|
| BMP | Best Management Practice |
| BPA | Basin Plan Amendment |
| CEDEN | California Environmental Data Exchange Network<br>http://ceden.org/ |
| CIWQS | California Integrated Water Quality System<br>https://ciwqs.waterboards.ca.gov/ |
| CGP | Construction General Permit<br>(NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities; NPDES No. CAS000002) |
| CTR | California Toxics Rule |
| EWMP | Enhanced Watershed Management Program |
| IGP | Industrial General Permit<br>(NPDES General Permit for Storm Water Discharges Associated with Industrial Activities; NPDES No. CAS000001) |
| ML | Minimum Level |
| MS4 | Municipal Separate Storm Sewer System |
| POTW | Publicly Owned Treatment Works |
| RAA | Reasonable Assurance Analysis |
| RWL | Receiving Water Limitation |
| SMARTS | Stormwater Multiple Application and Report Tracking System<br>https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.xhtml |
| TIE | Toxicity Identification Evaluation |
| TMDL | Total Maximum Daily Load |
| TRE | Toxicity Reduction Evaluation |
| USACE | United States Army Corps of Engineers |
| USEPA | United States Environmental Protection Agency |
| WLA | Waste Load Allocation |
| WMP | Watershed Management Program |
| WQBEL | Water Quality Based Effluent Limitation |
| WQO | Water Quality Objective |

## Constituents

| | |
|---|---|
| BOD | Biochemical Oxygen Demand |
| *C. dubia* | *Ceriodaphnia dubia* |
| COD | Chemical Oxygen Demand |
| DDD | Dichlorodiphenyldichloroethane |
| DDE | Dichlorodiphenyldichloroethylene |
| DDT | Dichlorodiphenyltrichloroethane; sometimes refers to DDT and its breakdown products DDE and DDD. |

| | |
|---|---|
| DEHP | Bis(2-ethylhexyl) phthalate |
| $NH_3$ / NH3 | Ammonia |
| $NO_3$ / NO3 | Nitrate |
| $NO_2$ / NO2 | Nitrite |
| PAH | Polyaromatic Hydrocarbon |
| PCB | Polychlorinated Biphenyl |
| SSC | Suspended Sediment Concentration |
| TCE | Trichlorotethylene (Trichloroethene) |
| TDS | Total Dissolved Solids |
| TKN | Total Kjeldahl Nitrogen (Organic Nitrogen + Ammonia Nitrogen) |
| TOC | Total Organic Carbon |
| TPH | Total Petroleum Hydrocarbons |
| TSS | Total Suspended Solids |

## Units

| | |
|---|---|
| AF | Acre-Foot / Acre-Feet |
| CFU | Colony Forming Unit |
| kg | Kilogram |
| g | Gram |
| gpm | Gallons per minute |
| mg | Milligram |
| mL | Milliliter |
| MPN | Most Probable Number |
| ppb | Parts per billion |
| ppt | Parts per trillion |
| ug / µg | Microgram |

## Laboratory

| | |
|---|---|
| DNQ | Detected Not Quantified |
| MDL | Method Detection Limit |
| ND | Non-Detect |
| NOEC | No Observable Effect Concentration |
| RL | Report Limit |

## Organizations

| | |
|---|---|
| LACFCD | Los Angeles County Flood Control District |
| VCWPD | Ventura County Watershed Protection District |
| VCSQMP | Ventura Countywide Stormwater Quality Management Program |

## Watershed Management Programs

| | |
|---|---|
| AB-LCC | Alamitos Bay Los Cerritos Channel WMP |
| ELMONTE | City of El Monte WMP |
| ESGV | East San Gabriel Valley WMP |
| LAR-UR2 | Los Angeles River Upper Reach 2 WMP |
| LB-NEAR | City of Long Beach Nearshore WMP |
| LCC | Los Cerritos Channel WMP |
| LHH | City of La Habra Height WMP |
| LLAR | Lower Los Angeles River WMP |
| LSGR | Lower San Gabriel River WMP |
| RH-SGR | Rio Hondo San Gabriel River Water Quality Group EWMP |
| SMB-J7 | Santa Monica Bay Jurisdictional Group 7 WMP |
| WALNUT | City of Walnut WMP |

## Enhanced Watershed Management Programs

| | |
|---|---|
| BALLONA | Ballona Creek EWMP |
| BEACH | Beach Cities EWMP |
| DC | Dominguez Channel EWMP |
| MCW | Malibu Creek Watershed EWMP |
| MDR | Marina del Rey EWMP |
| NSMB | North Santa Monica Bay EWMP |
| PVP | Palos Verdes Peninsula EWMP |
| SMB-J2J3 | Santa Monica Bay Jurisdictional Group 2 and 3 EWMP |
| ULAR | Upper Los Angeles River EWMP |
| USCR | Upper Santa Clara River EWMP |
| USGR | Upper San Gabriel River EWMP |

# Introduction

This data review report summarizes the results of water quality monitoring conducted under the most recent permit terms of the three National Pollutant Discharge Elimination System (NPDES) permits issued by the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) to large Municipal Separate Storm Sewer Systems (also known as "MS4s"):

- Ventura County MS4 Permit (Order No. R4-2010-0108)
- Los Angeles County MS4 Permit (Order No. R4-2012-0175 as amended)
- City of Long Beach MS4 Permit (Order No. R4-2014-0024 as amended)

## Report Objectives

This report was prepared to address three objectives:

1. Review data and other information provided by permittees in preparation for the upcoming permit reissuance[1]
2. Review data and other information provided by permittees to develop insight with respect to current program implementation
3. Communicate and synthesize water quality monitoring information for the public, technical professionals, stakeholders, and decision-makers

There are a considerable amount of monitoring data collected under the Los Angeles Water Board's MS4 Permits. Furthermore, the information contained within these monitoring data is complex. Monitoring is conducted for several constituents; for different purposes; by taking samples at different times, locations, and conditions, using different collection methods. Monitoring data are then analyzed at different laboratories using different analytical methods and procedures to get results that are input into different data transfer formats by different individuals that are eventually submitted to the Los Angeles Water Board. This report presents the scope of this monitoring and evaluates the data collected.

## Report Structure

This report is broken up into several sections:

- Executive Summary, which provides a high-level summary of the findings of this report.

[1] As of the date of this data review report, the Los Angeles Water Board is working on issuing a single region-wide Phase I MS4 Permit ("Regional MS4 Permit") that would supersede the above permits and cover all Phase I MS4s within the Los Angeles Water Board's jurisdiction. Analyses and findings in this report will be relied upon for permit issuance.

- Section 2 (Background), provides a background of the watersheds within the Los Angeles Water Board's jurisdiction and the monitoring being conducted under the MS4 Permits being evaluated in this report.
- Section 3 (Regionwide Trends) includes a systematic analysis of mass emission station data and aquatic toxicity data, and additional findings on monitoring data.
- Sections 4 through 16 are watershed by watershed analyses of water quality as compared to pollutants subject to total maximum daily loads (TMDLs) and other pollutants of concern. These sections are divided into subsections for each TMDL/pollutant.
- The Appendices to this report include information of historic monitoring conducted by MS4 permittees.

Section 3 (Regionwide Trends) is being released at this time. The other sections will be released in the near future.

# Section 3 – Regionwide Trends

## Mass Emission Station Spatial Trends

Mass emissions data from the entire Region are compared from 2012 to 2017 in order to cover the same time period for data received from monitoring in Los Angeles and Ventura Counties under the respective MS4 permits. This generally corresponds with the permit term for the 2012 Los Angeles County MS4 Permit. This allows for direct comparison between all mass emissions stations in the Region. Mass emissions stations are generally located at or near the bottom of watersheds (except for in the San Gabriel River and Calleguas Creek) and are at locations upstream of tidal influence. Concentrations of major pollutants were assessed using two approaches. The approach presented below uses visual means with boxplots to present descriptive statistics. Reference made to increasing or decreasing trends does not imply statistical significance but rather are general statements based on visual assessments of the plots. All datapoints from 2012 to 2017 at each mass emissions station are combined into subsets of wet weather and dry weather data. Stations are arranged in the boxplots from north to south in the Region going from left to right on the x-axis. Data are plotted on log scales to de-emphasize the outlier datapoints, which would overwhelm a normal scale plot. While wet and dry weather data for each pollutant are plotted separately, the same scale is used for both to make direct comparison possible.

### Wet weather

Wet weather data are those identified by the discharger as being collected during wet weather as defined by their respective permits. For purposes of monitoring, the Ventura County MS4 permit defines a rainfall event as producing more than 0.25 inch of precipitation and is separated from the previous storm event by at least one week of dry weather. The Los Angeles County MS4 permit defines a rain event as greater than 0.1 inch of precipitation in 24 hours unless specified otherwise.

#### *Total Copper, Total Lead, and Total Zinc*

TMDL targets exist for only some metals in some watersheds. In order to do an approximate comparison to water quality objectives between all mass emissions stations on one plot, water quality objectives established in the California Toxics Rule (CTR) (40 C.F.R. 131.38) were used instead to assess general compliance with water quality objectives. The CTR refers to water quality objectives as criteria; that nomenclature is retained here but is used in the same manner as the State uses “objectives.” CTR freshwater criteria for copper, lead, and zinc are hardness-adjusted (the criteria for waters with lower hardness are lower, or more stringent). Hardness is generally much higher in watersheds with more open space than in the more urbanized watersheds even during wet weather; wet weather hardness averages 400 mg/l or higher for the more open space watersheds, while averaging about 50 mg/l in the more urbanized watersheds. Consequently, separate average hardness values were calculated for stations located in the more open space watersheds and those in the more urbanized watersheds. The CTR caps hardness adjustments at 400 mg/l. For wet weather data, hardness-adjusted short-term acute criteria for total copper, lead, and zinc were used in plots. The following regionwide plots were produced as a result.

Total copper and total zinc continue to be a widespread problem in the more urbanized watersheds during wet weather. Of the urbanized watersheds, Ballona Creek exhibits the highest concentrations of the two metals, while the lowest concentrations occur in the San Gabriel River although these values are

still generally over the CTR acute criteria. In the more open space watersheds, the lower Santa Clara River station exhibits extreme variability in total copper and zinc during wet weather, possibly due to large variations in runoff in this very large watershed. In the case of the lower Santa Clara River, about half the datapoints for both metals are over the CTR acute criteria even with the adjustment for high hardness, which results in higher criteria. Of the more open space watersheds, the Ventura River consistently exhibits the lowest results for total copper and zinc, which are well below the CTR acute criteria.

Concentrations of total lead during wet weather are consistently below the CTR acute criterion in the more open space watersheds. Results for total lead in the more urbanized watersheds vary considerably by station. The San Gabriel River exhibits the lowest concentrations, which are almost always below the CTR acute criterion, while concentrations in Ballona Creek are mostly over the criterion.

*Figure 1: Boxplots of Total Copper during Wet Weather*

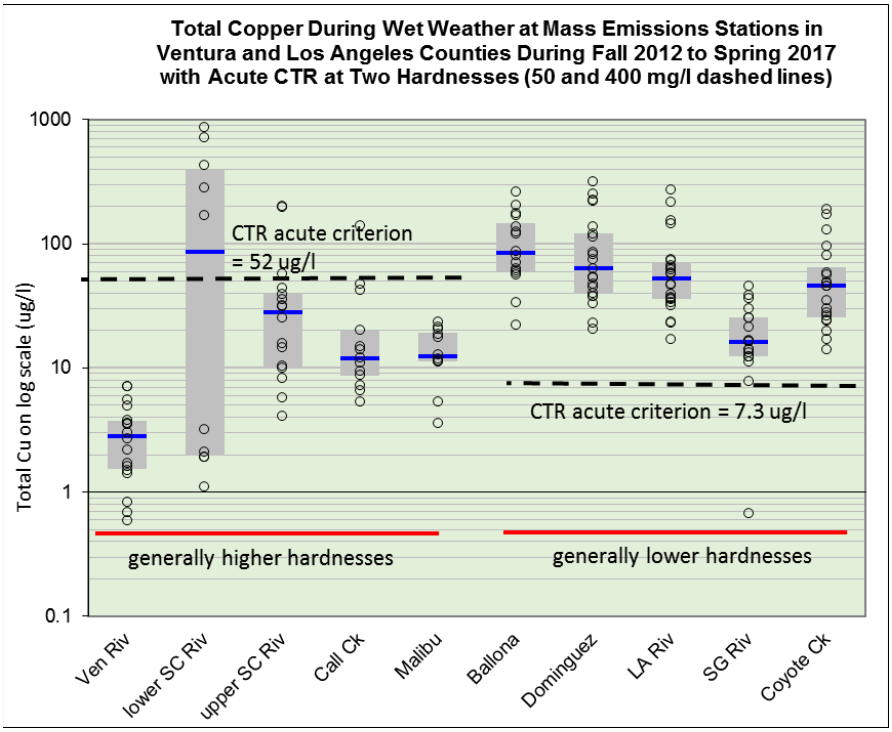


*Figure 2: Boxplots of Total Zinc during Wet Weather*

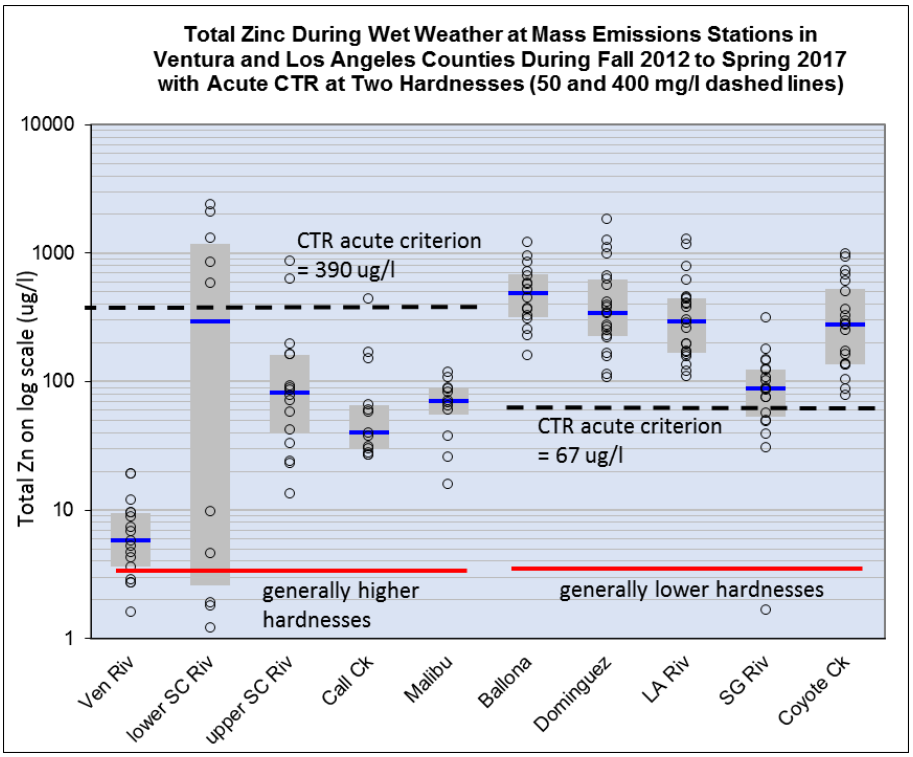
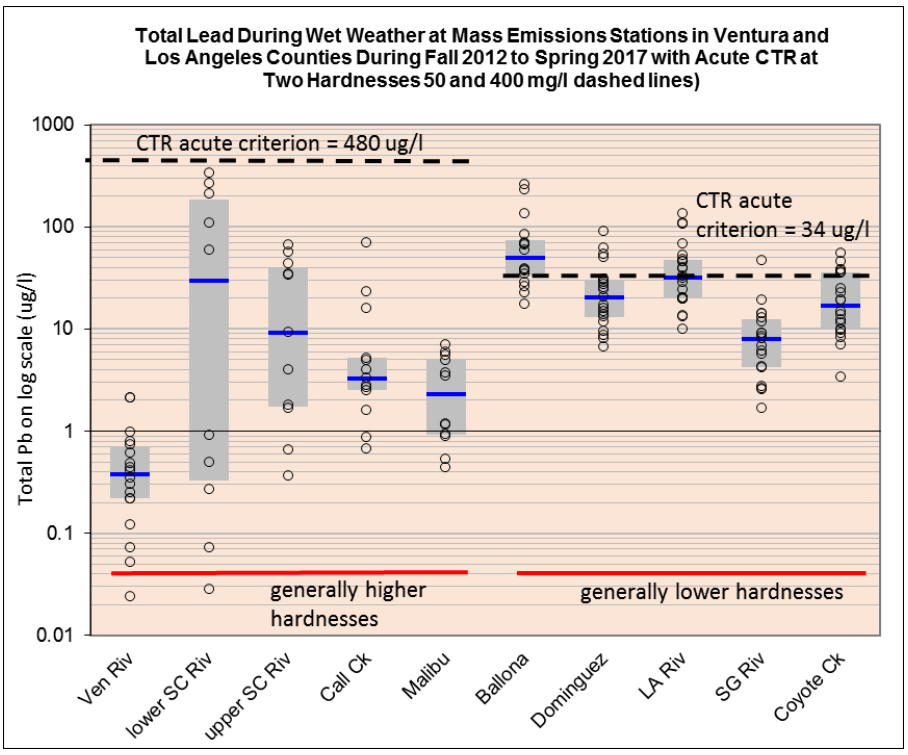



*Figure 3: Boxplots of Total Lead during Wet Weather*

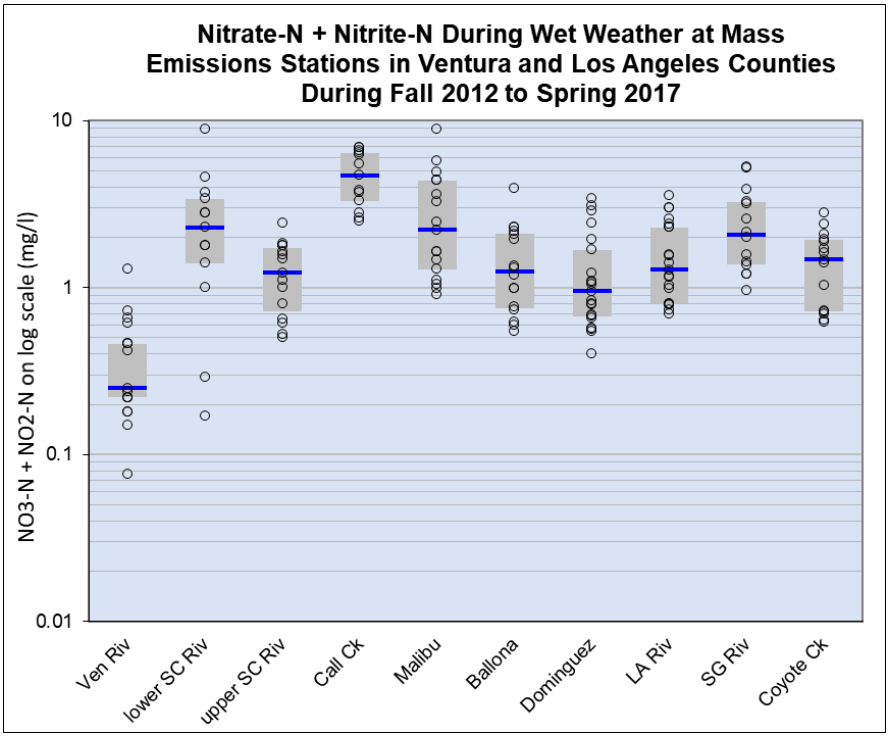


### *Nutrients (Total Nitrogen)*

As with metals, TMDL targets for nutrients exist for only some watersheds. Further, the exact target varies both in terms of the expression of the nutrients (total nitrogen defined as NO3-N + NO2-N + TKN versus NO3-N + NO2-N) and the selection of a numeric target (e.g., 10 mg/l versus 1 mg/l total nitrogen). Waterbody-specific numeric objectives for total nitrogen are set forth in the Basin Plan for many but not all waterbodies. Where there is such an objective, it is expressed as NO3-N + NO2-N. Additionally, a narrative objective for biostimulatory substances is set forth in the Basin Plan and has been used to establish numeric targets in many TMDLs. Since the water quality objective varies among the watersheds, NO3-N + NO2-N results are plotted below for consistency without comparison to an objective.

The lower Santa Clara River, Calleguas Creek, and Malibu Creek have the highest concentrations in the Region during wet weather. Notably, all are being addressed by a nutrient TMDL. Concentrations in Calleguas Creek have low variability, while concentrations in the lower Santa Clara River have the greatest variability. The Ventura River consistently exhibits the lowest concentrations. Most of the other watersheds exhibit similar concentrations.

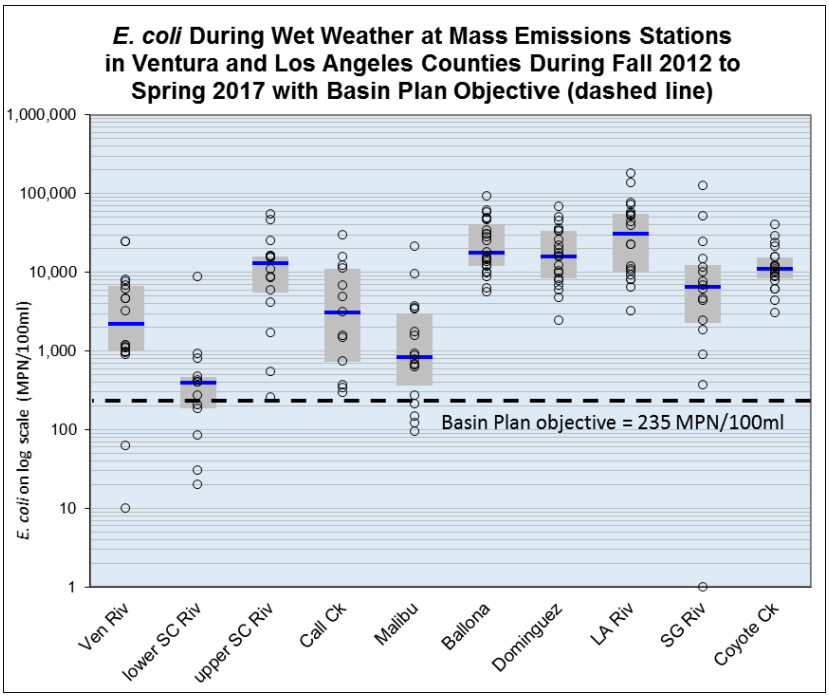
*Figure 4: Boxplots of Nitrate-N + Nitrite-N during Wet Weather*



### *E. coli*

At the time of writing, the Basin Plan objective of 235 MPN/100 ml E. coli applied throughout the Region whether or not a TMDL is in place. Bacteria indicator TMDLs use the Basin Plan objective as a numeric target and include an allowable number of exceedance days of this single sample limit for compliance purposes. E. coli results from samples collected during wet weather are plotted below. Exceedance of the Basin Plan objective is widespread during wet weather although E. coli concentrations are somewhat lower in the more open space watersheds with the lowest concentrations occurring in the lower Santa Clara River. Concentrations in the more open space watersheds also exhibit more variability than those in the more urbanized watersheds where they are uniformly high with relatively lower variability for the most part.

*Figure 5: Boxplots of E. coli during Wet Weather*



## Dry weather

A dry weather day is any day not recorded as wet weather. While wet weather days generally occur in the late fall to spring, dry weather conditions occur throughout the year.

### *Total Copper, Total Lead, and Total Zinc*

As noted above, TMDL targets only exist for some metals in some watersheds. Therefore, to examine metals concentrations at mass emissions stations during dry weather conditions, the same approach using hardness-adjusted CTR criteria, described above, was used. Dry weather hardness values are on average 400 mg/l or higher for the more open space watersheds, while values are on average about 200 mg/l in the more urbanized watersheds. For dry weather data, hardness-adjusted longer-term chronic criteria for total copper, lead, and zinc were used in plots. The following regionwide plots were produced as a result.

Concentrations of the three metals in dry weather are mostly below CTR chronic criteria. Concentrations show a general increase from the more open space watersheds in the north to the more urbanized watersheds in the south. The few exceedances are in Ballona Creek and Dominguez Channel.

*Figure 6: Boxplots of Total Copper during Dry Weather*

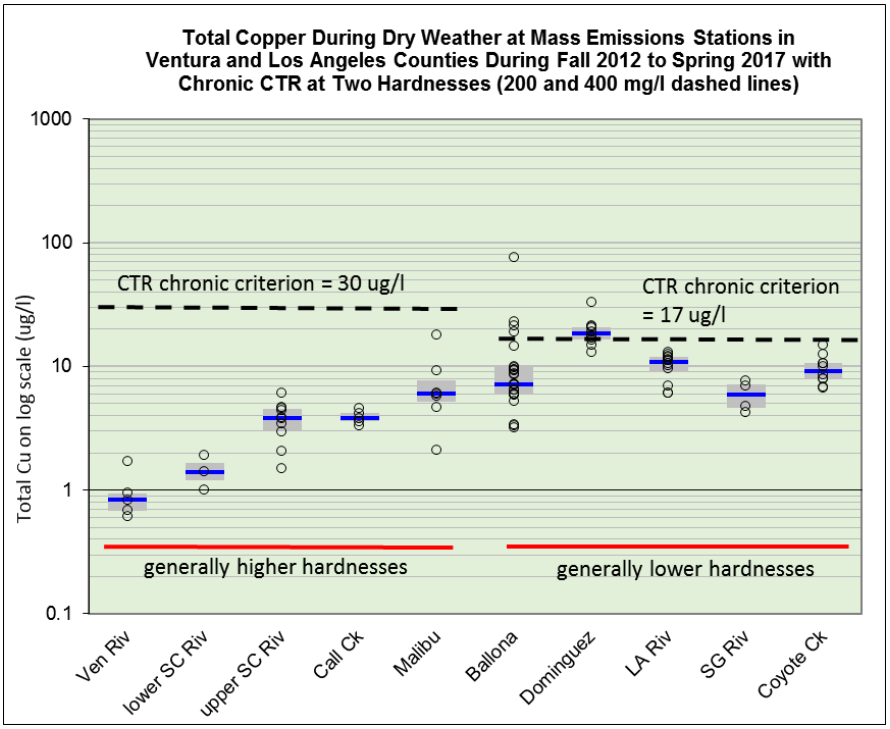


*Figure 7: Boxplots of Total Zinc during Dry Weather*

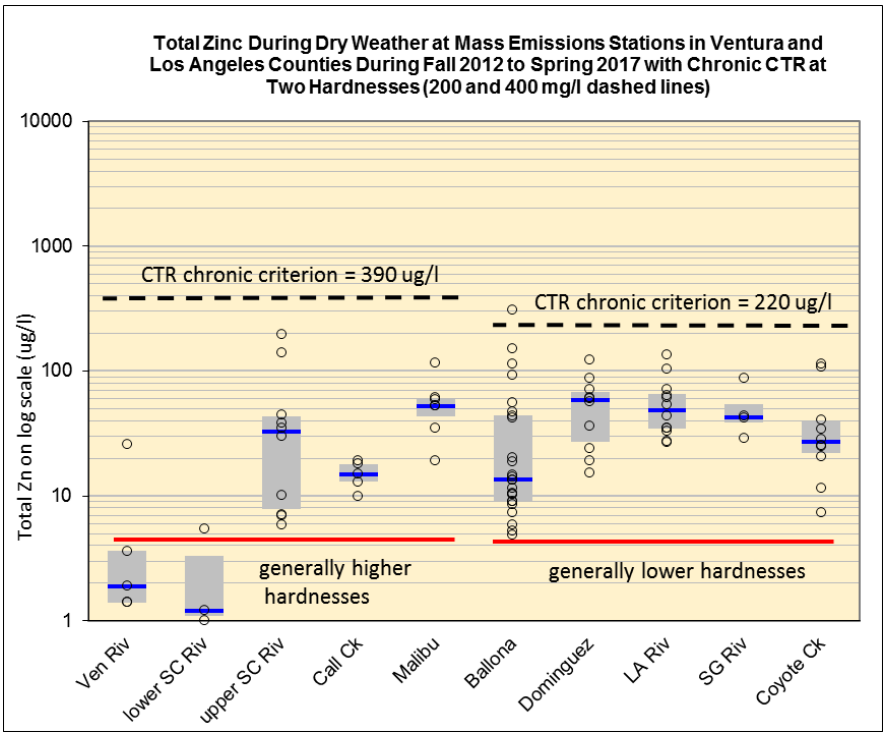
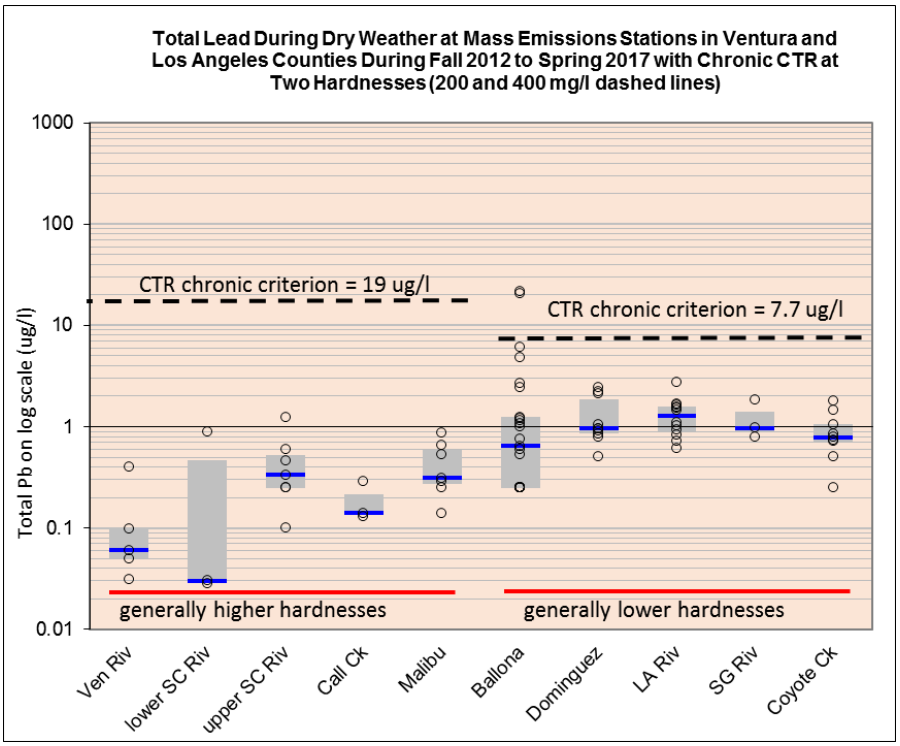



*Figure 8: Boxplots of Total Lead during Dry Weather*

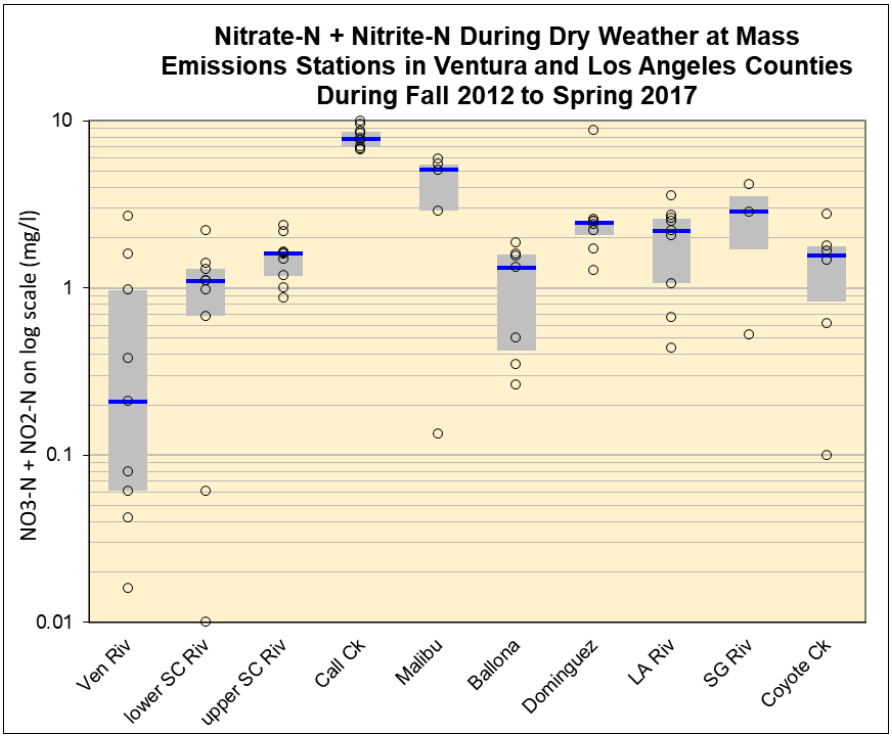


### *Nutrients (Total Nitrogen)*

As discussed above, TMDL targets for nutrients only exist for some waterbodies. Additionally, the target, or water quality objective where there is no TMDL, varies in terms of its expression. Therefore, as with the wet weather data, NO3-N + NO2-N results are plotted below for consistency without comparison to an objective.

Concentrations are generally lower in the more open space watersheds with the exception of Calleguas Creek and Malibu Creek. The Calleguas Creek watershed is comprised of about one-third open space, one-third agriculture land use, and one-third urban land use. The Malibu Creek watershed is predominately undeveloped/parkland (77%). The single family residential land use on less than 0.5 acre occurs in about 7% of the watershed followed by single family residential on more than 0.5 acre in 4% of the watershed. In Calleguas Creek, the results during dry weather are consistently high with very little variability, while in Malibu Creek the results are slightly lower and demonstrate more variability. Nutrients in Calleguas Creek and Malibu Creek are being addressed by TMDLs. Many of the stations show considerable variability during dry weather.

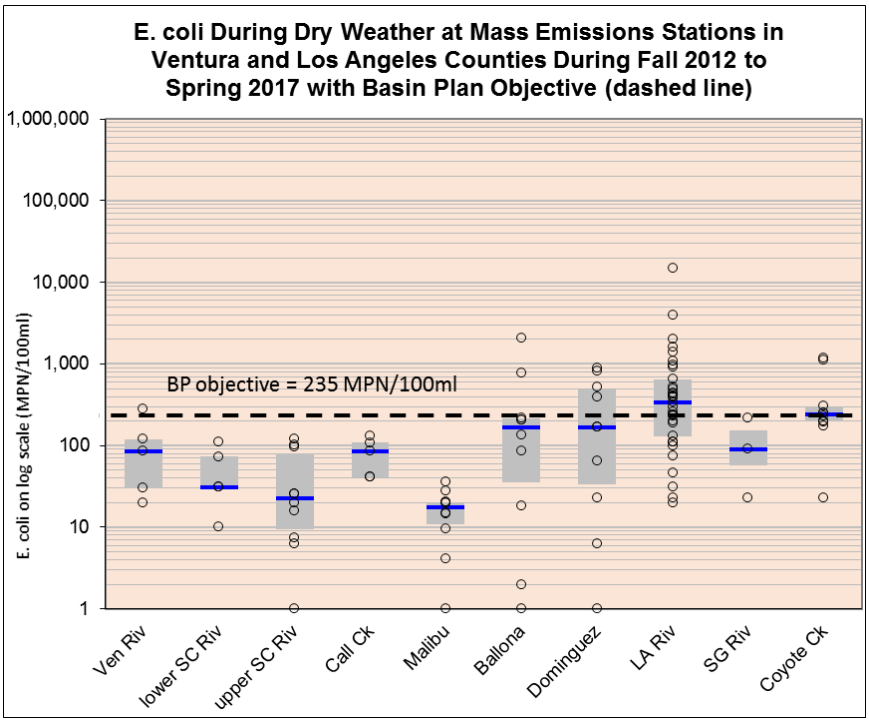
*Figure 9: Boxplots of Nitrate-N + Nitrite-N during Dry Weather*




### *E. coli*

E. coli results from samples collected during dry weather are plotted below using the Basin Plan objective of 235 MPN/100 ml (at the time of writing) for comparison as was done for wet weather, above. The majority of datapoints for the more open space watersheds are below the Basin Plan objective. In the more urbanized watersheds, the median values are at or below the Basin Plan objective with the exception of the Los Angeles River, which is considerably better than the wet weather results.

*Figure 10: Boxplots of E. coli during Dry Weather*



## Mass Emission Station Pollutant Trends by Watershed

This analysis presents a watershed-by-watershed evaluation of pollutant trends at mass emission stations. Comparisons are made to TMDL targets (where available) or CTR criteria/Basin Plan objectives. Data from 2012 to 2017 was analyzed for Los Angeles County. Data from 2009 through 2017 was analyzed for Ventura County.

Boxplots are again utilized for these comparisons but with the x-axes representing time from left to right at each mass emissions station while the y-axes represent concentrations on a log scale. At least three datapoints are needed for boxplots so often a few years of data are grouped together. Data are plotted for each current permit cycle. The following section is organized such that all data for a mass emissions station are presented together. First, metals data during wet and dry conditions are presented, followed by nutrient data during wet and dry conditions, and finally E. coli data during wet and dry conditions. As indicated earlier, wet weather data are those identified by the discharger as being collected during wet weather as defined by their respective permits. A dry weather day is any day not recorded as wet weather. While wet weather days generally occur in the late fall to spring, dry weather conditions occur throughout the year. Since the frequency of dry weather monitoring is less than monitoring during wet weather, considerably fewer datapoints are available for dry weather analyses.

TMDL targets only exist for some pollutants in some watersheds. Where TMDL targets are not available, CTR criteria or Basin Plan objectives are used as points of comparison. For wet weather data, hardness-adjusted CTR short-term acute criteria for total copper, lead, and zinc are used, while for dry weather data, hardness-adjusted CTR longer-term chronic criteria are used. Consequently, average hardness values were calculated for each station and each weather condition.

For nutrients, TMDL numeric targets or Basin Plan numeric objectives are used for comparison where they exist. Where there is no TMDL target or numeric water quality objective, data are plotted without a comparison to a threshold using total nitrogen defined as NO3-N + NO2-N + TKN.

For E. coli, the Basin Plan objective of 235 MPN/100 ml (at the time of writing) applies throughout the Region whether or not a TMDL is in place and is therefore used for comparison for all mass emissions stations.

## Ventura River


The Ventura River is a more open space watershed draining 235 square miles in Ventura County with small concentrations of residential and commercial areas located upstream of the mass emissions station. Livestock, horses, and agriculture also occur in these areas and many homes are on on-site wastewater treatment systems (a.k.a. septic tanks). Much of the upper watershed falls within the Los Padres National Forest. Active oilfields occur in the lower watershed.

### *Total Copper, Total Lead, and Total Zinc*

There are no metals TMDLs for the Ventura River. Hardness is very high (i.e., greater than 400 mg/l) in the Ventura River during wet and dry weather; therefore, the CTR acute and chronic criteria are hardness-adjusted based on the maximum allowable value of 400 mg/l.

The three metals have been well below the hardness-adjusted CTR acute criteria during wet weather as shown below.

*Figure 11: Boxplots of Total Copper during Wet Weather*

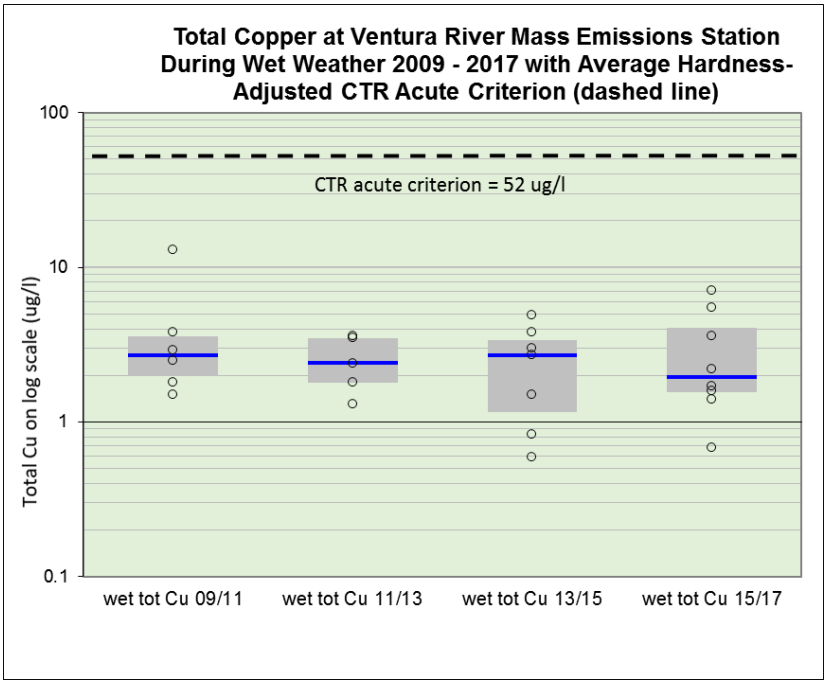


*Figure 12: Boxplots of Total Zinc during Wet Weather*

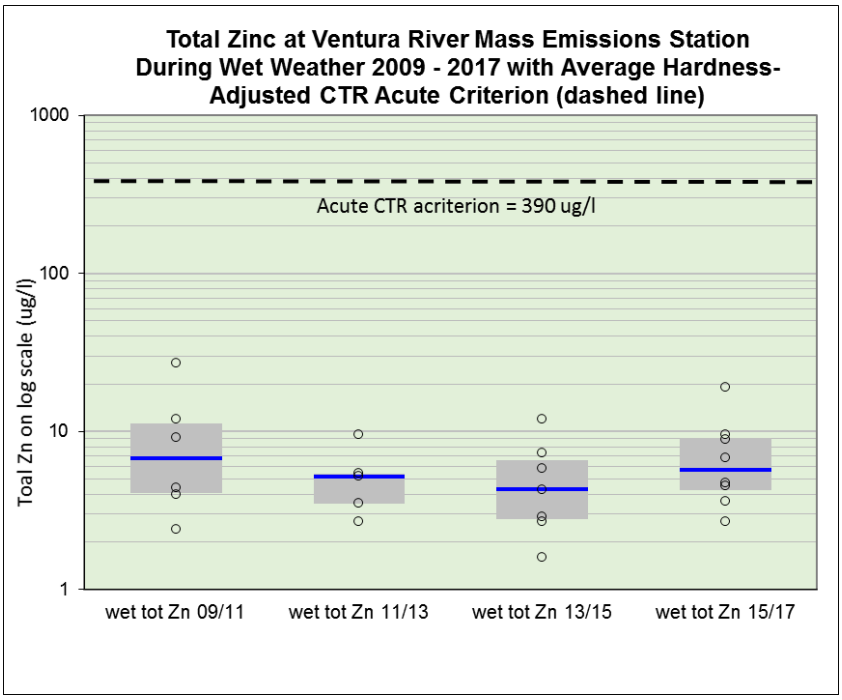
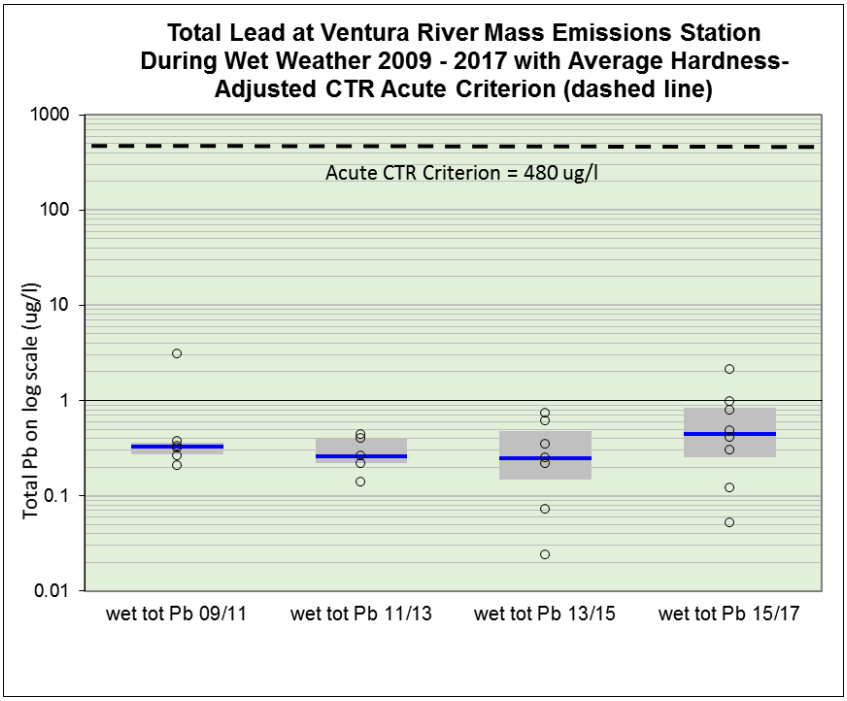



*Figure 13: Boxplots of Total Lead during Wet Weather*



The three metals have also been well below the hardness-adjusted CTR chronic criteria during dry weather as shown below. While well below the criterion, zinc concentrations are showing an increasing trend through time.

*Figure 14: Boxplots of Total Copper during Dry Weather*

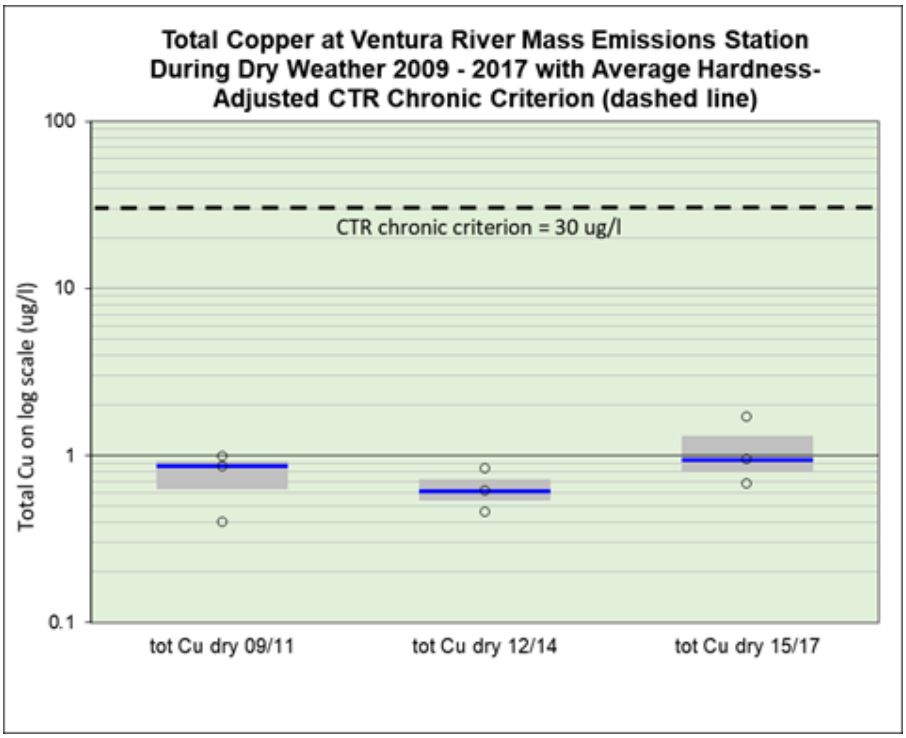


*Figure 15: Boxplots of Total Zinc during Dry Weather*

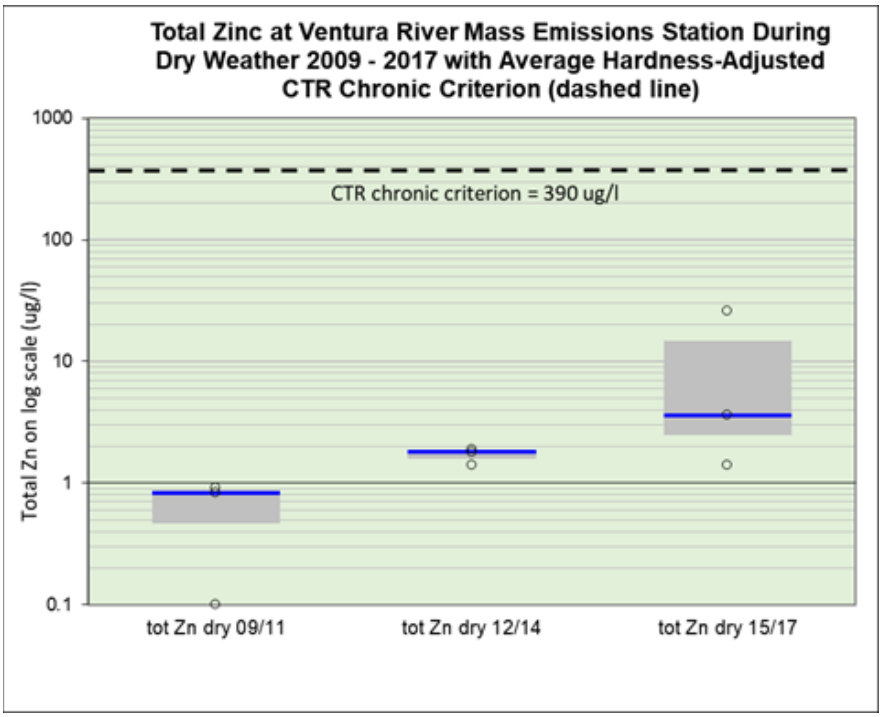
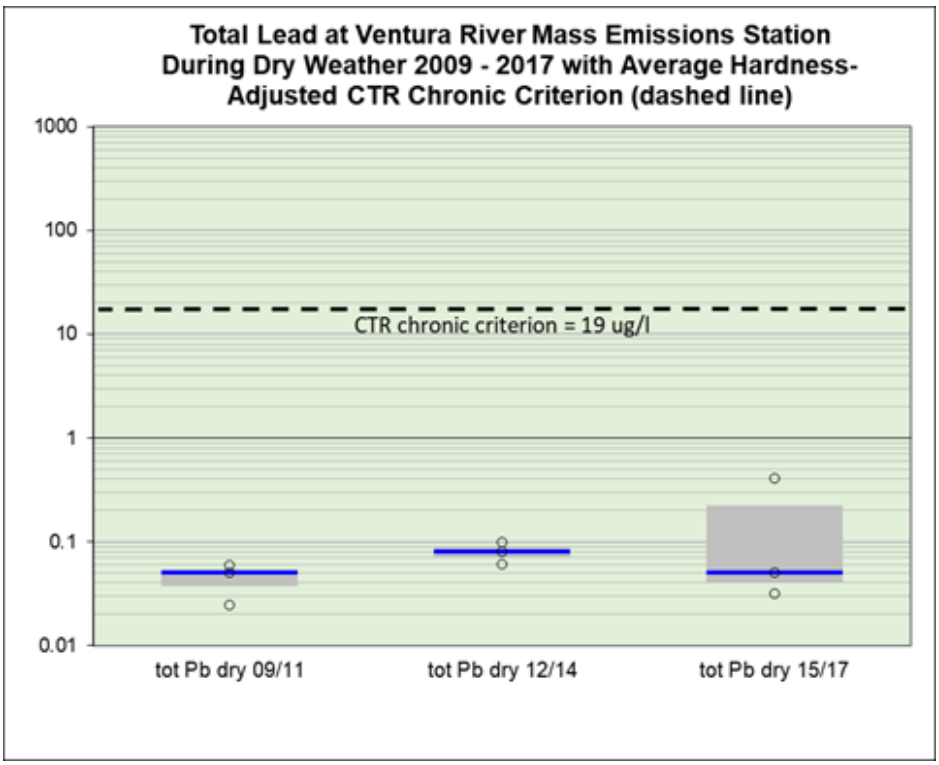



*Figure 16: Boxplots of Total Lead during Dry Weather*



### *Nutrients*

During wet and dry weather, nitrogen as NO3-N + NO2-N at the Ventura River mass emissions station is well below one of the Basin Plan objectives (5 mg/l) and is decreasing through time. However, there is an algae TMDL in place to address the narrative biostimulatory substances objective; the narrative objective has been interpreted in some TMDLs using a numeric target of 1 mg/l. The results are generally below the target instream concentration (1.15 mg/l) for the Ventura River.

*Figure 17: Boxplots of Nitrogen (as NO3+NO2) during Wet Weather*

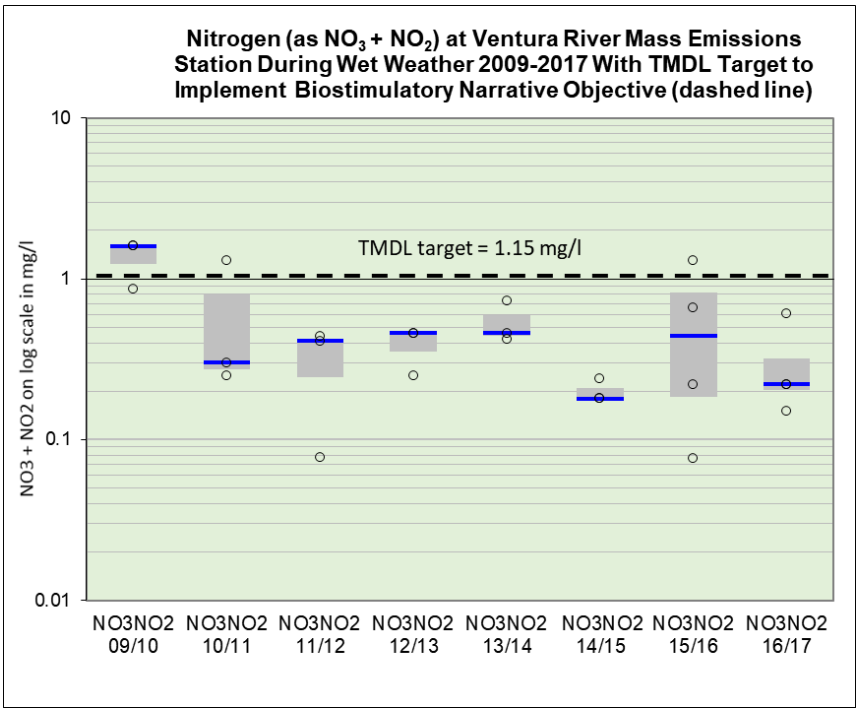
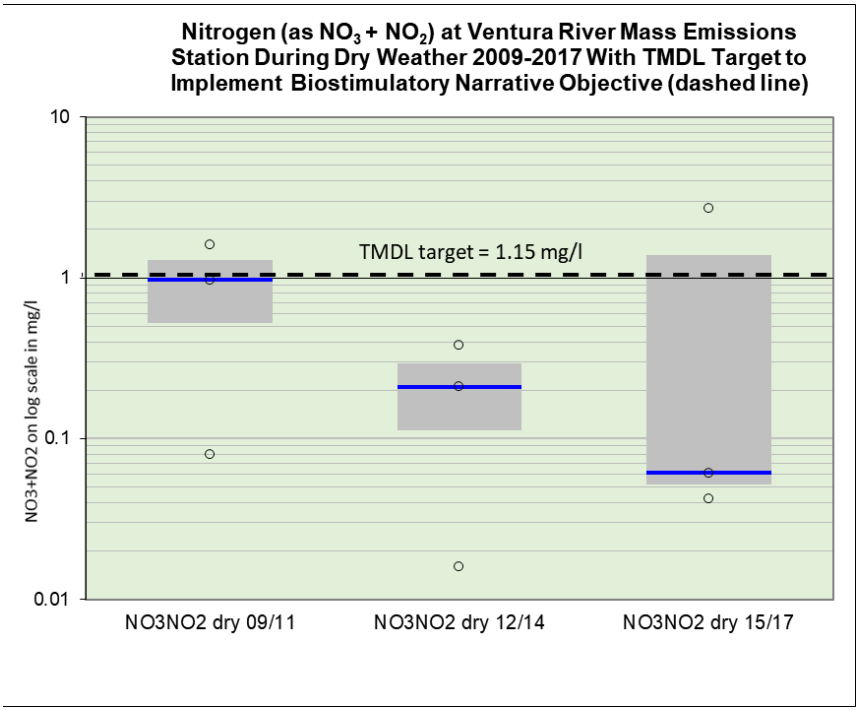


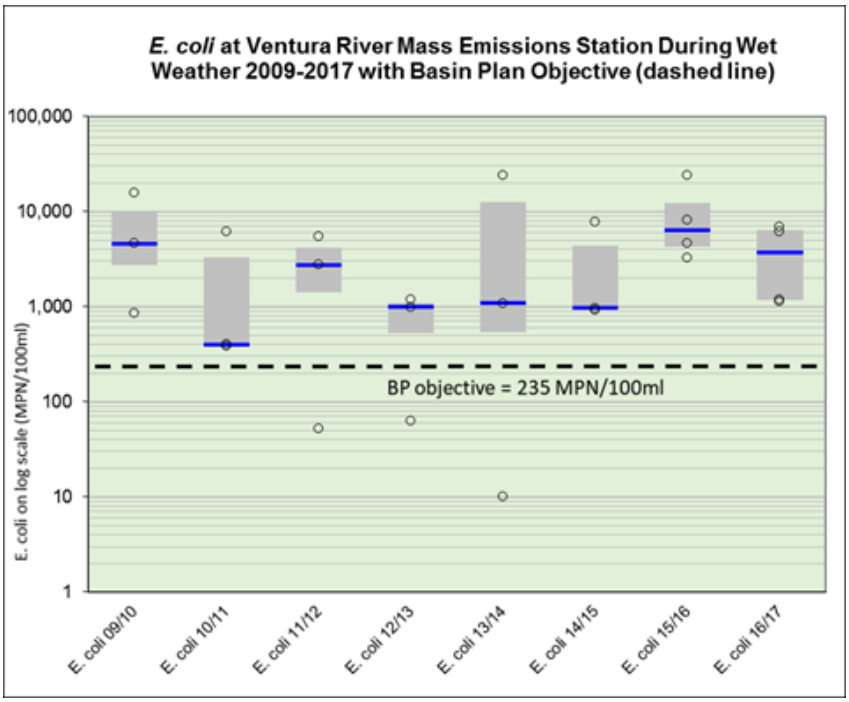
*Figure 18: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Dry Weather*




### *E. coli*

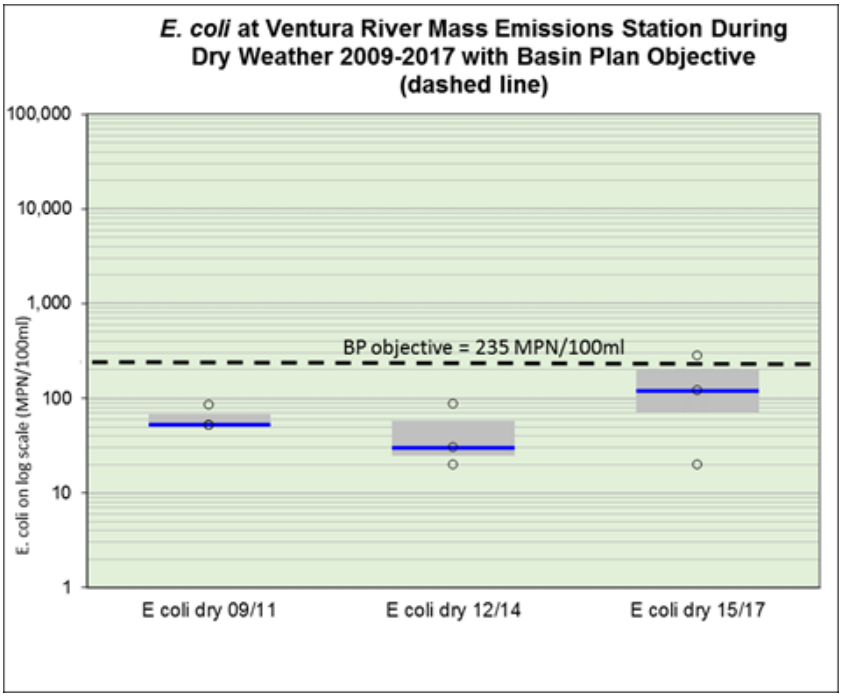
There is no bacteria TMDL in place for the Ventura River, so the Basin Plan objective is used for comparison. Despite the large amounts of open space, during wet weather most of the E. coli results are above the Basin Plan objectives (although lower than in most of the other watersheds) with no obvious trend from year to year.

*Figure 19: Boxplots of E. coli during Wet Weather*




During dry weather, almost all the E. coli results are below the Basin Plan objective with no obvious trend from year to year.

*Figure 20: Boxplots of E. coli during Dry Weather*



## Lower Santa Clara River


The Santa Clara River is the largest river system in southern California that remains in a relatively natural state and drains about 1,200 square miles at approximately 100 miles long. The river originates in the northern slope of the San Gabriel Mountains in Los Angeles County, traverses Ventura County, and flows into the Pacific Ocean halfway between the cities of San Buenaventura and Oxnard. Somewhat discontinuous flow occurs between the upper and lower river due to close connections with underlying groundwater basins. A majority of the watershed is open space in the Angeles and Los Padres National Forests. Small communities occur along the river in the lower watershed and agriculture is a major land use in the river-adjacent areas.

### *Total Copper, Total Lead, and Total Zinc*

There are no metals TMDLs for the lower Santa Clara River, so comparisons are made to average hardness-adjusted CTR acute criteria during wet weather. Total copper, lead, and zinc are all increasing through time during wet weather. In recent years, copper and zinc concentrations are more frequently exceeding CTR criteria, though they were well below CTR criteria in earlier years. Total lead shows a similar pattern of increasing concentrations through time, but with most of the results still below the CTR criterion.

*Figure 21: Boxplots of Total Copper during Wet Weather*

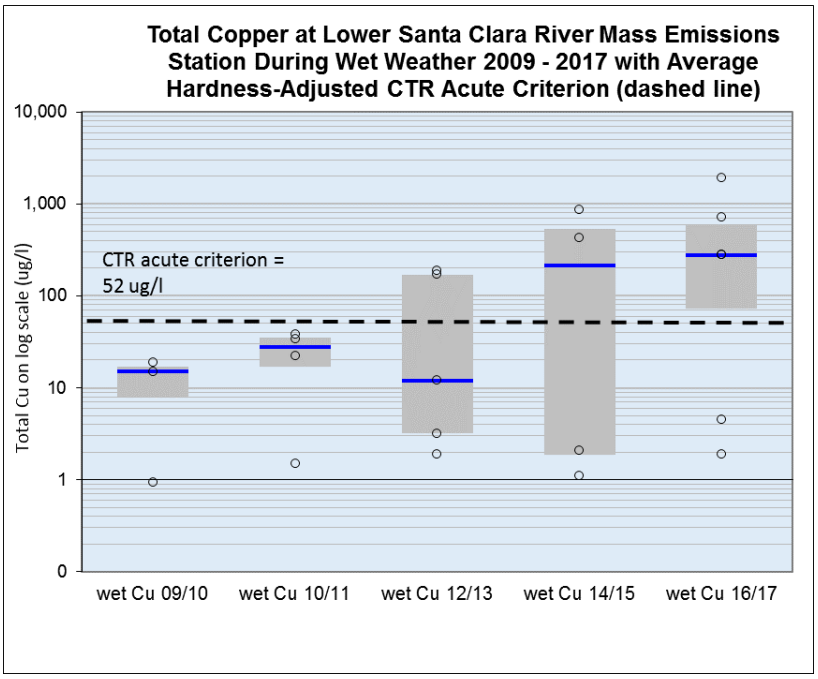



*Figure 22: Boxplots of Total Zinc during Wet Weather*

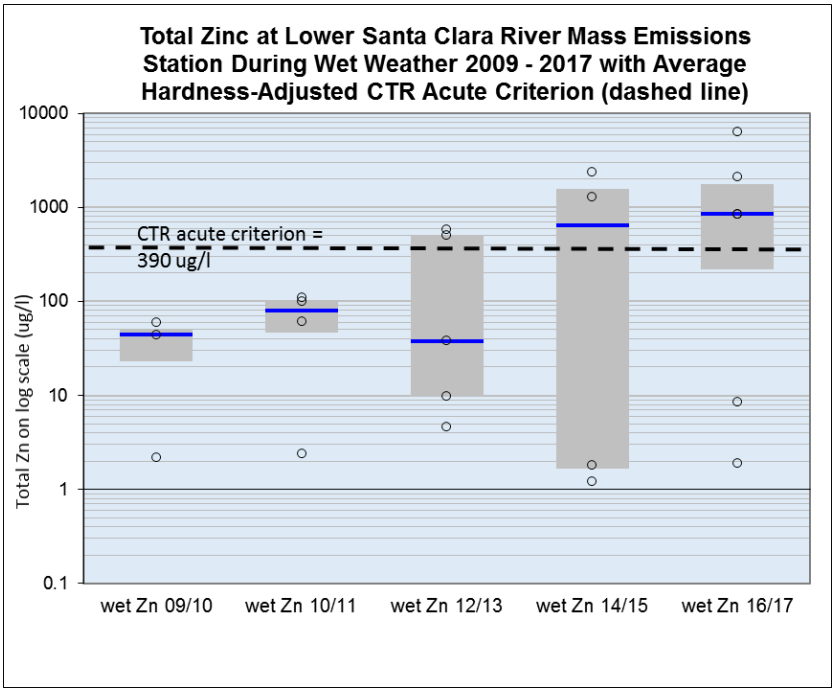
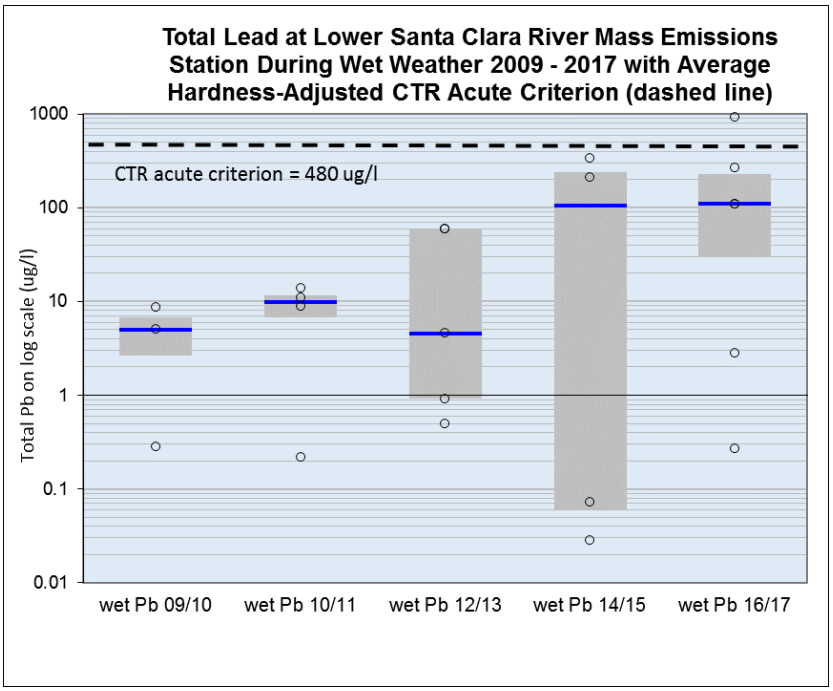


*Figure 23: Boxplots of Total Lead during Wet Weather*




Total copper, lead, and zinc all remain well below the hardness-adjusted CTR chronic criteria through time during dry weather.

*Figure 24: Boxplots of Total Copper during Dry Weather*

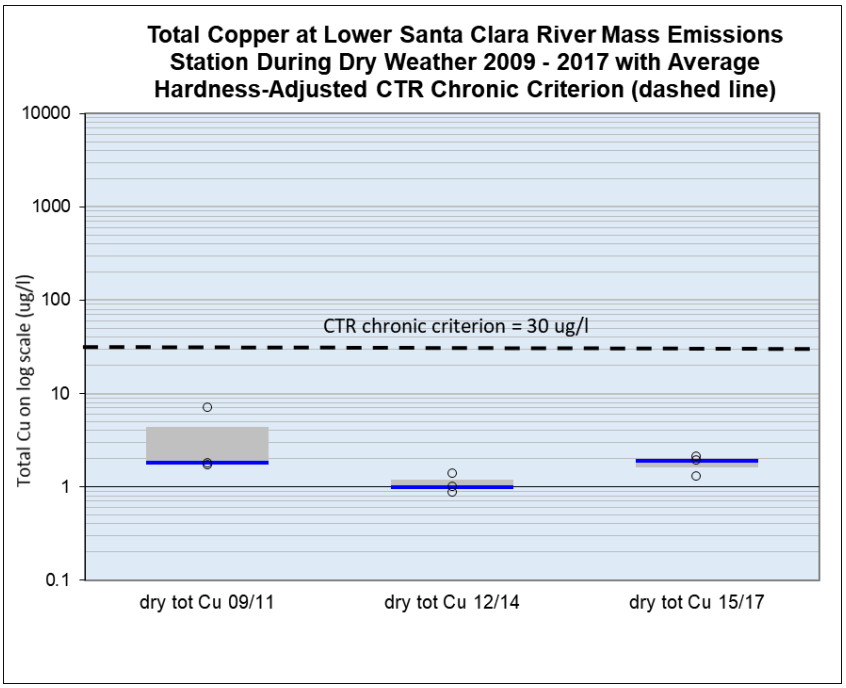


*Figure 25: Boxplots of Total Zinc during Dry Weather*

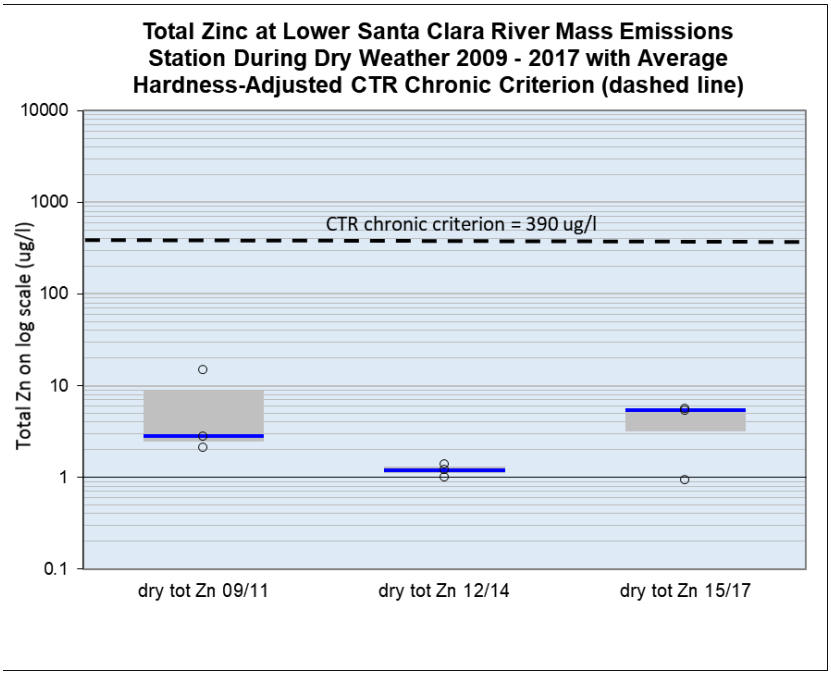
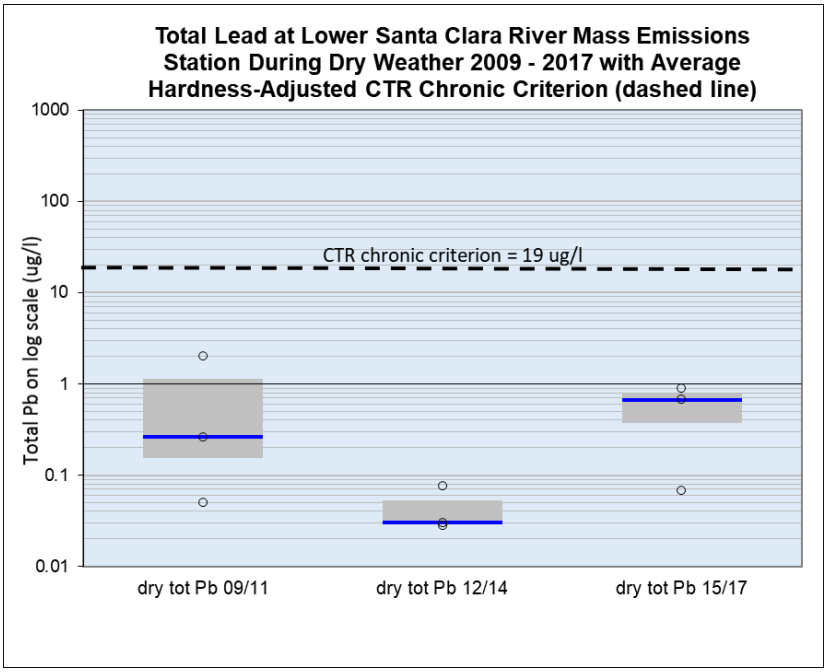


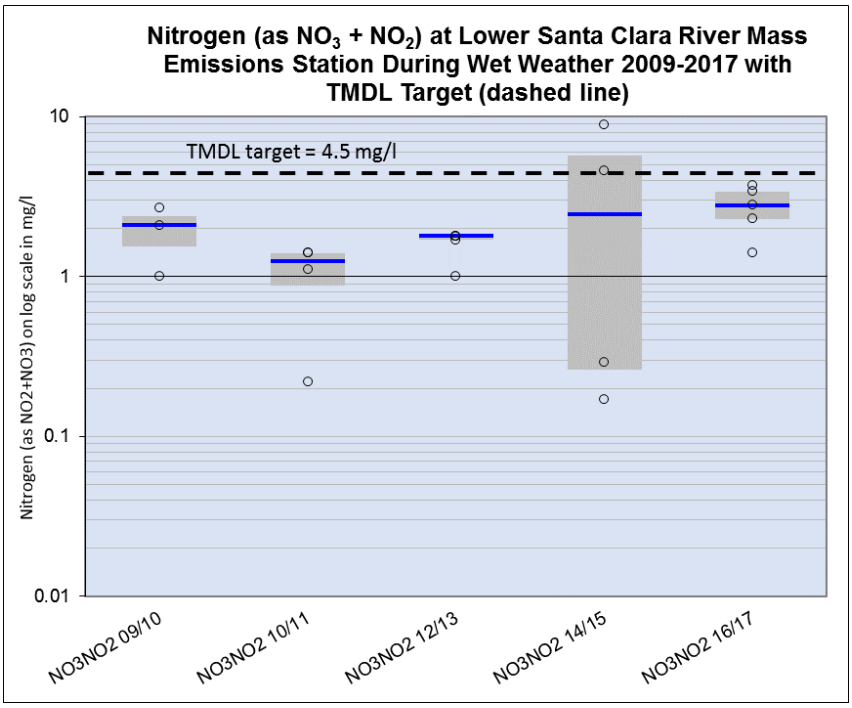

*Figure 26: Boxplots of Total Lead during Dry Weather*




## *Nutrients (Total Nitrogen)*

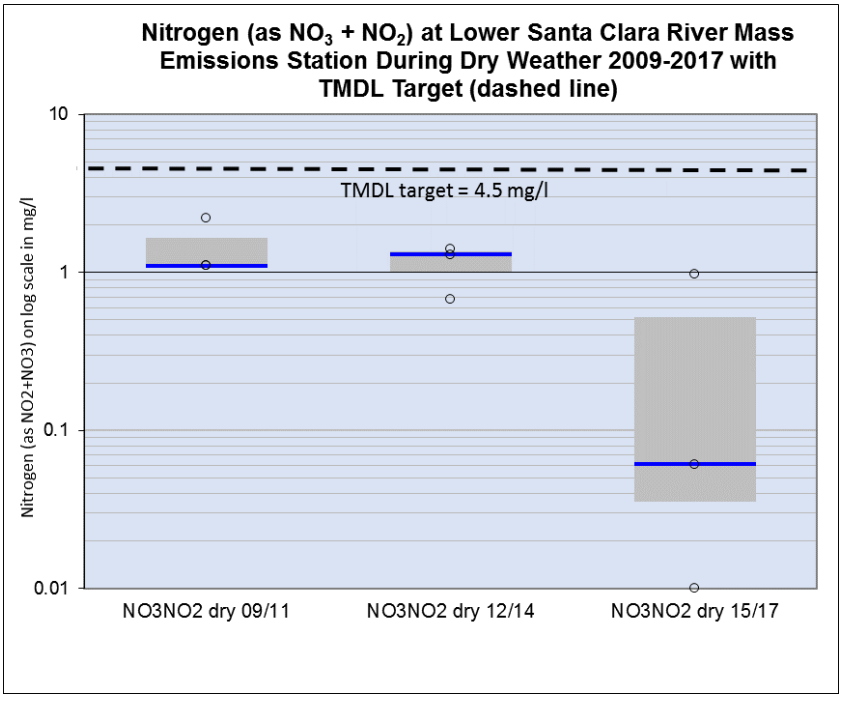
A nutrient TMDL is in place for the lower Santa Clara River. The mass emissions station is located in Reach 3, which has a numeric target for nitrogen as NO3-N + NO2-N. Results are generally below the target during wet weather but with a couple of exceedances. There appears to be a slight increasing trend through time.

*Figure 27: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*




During dry weather, results are below the TMDL target with a sharp decreasing trend through time in contrast to the slight increasing trend during wet weather.

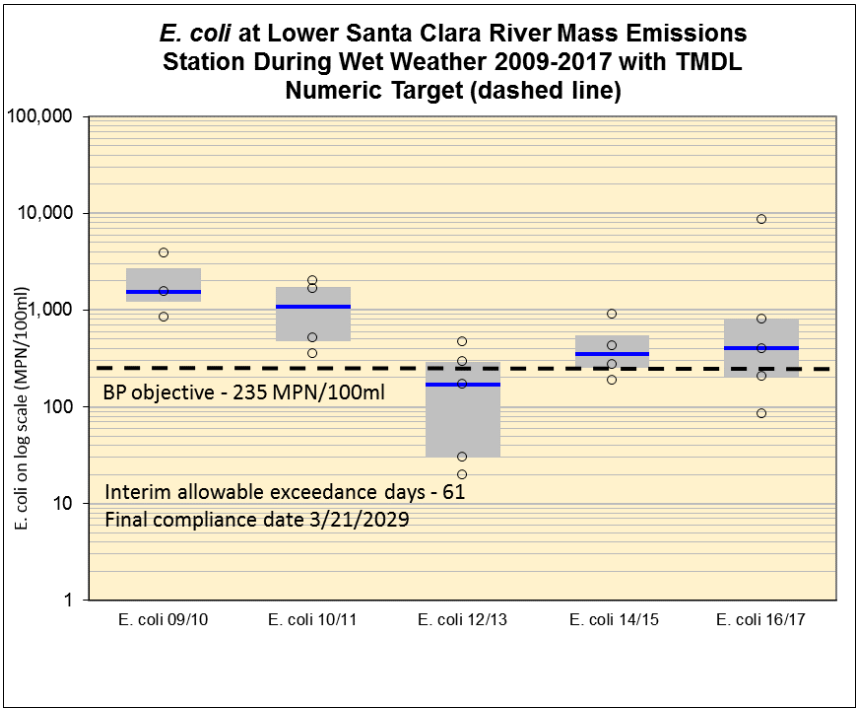
*Figure 28: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*



### *E. coli*

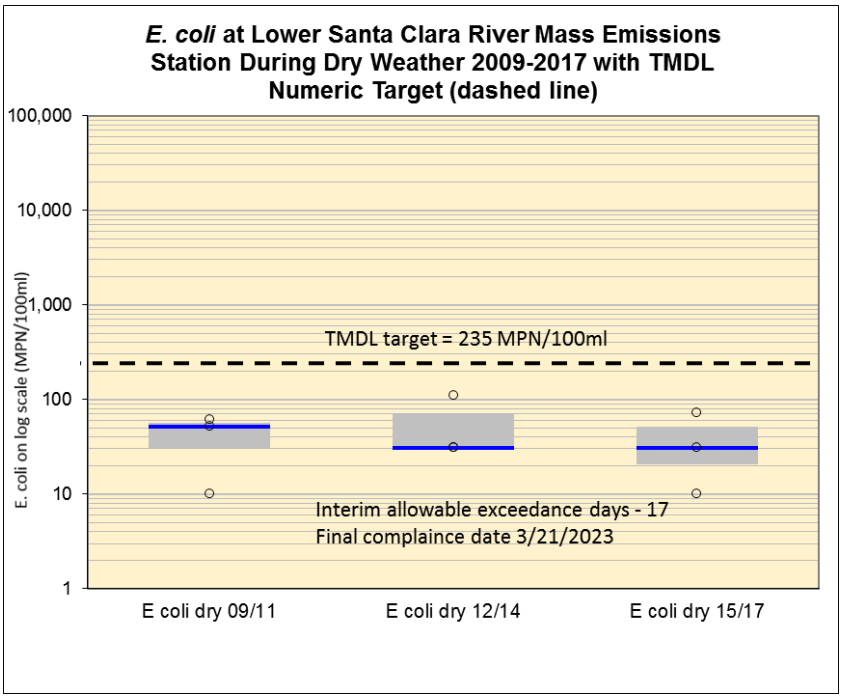
The mass emissions station is located at the downstream end of Reach 3 and a bacteria TMDL applies to this reach. The majority of the wet weather samples are over the TMDL numeric target, but some are below the target. Maximum densities of E. coli are the lowest here of all the watersheds during wet weather.

*Figure 29: Boxplots of E. coli during Wet Weather*




All of the dry weather samples are below the TMDL numeric target.

*Figure 30: Boxplots of E. coli during Dry Weather*



## Upper Santa Clara River


The upper watershed lies within Los Angeles County and includes rapidly urbanizing Santa Clarita Valley as well as a considerable amount of open space within Angeles and Los Padres National Forests. A major interstate freeway passes through the area and large reservoirs hold water imported from northern California.

### *Total Copper, Total Lead, and Total Zinc*

There are no metals TMDLs for the upper Santa Clara River, so comparisons are made to hardness-adjusted CTR acute criteria for wet weather results. Total copper, lead, and zinc are gradually increasing through time during wet weather. In recent years, copper and zinc concentrations are more frequently exceeding CTR criteria though they were generally below CTR criteria in earlier years. Total lead shows a similar pattern of increasing concentrations through time, but with all results still below the CTR criterion.

*Figure 31: Boxplots of Total Copper during Wet Weather*

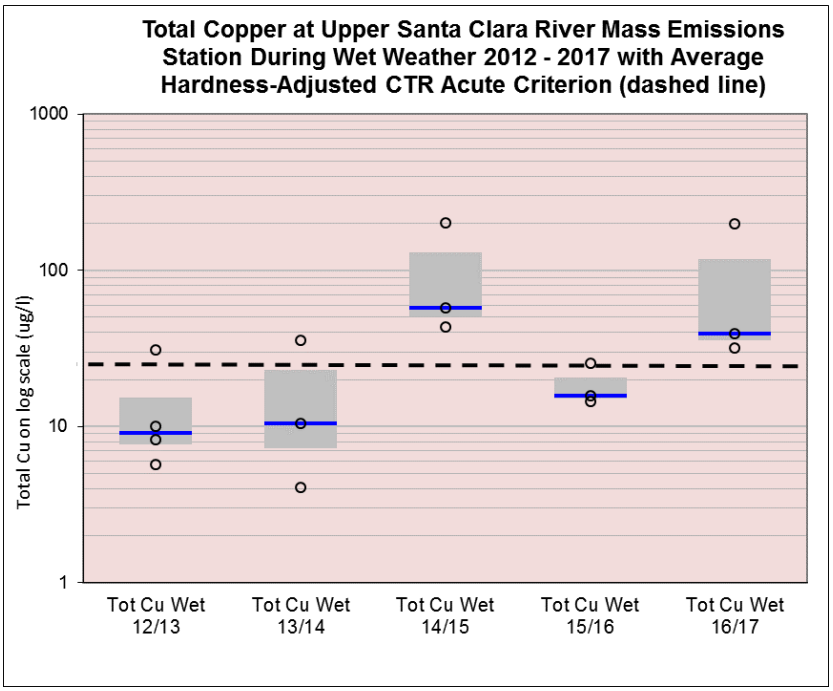


*Figure 32: Boxplots of Total Zinc during Wet Weather*

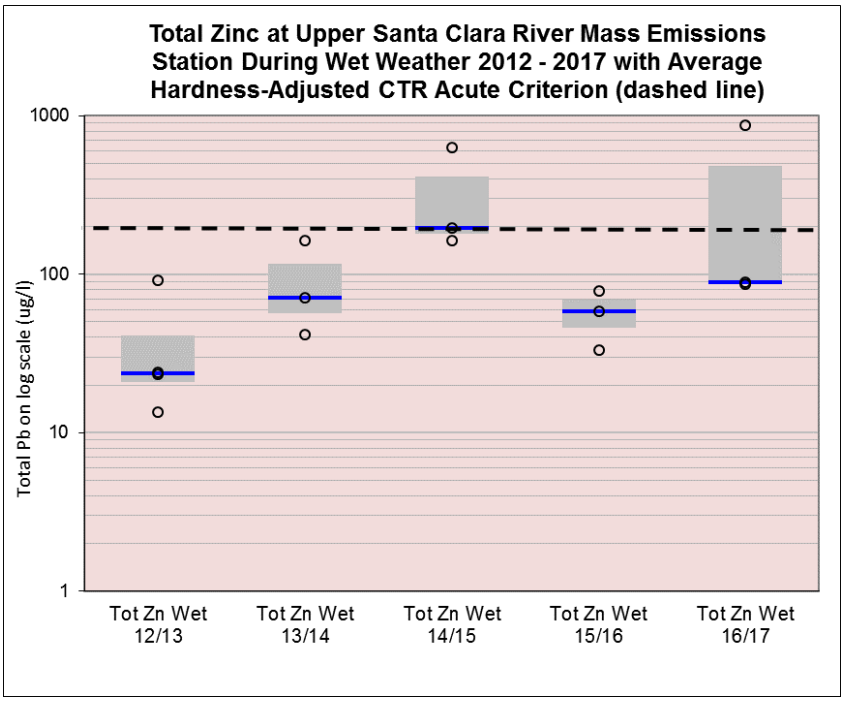
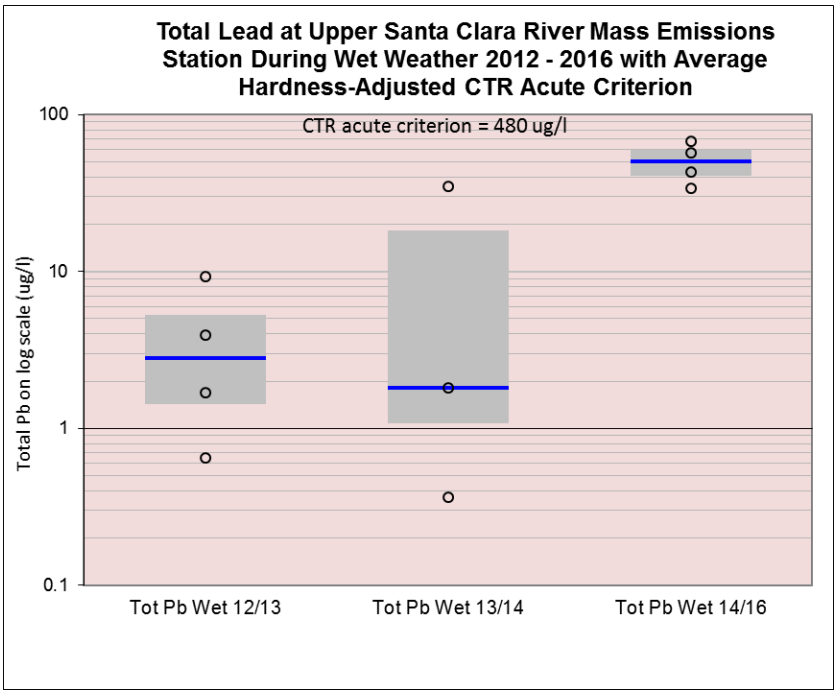



*Figure 33: Boxplots of Total Lead during Wet Weather*




For dry weather results, comparisons are made to hardness-adjusted CTR chronic criteria. Total copper, lead, and zinc are well below the chronic criteria and are gradually decreasing through time.

*Figure 34: Boxplots of Total Copper during Dry Weather*

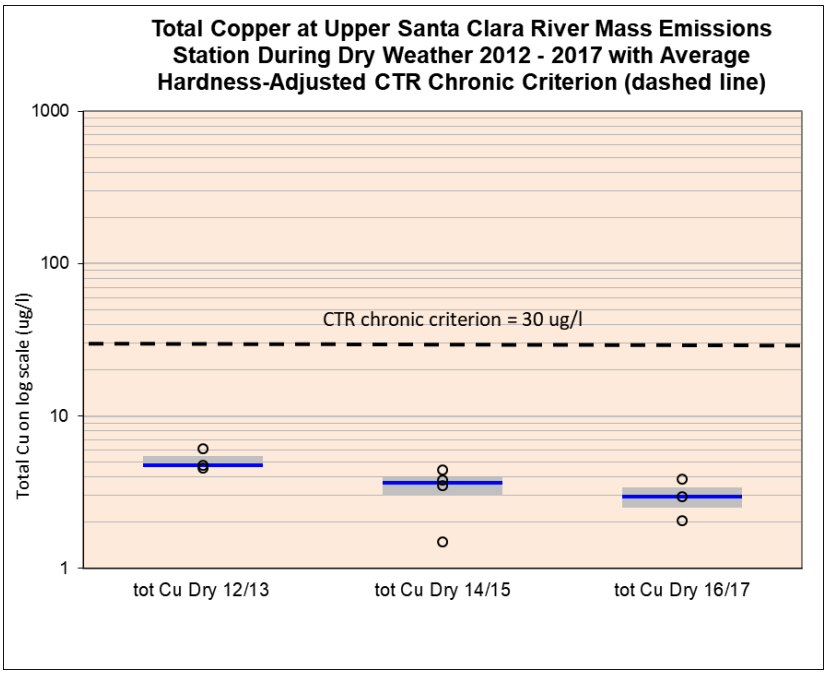



*Figure 35: Boxplots of Total Zinc during Dry Weather*

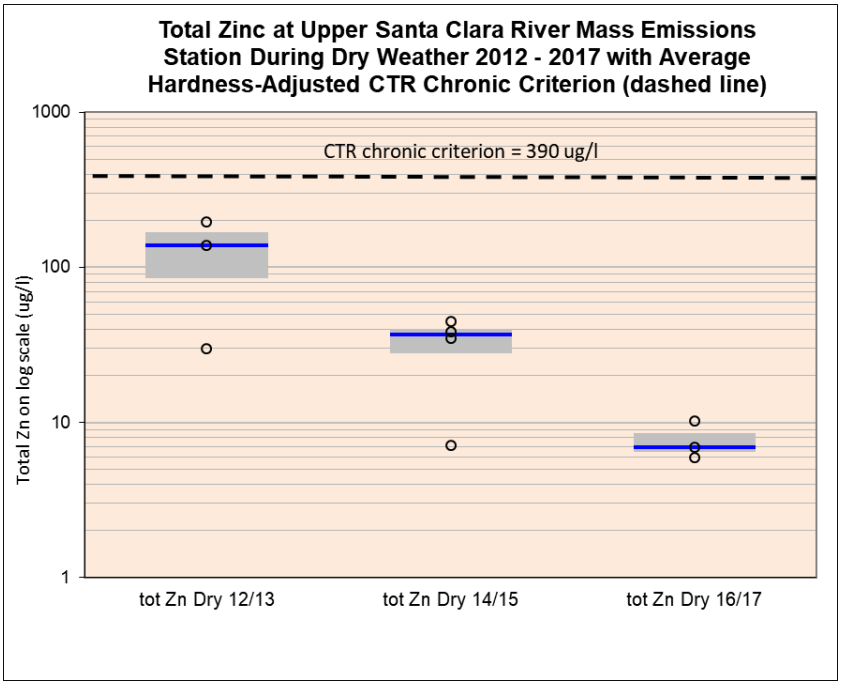
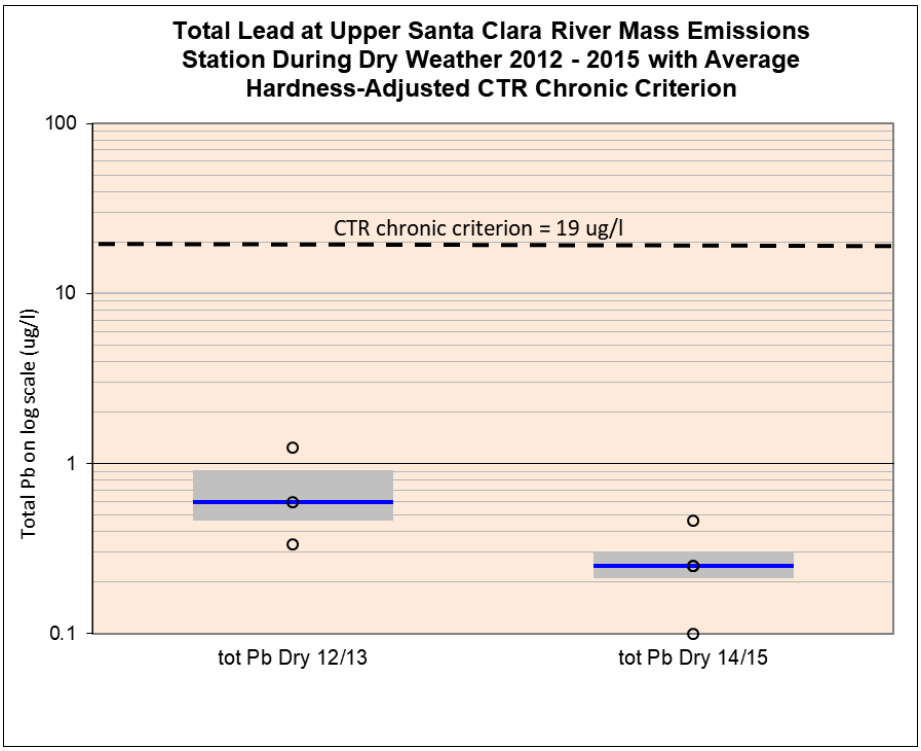


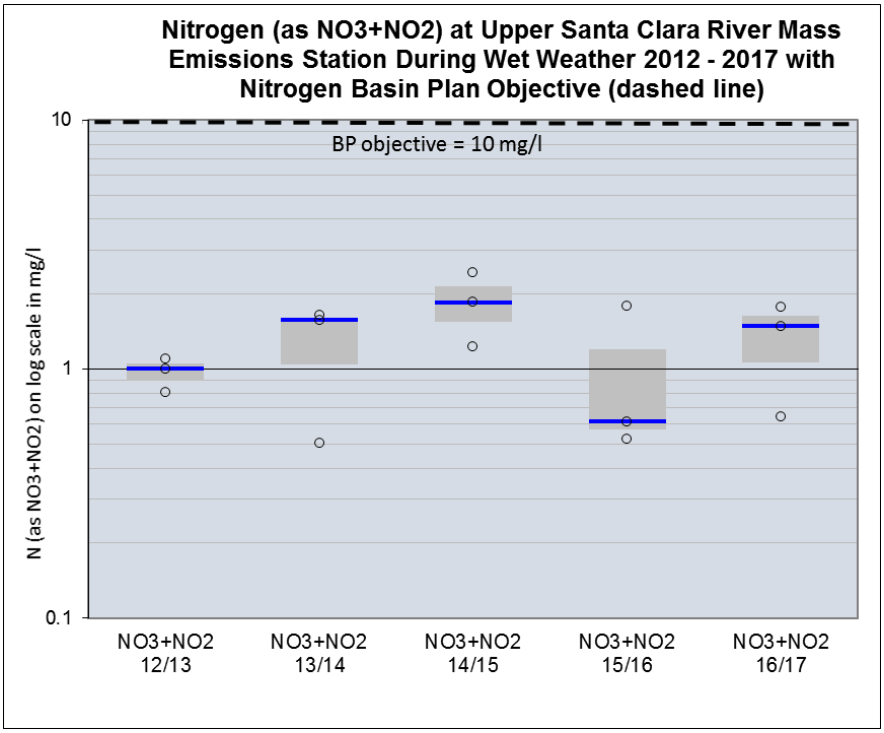
*Figure 36: Boxplots of Total Lead during Dry Weather*




## *Nutrients (Total Nitrogen)*

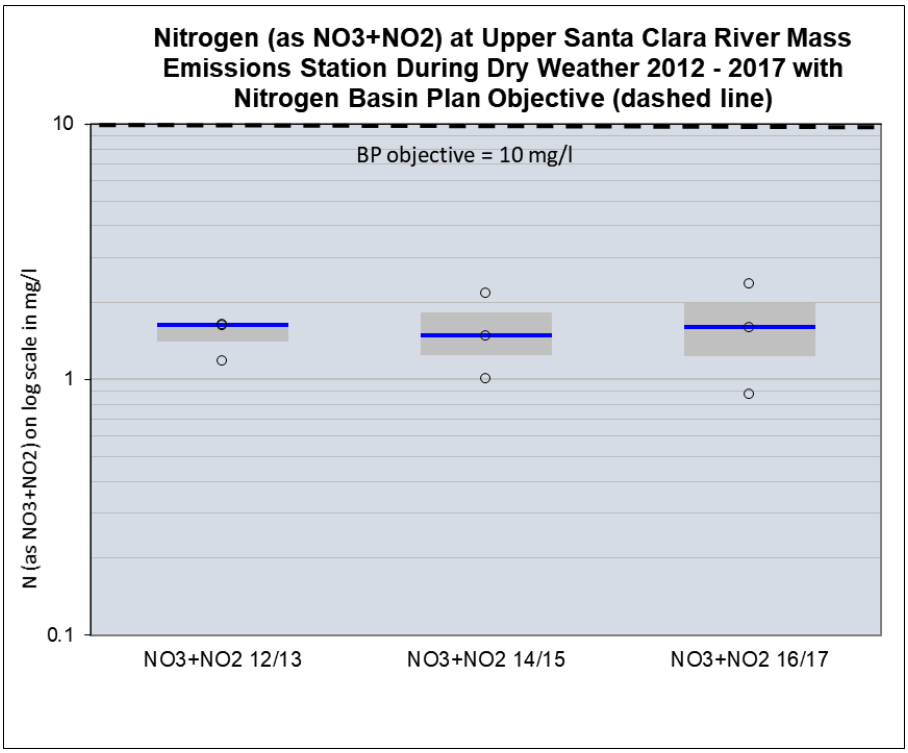
There is a nutrient TMDL for the Santa Clara River; however, the Upper Santa Clara River mass emission station is in Reach 6, which is not assigned a numeric target in the TMDL. As a result, nitrogen as NO3-N + NO2-N concentrations are compared to the Basin Plan objective in the plot below. Results have been well below the Basin Plan objective through time during wet weather.

*Figure 37: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*




Results have been well below the Basin Plan objective through time during dry weather as shown in the plot below.

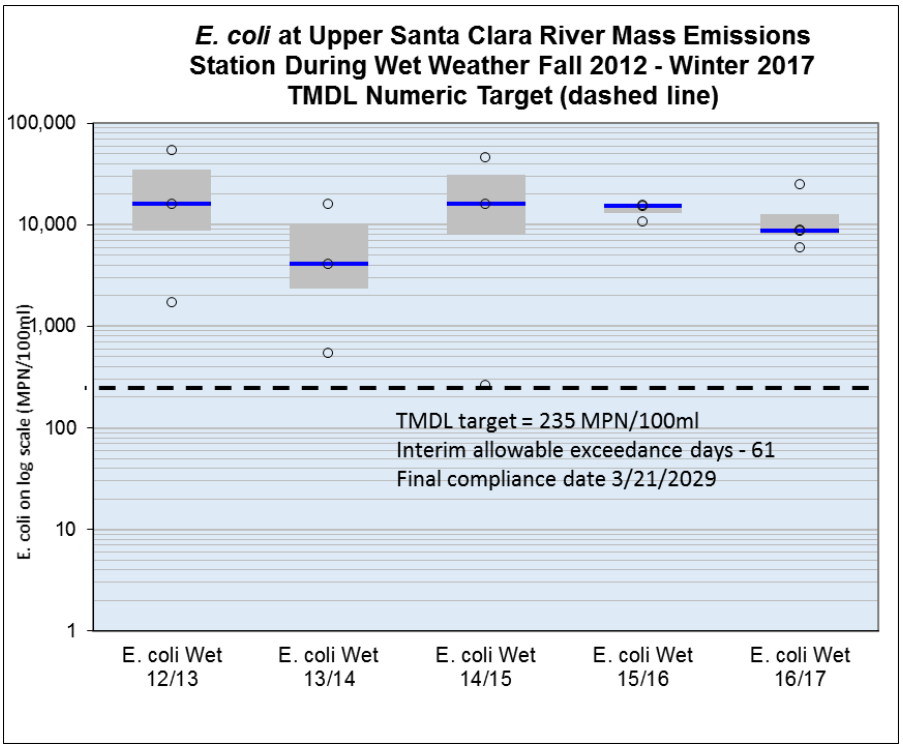
*Figure 38: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Dry Weather*




### *E. coli*

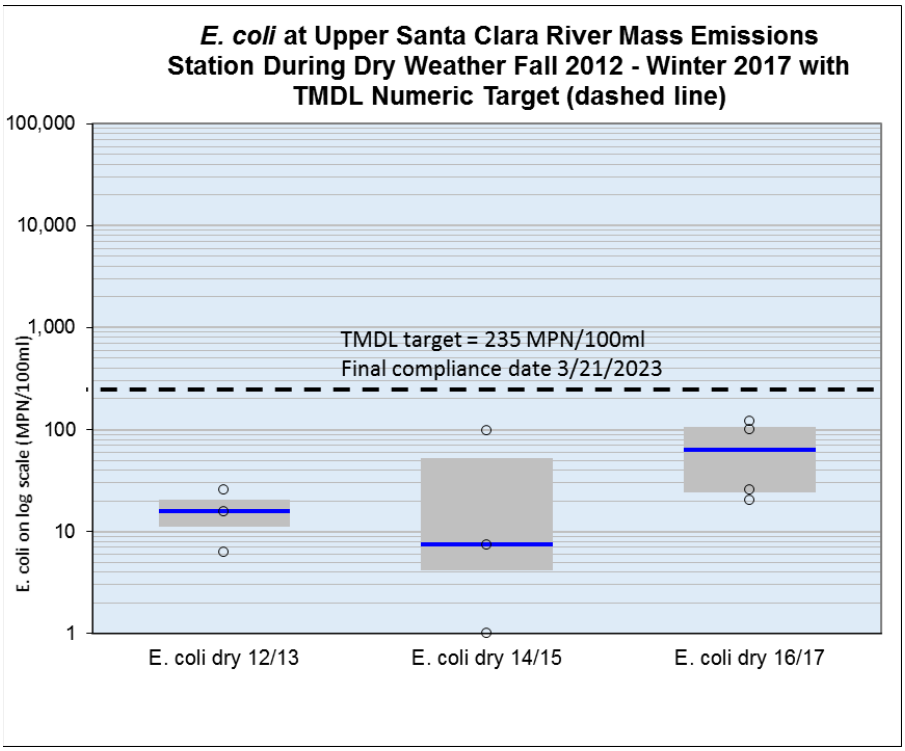
The mass emissions station in the upper Santa Clara River is located at the downstream end of Reach 6 and a bacteria TMDL applies to this reach. This station is just downstream of a rapidly urbanizing area. All the wet weather samples are over the TMDL numeric target and maximum densities of E. coli are higher than in the lower watershed during wet weather.

*Figure 39: Boxplots of E. coli during Wet Weather*

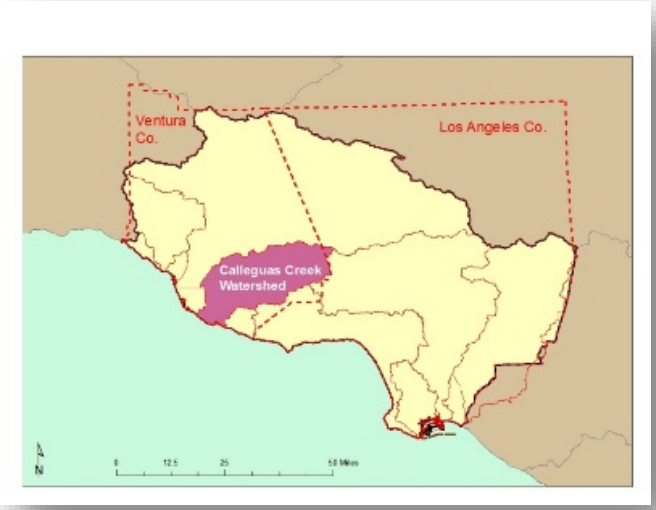



All the dry weather samples are below the TMDL numeric target with a slight increasing trend through time. Maximum densities of E. coli are similar to those in the lower watershed during dry weather.

*Figure 40: Boxplots of E. coli during Dry Weather*



## Calleguas Creek




Calleguas Creek and its major tributaries drain an area of 343 square miles in southern Ventura County and a small portion of western Los Angeles County. Land use is approximately one-third residential, one-third agriculture, and one-third open space.

### *Dissolved Copper, Total Lead, and Dissolved Zinc*

The metals TMDL in place for Calleguas Creek has targets for dissolved copper and dissolved zinc. The mass emissions station is in Reach 3 and the data are compared to the Reach 3 TMDL targets. The results for both metals are well below their respective TMDL targets. There is no TMDL target for lead. To be consistent with other data analyses in this report, total lead concentrations through time are compared against the CTR short-term acute criterion for total lead. The results through time for wet weather are well below the criterion.

*Figure 41: Boxplots of Dissolved Copper during Wet Weather*

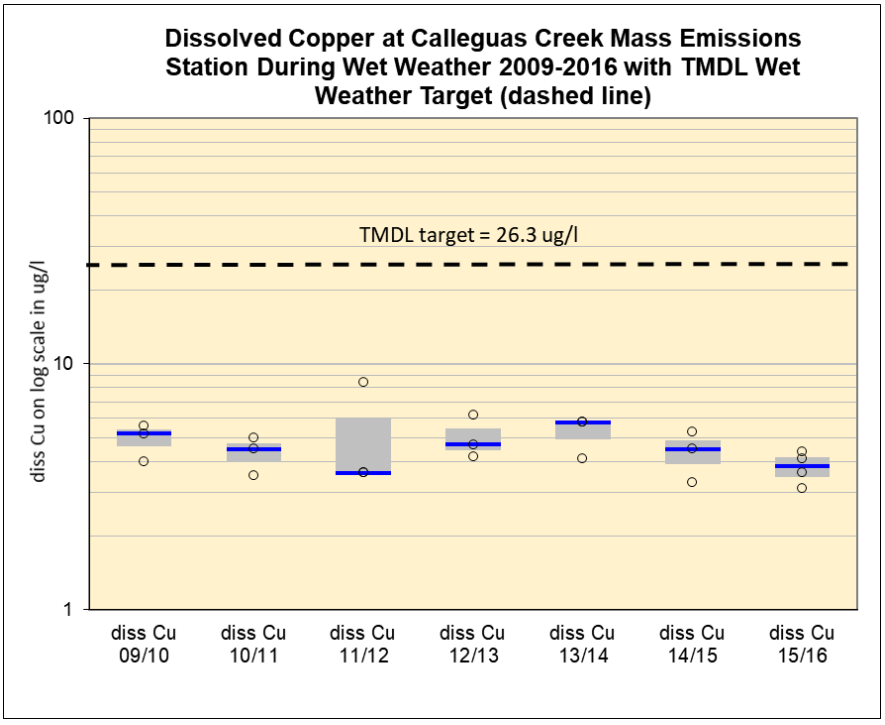


*Figure 42: Boxplots of Dissolved Zinc during Wet Weather*

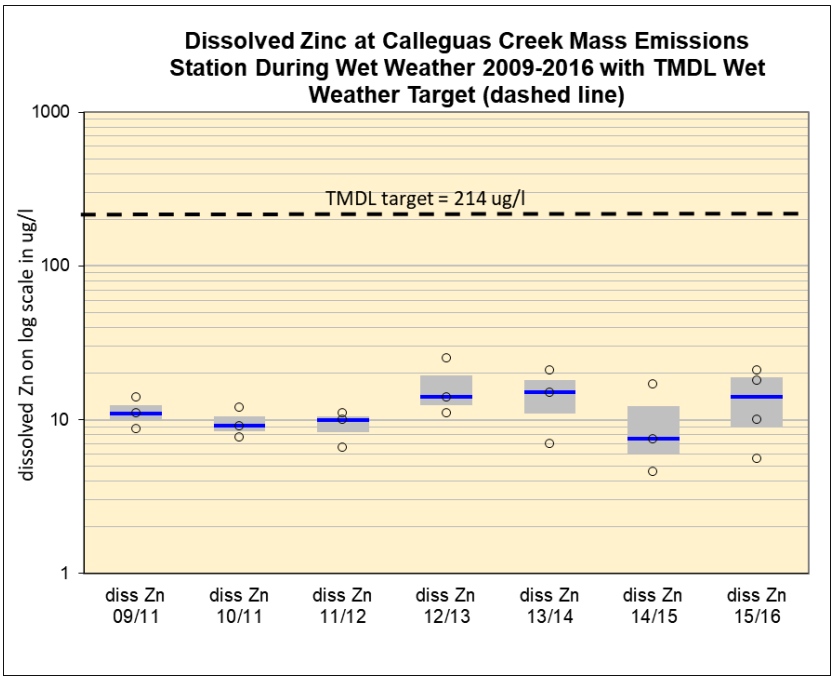
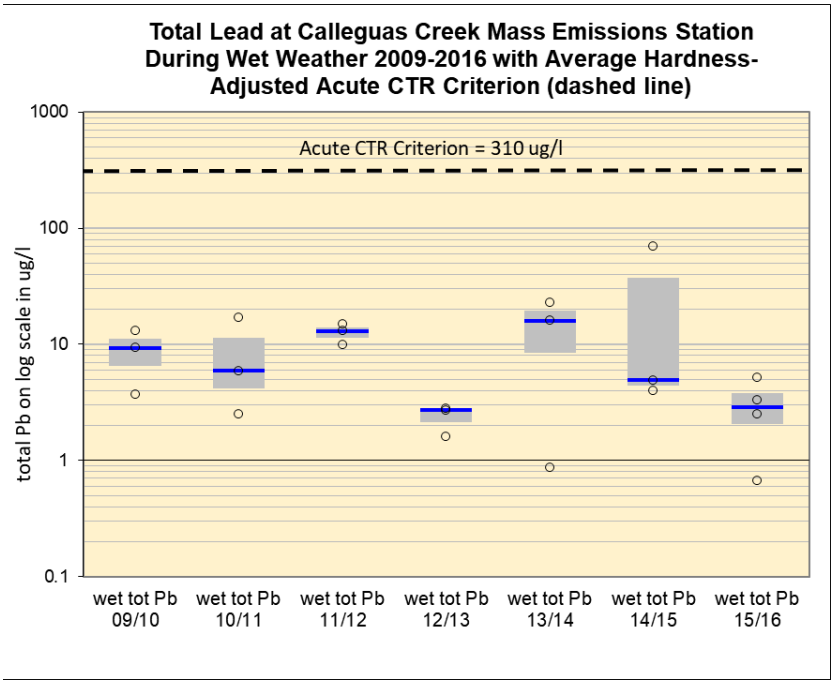



*Figure 43: Boxplots of Total Lead during Wet Weather*




The results for dry weather dissolved copper and zinc metals are well below their respective TMDL targets. There is no TMDL target for lead; therefore, total lead concentrations through time are compared against the CTR chronic criterion for total lead. The results through time are well below the criterion.

*Figure 44: Boxplots of Dissolved Copper during Dry Weather*

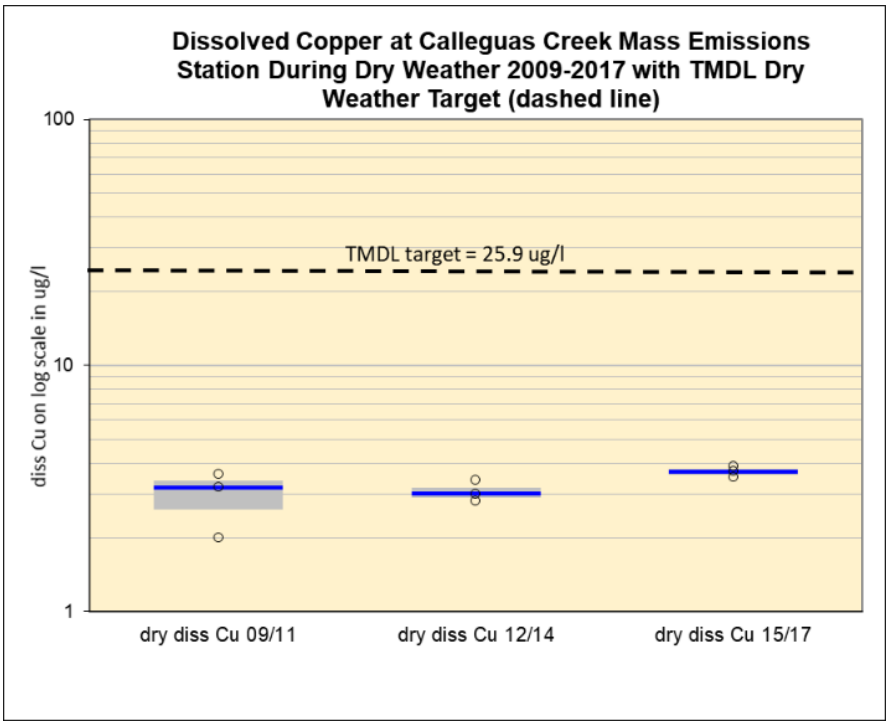



*Figure 45: Boxplots of Dissolved Zinc during Dry Weather*

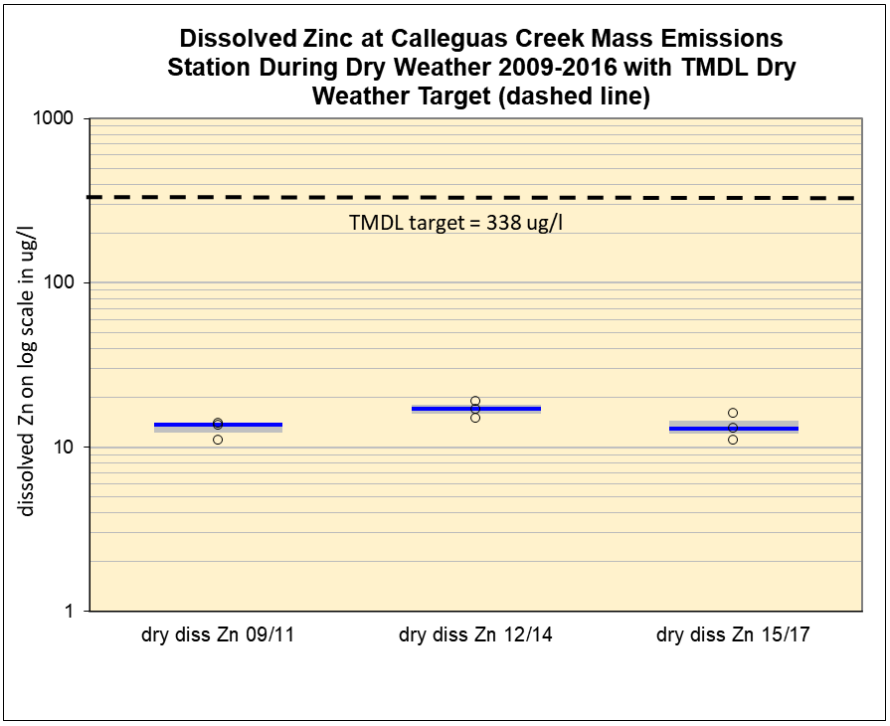
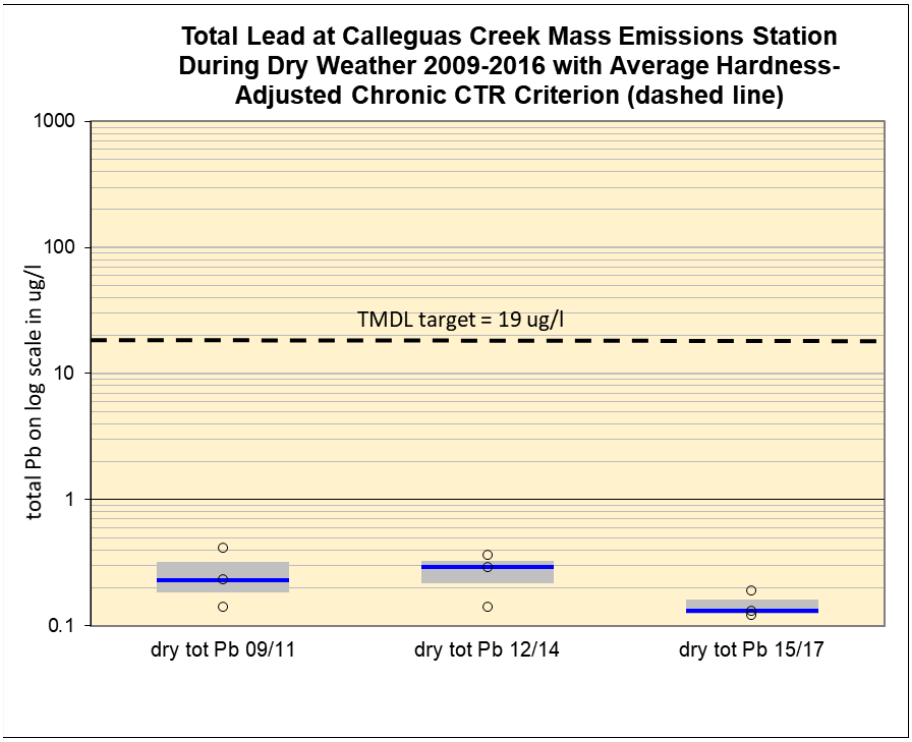


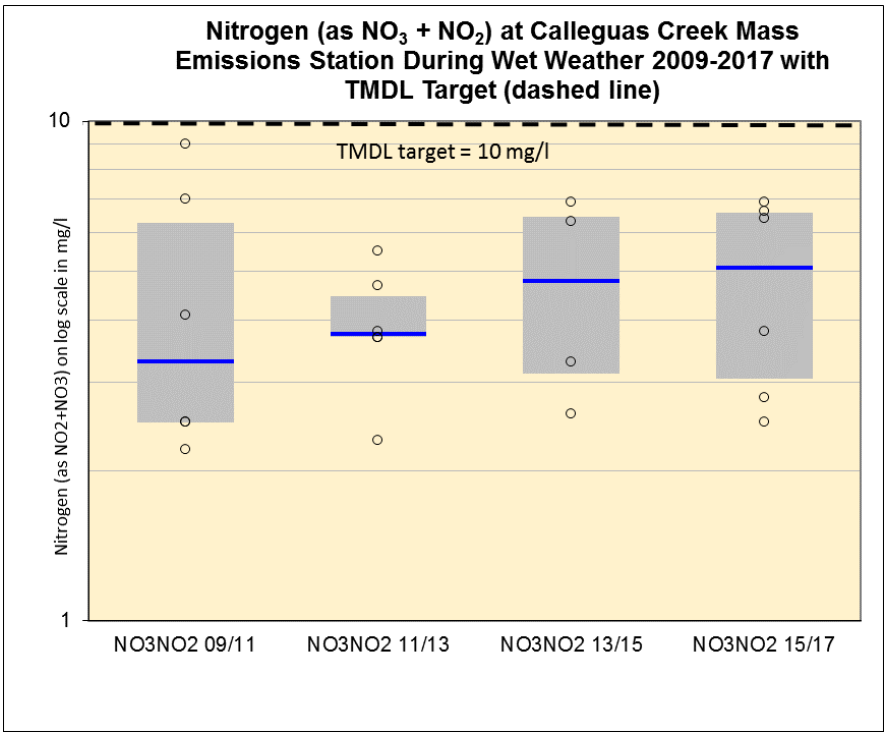
*Figure 46: Boxplots of Total Lead during Dry Weather*




## *Nutrients (Total Nitrogen)*

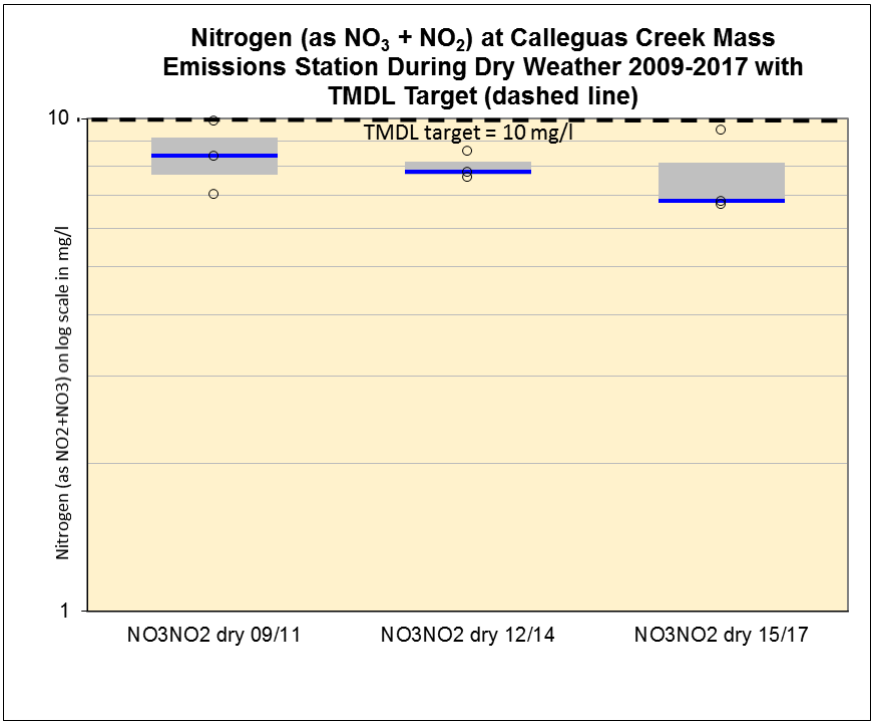
A nutrient TMDL is in place for Calleguas Creek and it includes a numeric target for nitrogen as NO3-N + NO2-N in Reach 3, the location of the mass emissions station. As seen in the plot below, all results have been below the target through time during wet weather.

*Figure 47: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*




As seen in the plot below, results during dry weather have been just below the target with a slight decreasing trend through time.

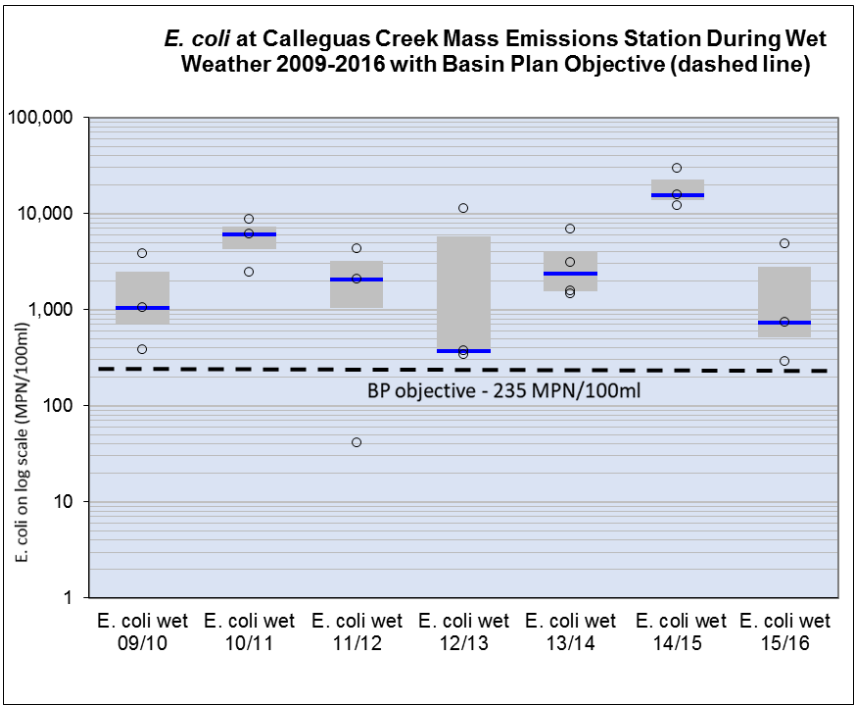
*Figure 48: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Dry Weather*




### *E. coli*

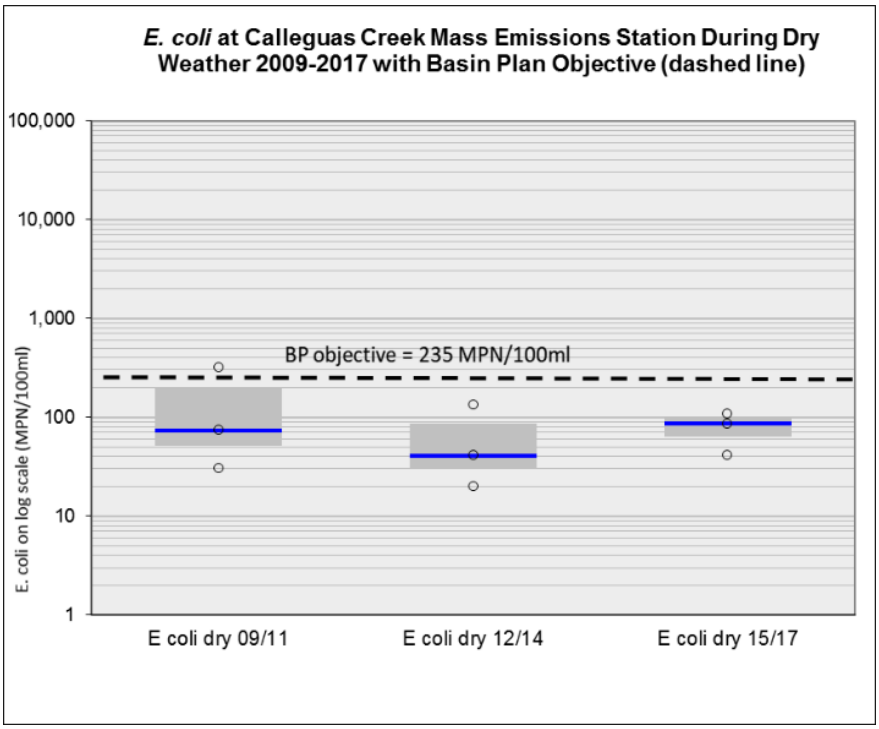
There is no bacteria TMDL for Calleguas Creek, so E. coli results are compared to the Basin Plan objective in the plot below. The Basin Plan objective is virtually always exceeded during wet weather with no clear trend through time.

*Figure 49: Boxplots of E. coli during Wet Weather*

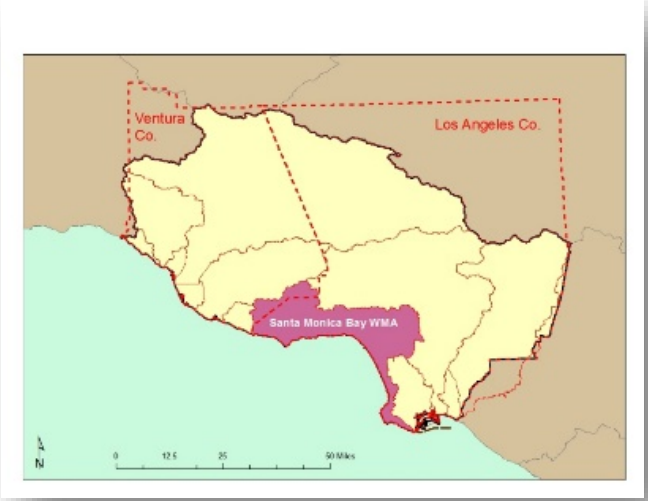



During dry weather, almost all the results are below the Basin Plan objective with slightly decreasing densities through time.

*Figure 50: Boxplots of E. coli during Dry Weather*



## Malibu Creek




Malibu Creek and its tributaries, which drain an area of 110 square miles, remain for the most part in a relatively natural state and support a population of endangered steelhead trout downstream of Rindge Dam in the lower watershed. Several manmade lakes occur in the watershed and a major local freeway transits the upper watershed. Urbanization is more prominent along the freeway while either open space or low density residential land uses occur elsewhere in the watershed. Septic tanks and corralled animals are common in some areas of the watershed and an active landfill is located in the upper watershed.

### *Total Copper, Total Lead, and Total Zinc*

There are no metals TMDLs for Malibu Creek; consequently, total copper, zinc, and lead concentrations are compared against hardness-adjusted CTR acute criteria during wet weather. The boxplots below show that the results at the mass emissions station are all below the CTR acute criteria during wet weather.

*Figure 51: Boxplots of Total Copper during Wet Weather*

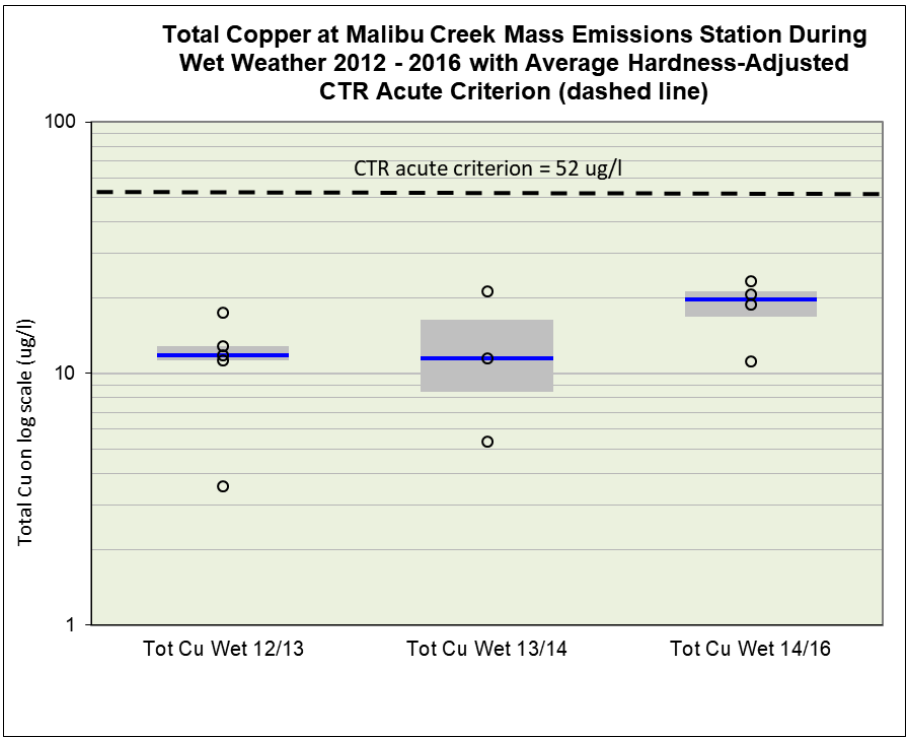



*Figure 52: Boxplots of Total Zinc during Wet Weather*

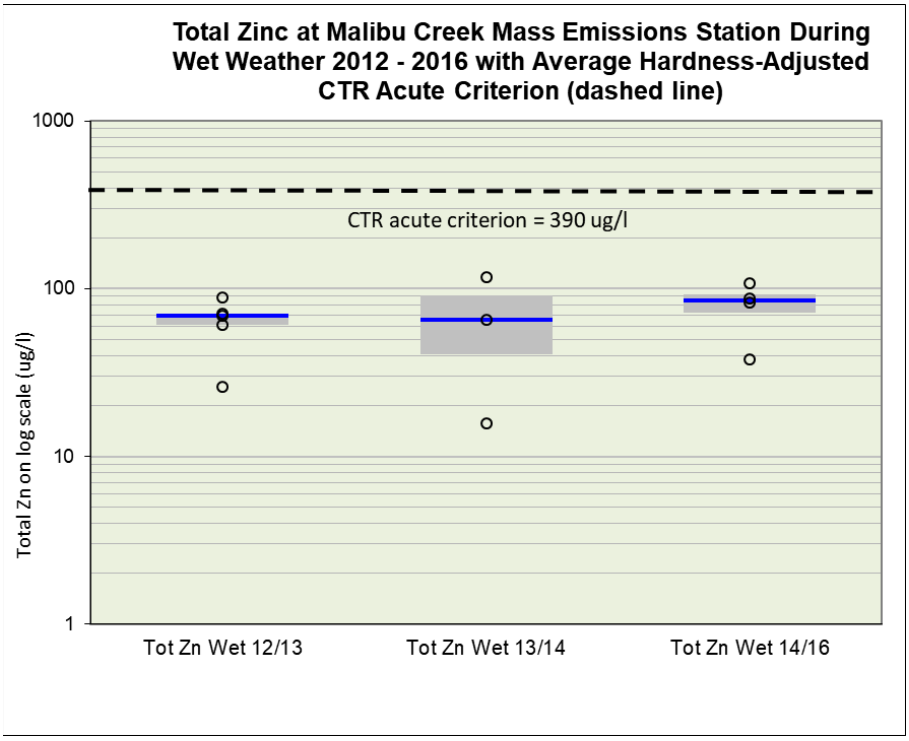
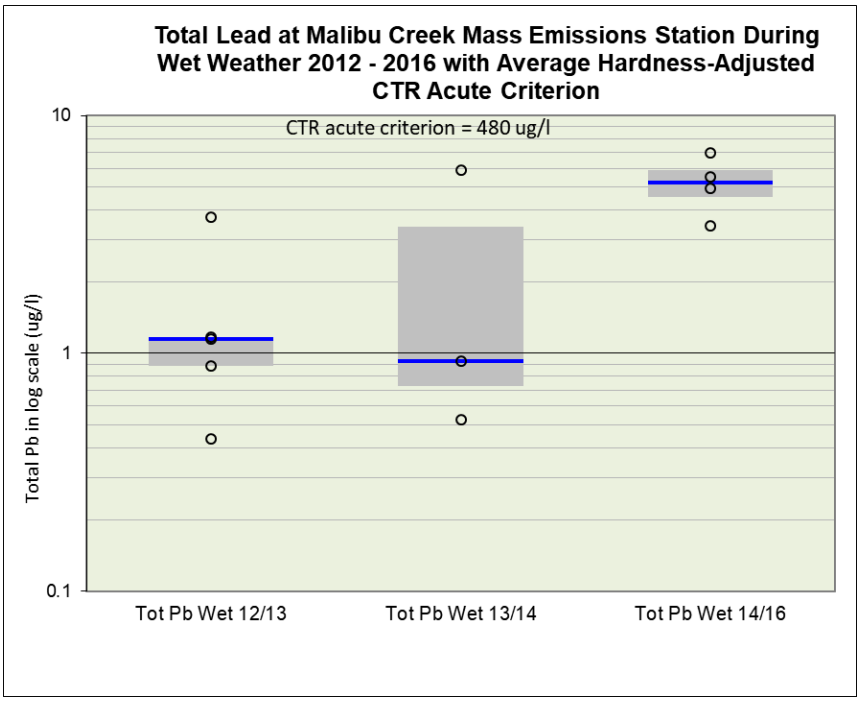


*Figure 53: Boxplots of Total Lead during Wet Weather*




For dry weather results, total copper, zinc, and lead concentrations are compared against hardness-adjusted CTR chronic criteria. The boxplots below show that the results at the mass emissions station are all below the CTR chronic criteria during dry weather.

*Figure 54: Boxplots of Total Copper during Dry Weather*

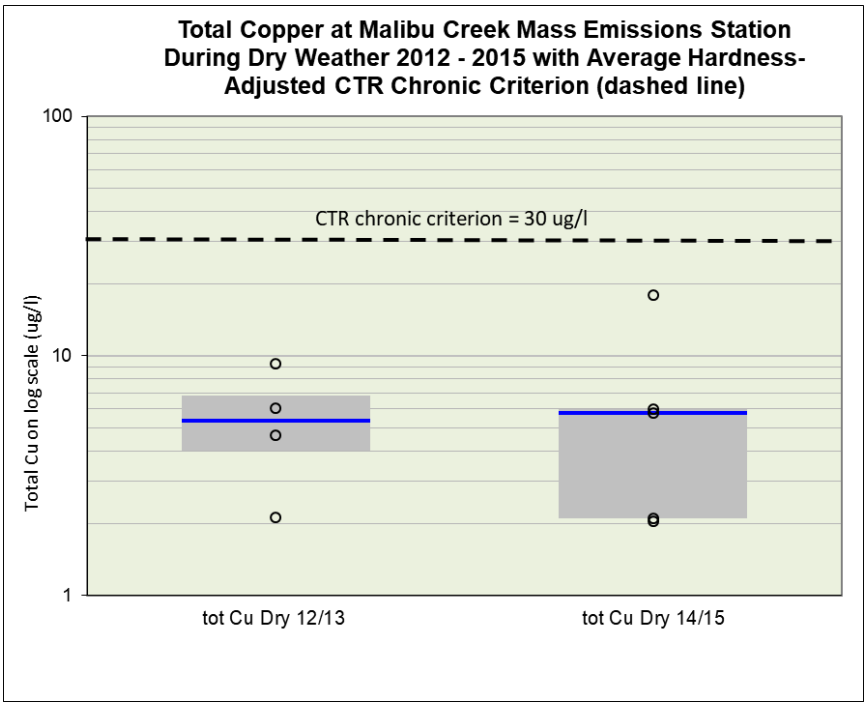


*Figure 55: Boxplots of Total Zinc during Dry Weather*

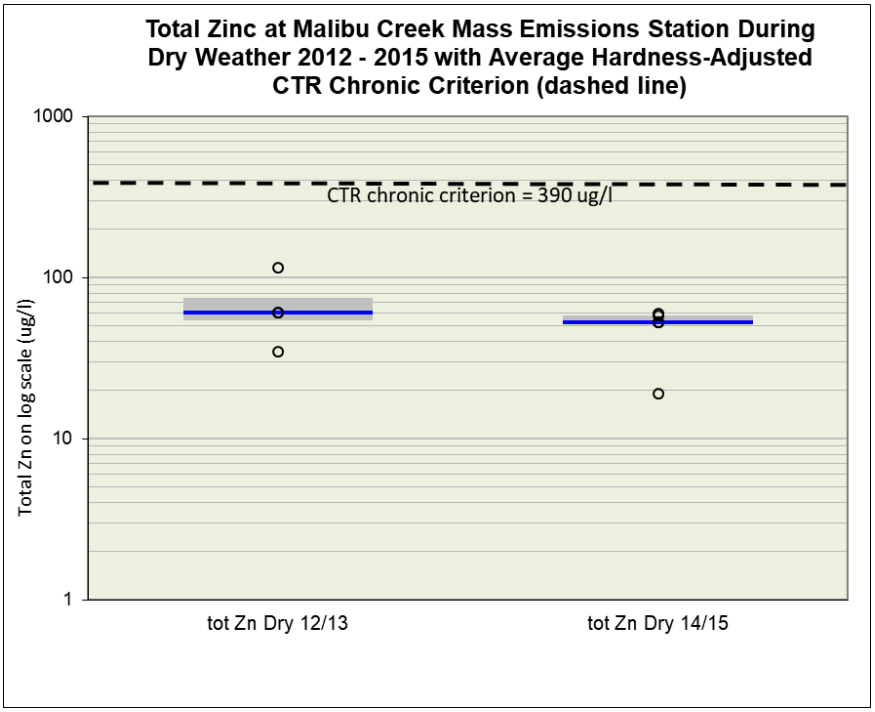
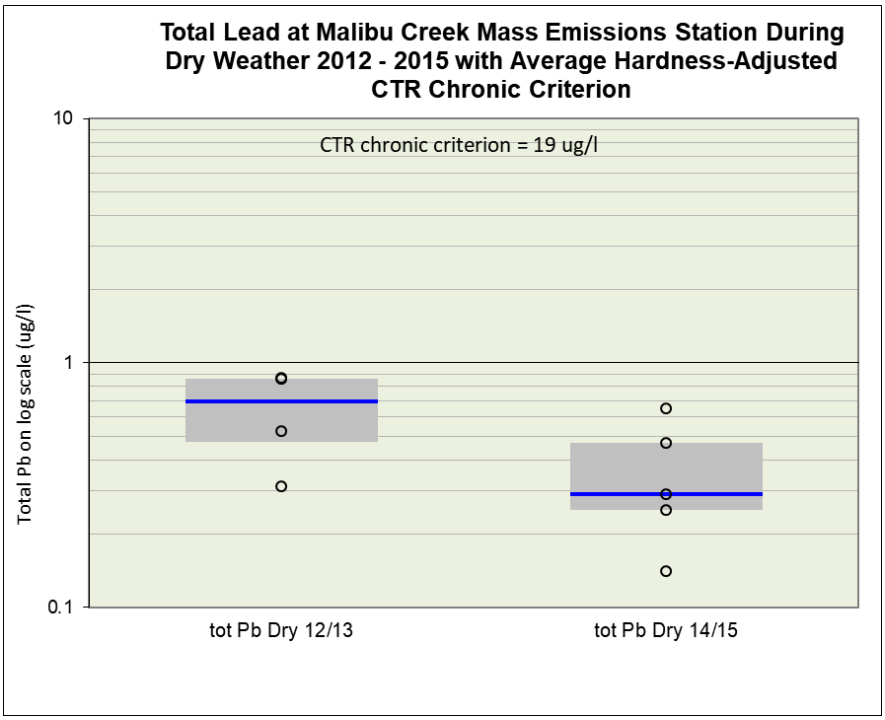


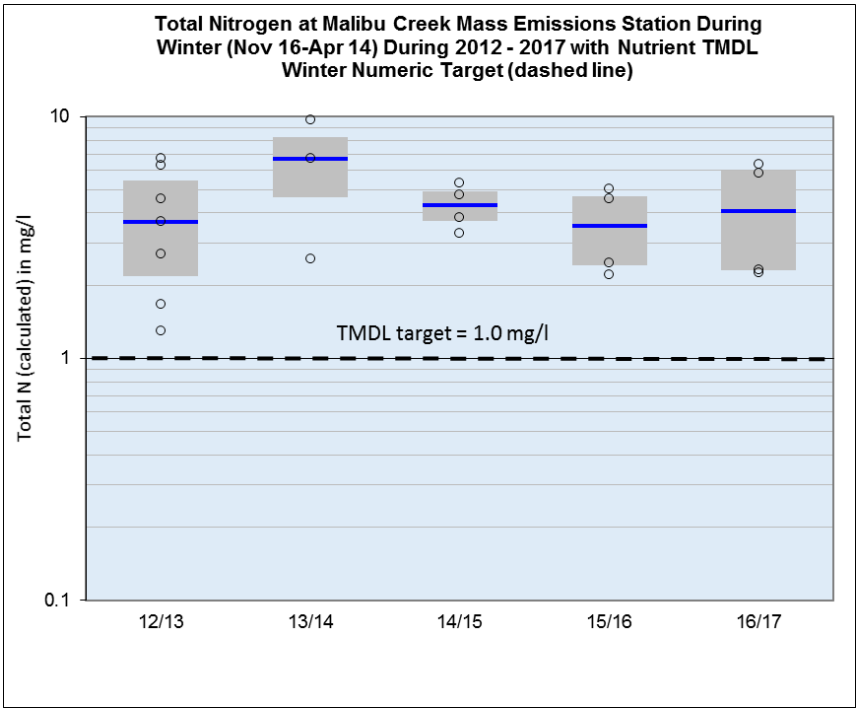

*Figure 56: Boxplots of Total Lead during Dry Weather*



### *Nutrients (Total Nitrogen)*

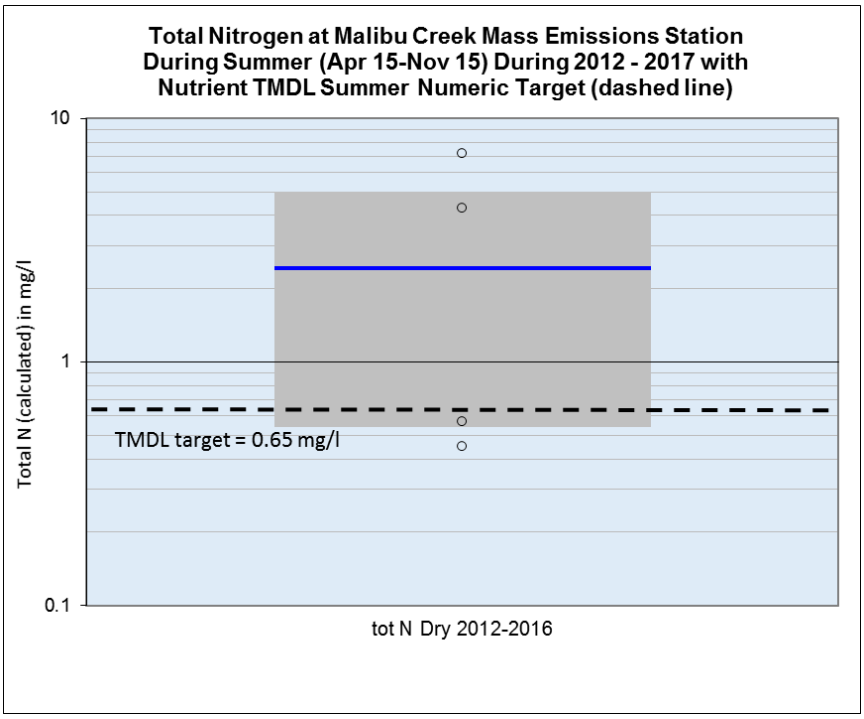
A nutrient TMDL exists for the Malibu Creek Watershed and includes a specific date range during which the total nitrogen (defined by the TMDL as organic plus inorganic nitrogen or NO3-N + NO2-N + TKN) target applies during the wintertime (not wet weather only). Results from November 16 through April 14 are plotted below and show a continuing exceedance of the target by all datapoints.

*Figure 57: Boxplots of Total Nitrogen during Winter*




The nutrient TMDL also includes a specific date range during which the total nitrogen (defined by the TMDL as organic plus inorganic nitrogen or NO3-N + NO2-N + TKN) target applies during the summertime. There are relatively few datapoints available. Results from April 15 through November 15 are plotted below and show half exceed the summer target.

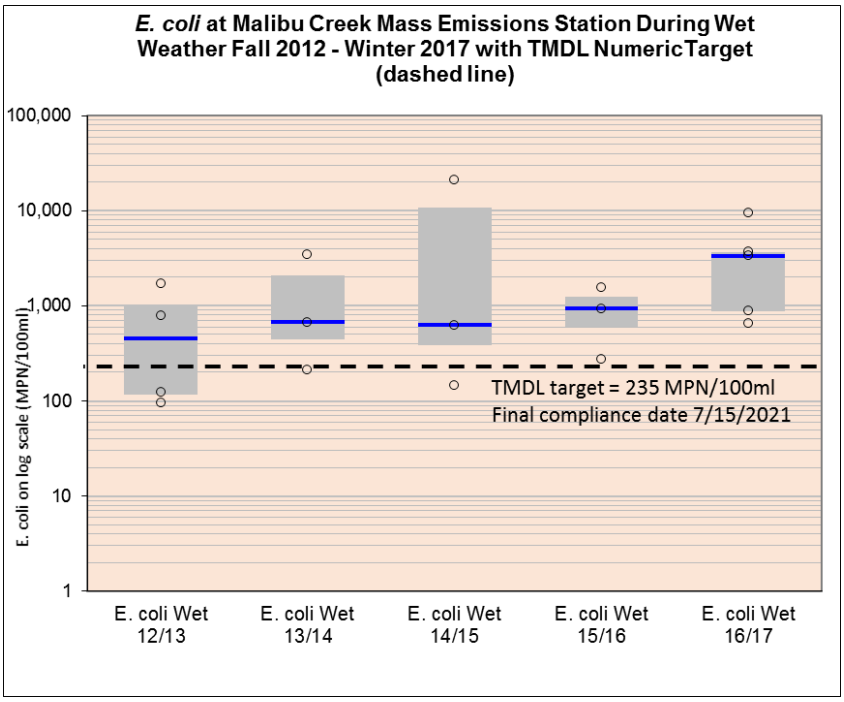
*Figure 58: Boxplots of Total Nitrogen during Summer*




## *E. coli*

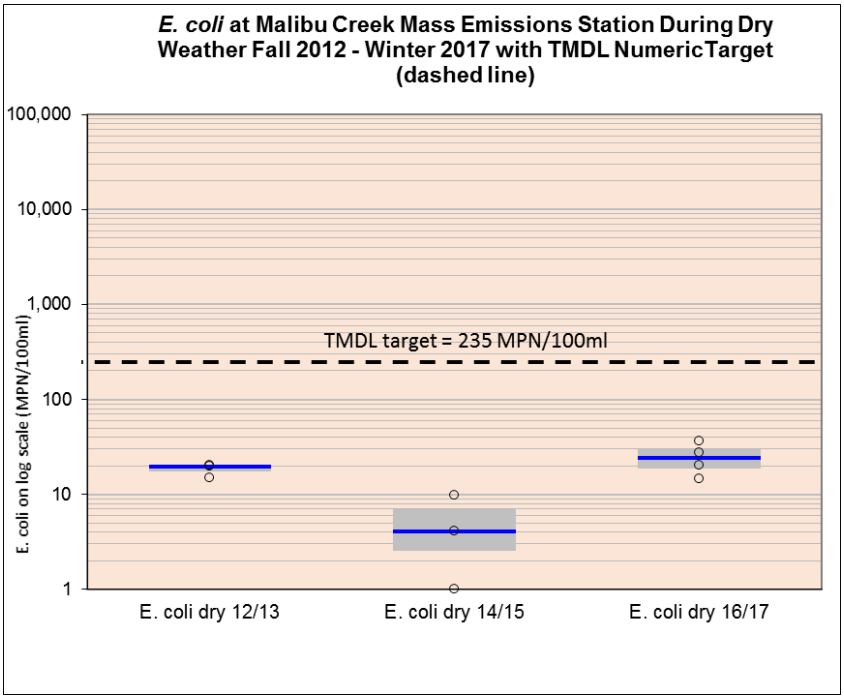
A bacteria TMDL is in place for Malibu Creek with a final compliance date in 2021. The plot below shows most datapoints during wet weather continue to be above the TMDL target with a slight increasing trend through time.

*Figure 59: Boxplots of E. coli during Wet Weather*




During dry weather the plot below shows all the datapoints are below the TMDL target.

*Figure 60: Boxplots of E. coli during Dry Weather*



## Ballona Creek


The Ballona Creek Watershed is intensely urbanized with a small amount of open space in the of the Santa Monica Mountains draining to the creek. Ballona Creek is completely channelized except for the estuarine portion which has a soft bottom. While at one time it drained into a large wetlands complex, it now has no direct connection to the few wetlands remaining in the area except through tide gates.

### *Total Copper, Total Lead, and Total Zinc*

There are wet weather TMDL targets in place for total copper, zinc, and lead with a final compliance date in 2021. As shown in the boxplots below, total copper and zinc have exceeded the targets through time and with little change. Total lead concentrations are sometimes above and sometimes below the target with little change through time.

*Figure 61: Boxplots of Total Copper during Wet Weather*

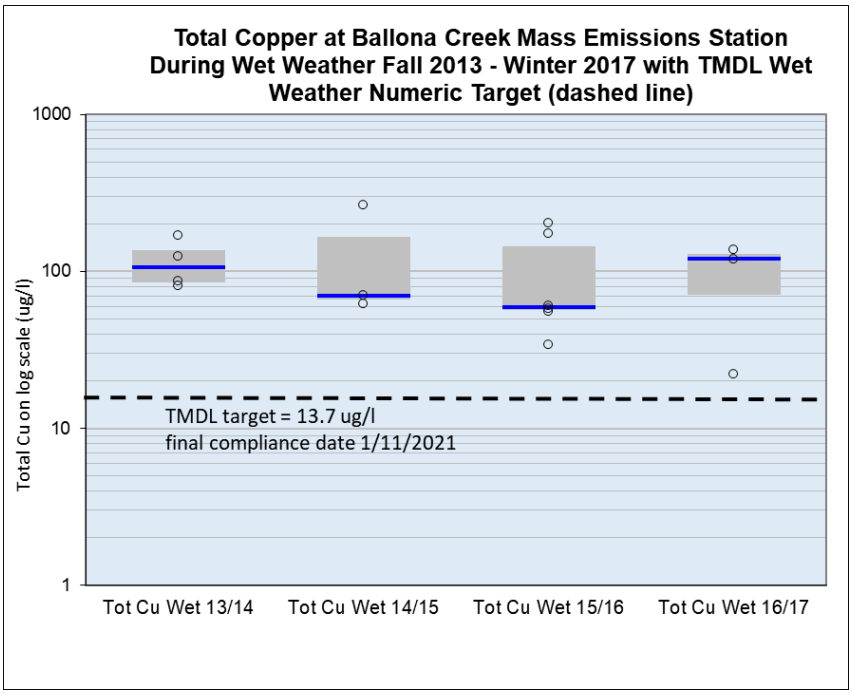


*Figure 62: Boxplots of Total Zinc during Wet Weather*

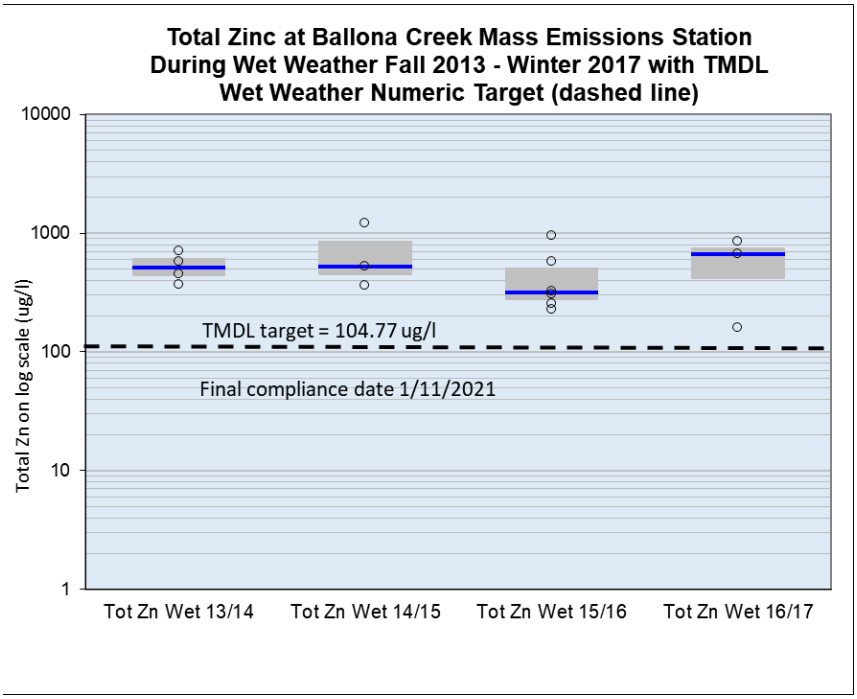
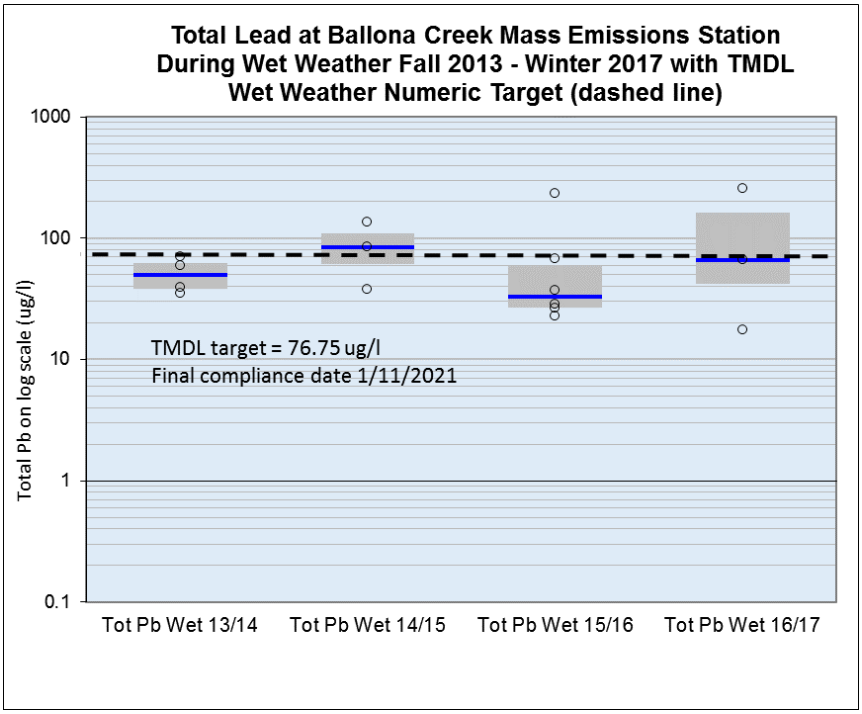



*Figure 63: Boxplots of Total Lead during Wet Weather*



There are dry weather TMDL targets in place for total copper, zinc, and lead with a 2016 compliance date. As shown in the boxplots below, total copper, zinc, and lead have exceeded the targets on single occasions recently while being below the targets in earlier years.

*Figure 64: Boxplots of Total Copper during Dry Weather*

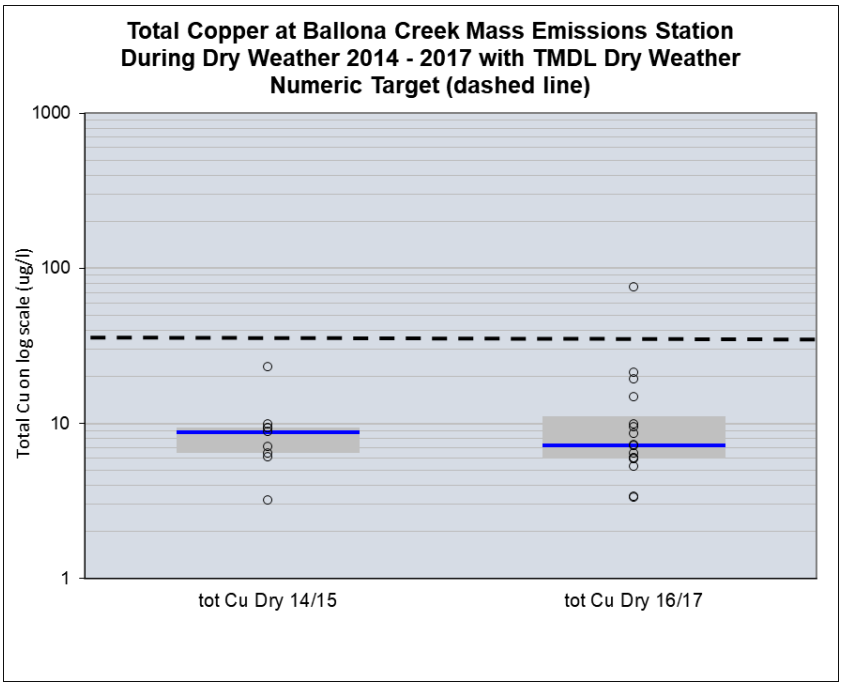



*Figure 65: Boxplots of Total Zinc during Dry Weather*

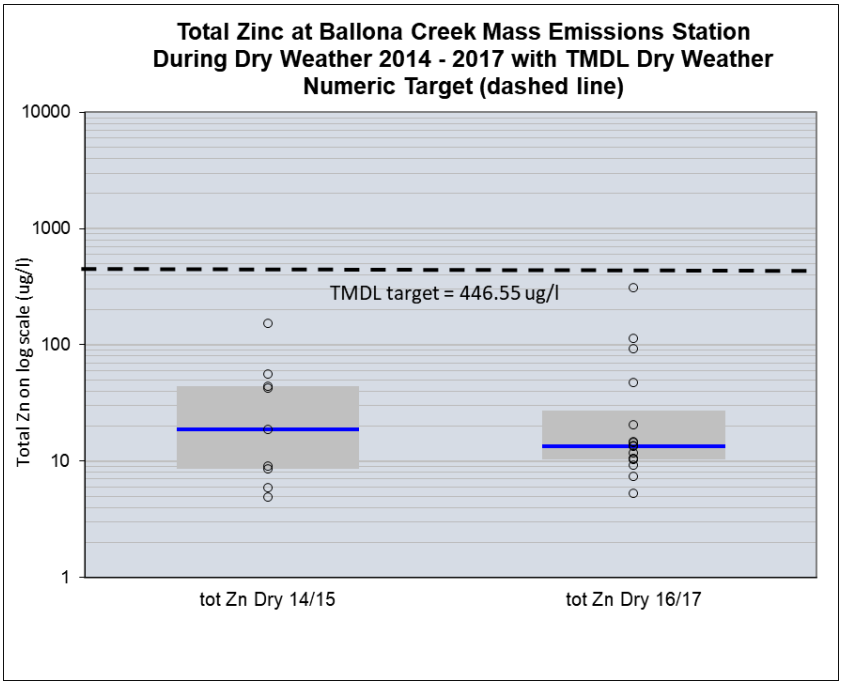
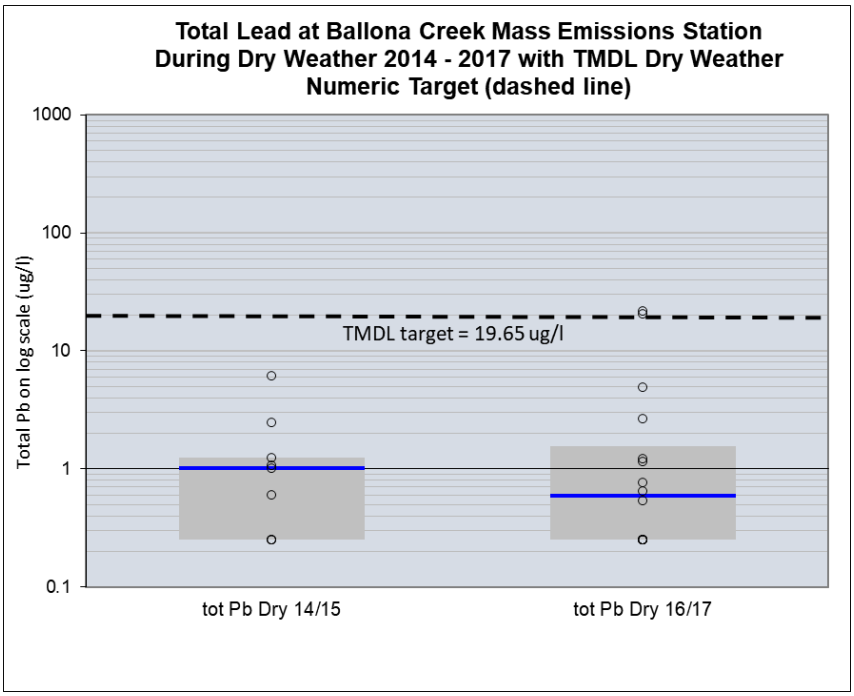


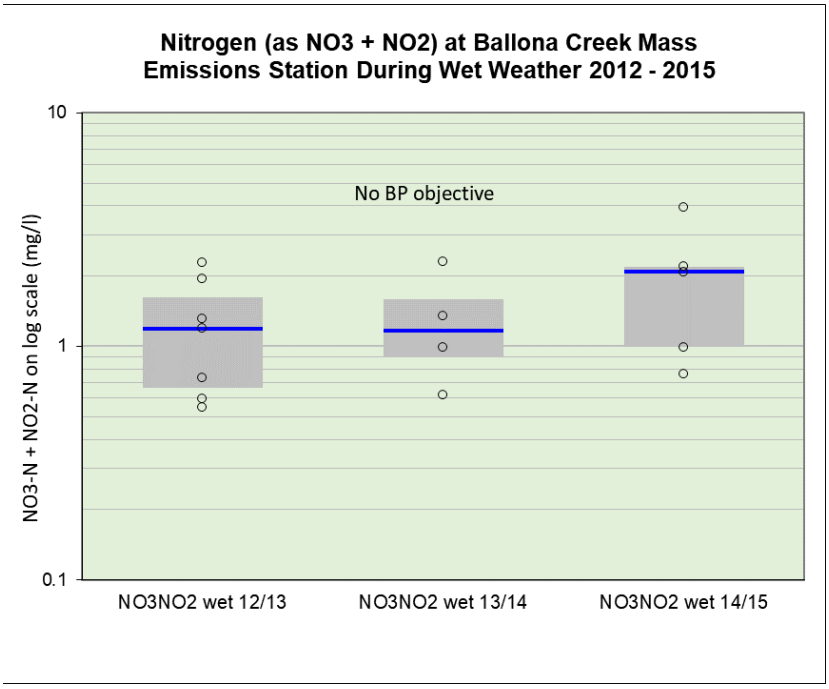
*Figure 66: Boxplots of Total Lead during Dry Weather*




## *Nutrients (Total Nitrogen)*

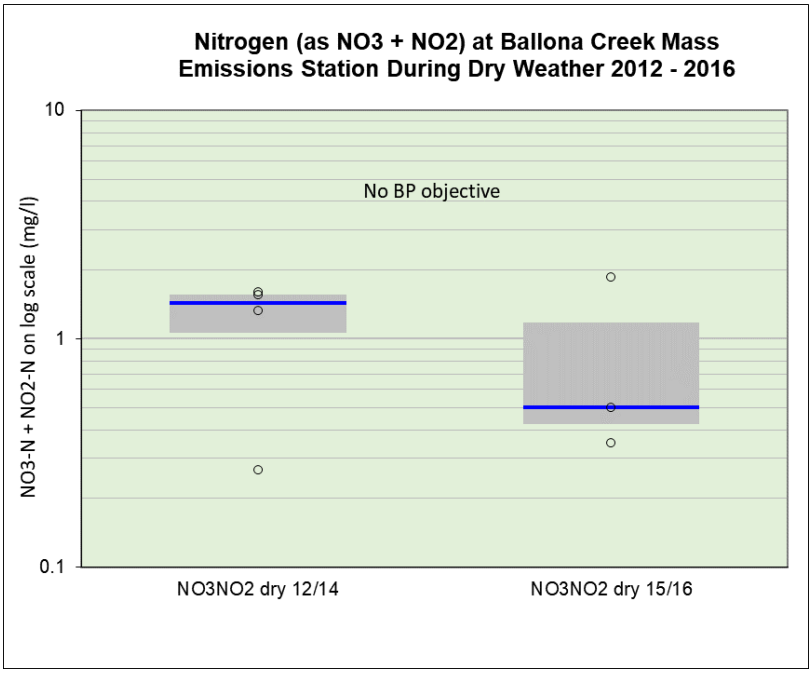
There is no Basin Plan objective for nutrients in Ballona Creek. However, the plot below shows a slight increasing trend through time of nitrogen (NO3-N + NO2-N) in the creek during wet weather.

*Figure 67: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*



The relatively few dry weather datapoints for nitrogen (NO3-N + NO2-N) are plotted below and show a slight decreasing trend through time.

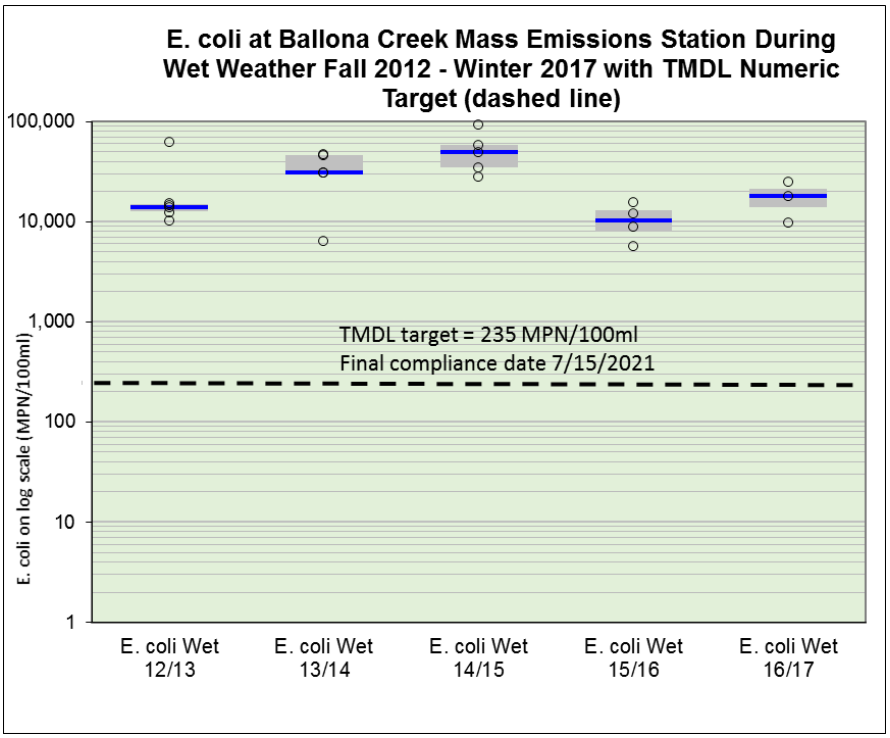
*Figure 68: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Dry Weather*




## *E. coli*

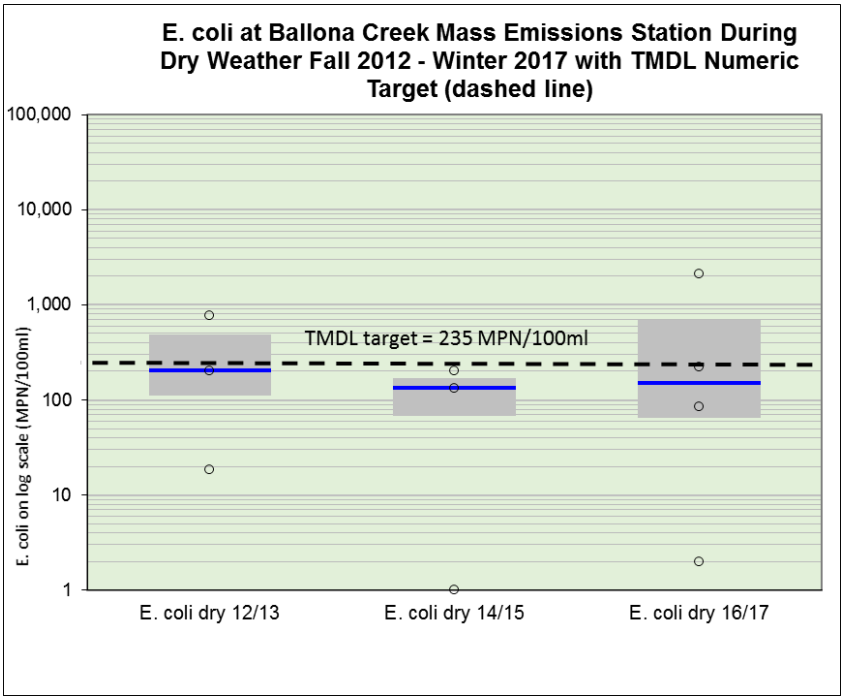
A bacteria TMDL is in place for Ballona Creek with a final compliance date in 2021. The plot below shows all datapoints are over the TMDL target during wet weather with little change through time.

*Figure 69: Boxplots of E. coli during Wet Weather*



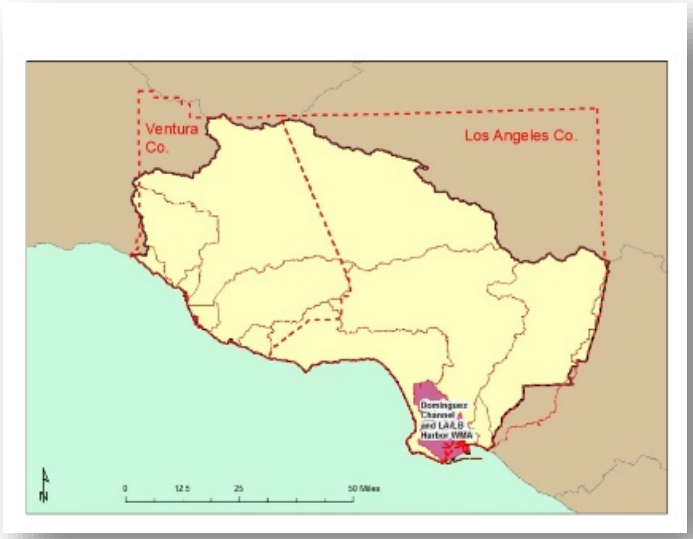

About half of the datapoints are over the TMDL target during dry weather with little change through time.

*Figure 70: Boxplots of E. coli during Dry Weather*



## Dominguez Channel

The Dominguez Channel drains a small, completely urbanized area of southern Los Angeles County to the Los Angeles Harbor. Industrial and high-density residential land uses predominate. The freshwater portion of the channel is completely channelized while the estuarine portion, which receives tidal exchange with the harbor, has an unlined bottom. The former Montrose property where DDT was manufactured decades ago is in the watershed.




### *Total Copper, Total Lead, and Total Zinc*

There are wet weather TMDL targets in place for total copper, zinc, and lead with a final compliance date in 2032. As shown in the boxplots below, total copper and zinc have exceeded the targets through time but show a slight improvement in recent years. Total lead concentrations are mostly below, but sometimes above, the target with no obvious trend through time.

*Figure 71: Boxplots of Total Copper during Wet Weather*

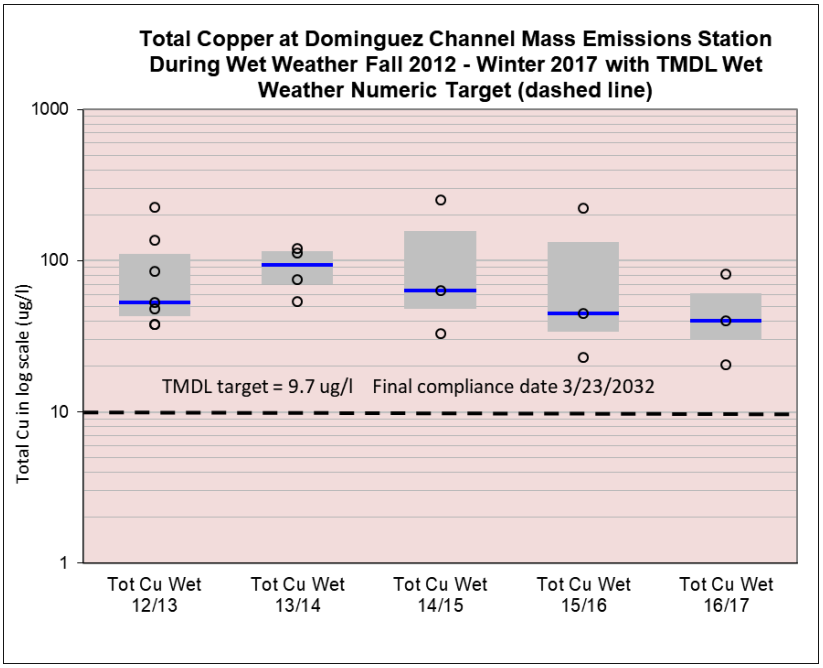


*Figure 72: Boxplots of Total Zinc during Wet Weather*

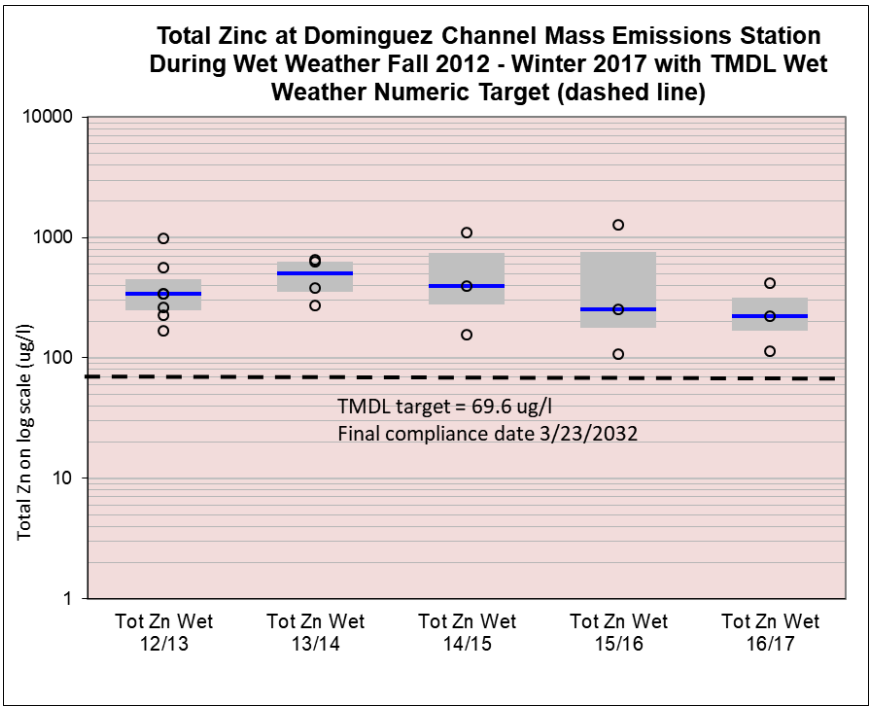
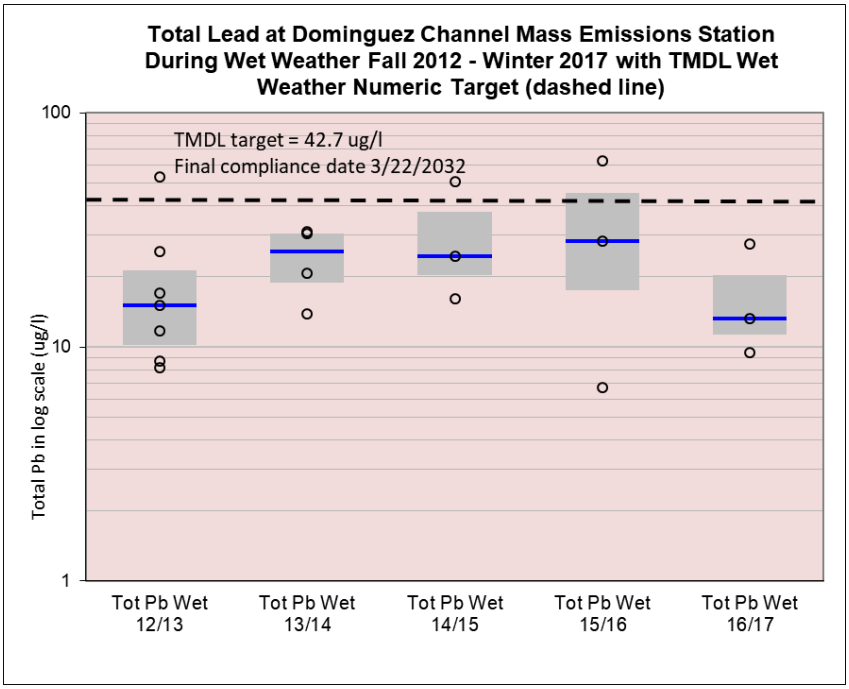



*Figure 73: Boxplots of Total Lead during Wet Weather*




There are no dry weather TMDL targets in place for total copper, zinc, and lead, so concentrations are compared against hardness-adjusted CTR chronic criteria. The boxplots below show that the results at the mass emissions station are mostly below the CTR chronic criteria during dry weather with a general decreasing trend for zinc and lead.

*Figure 74: Boxplots of Total Copper during Dry Weather*

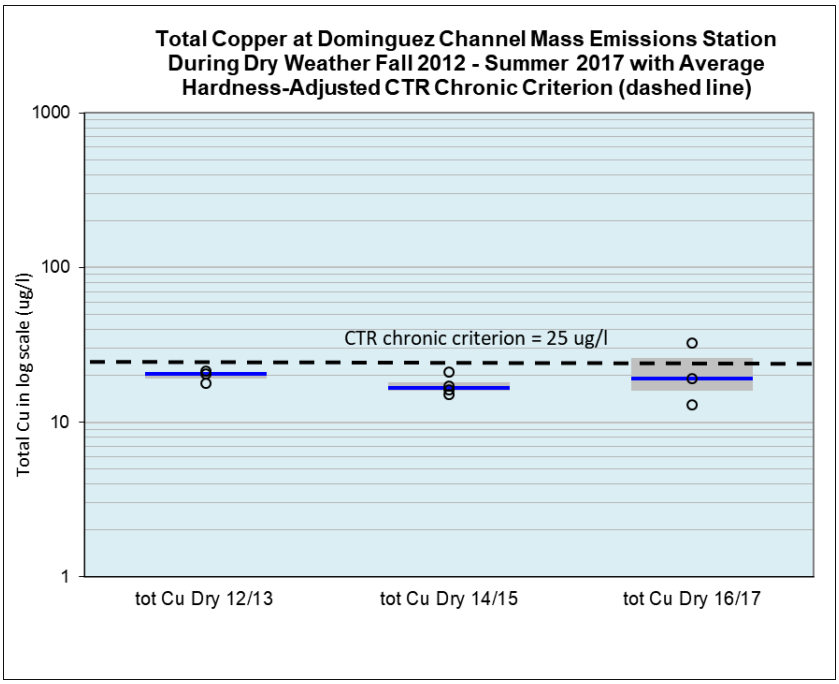



*Figure 75: Boxplots of Total Zinc during Dry Weather*

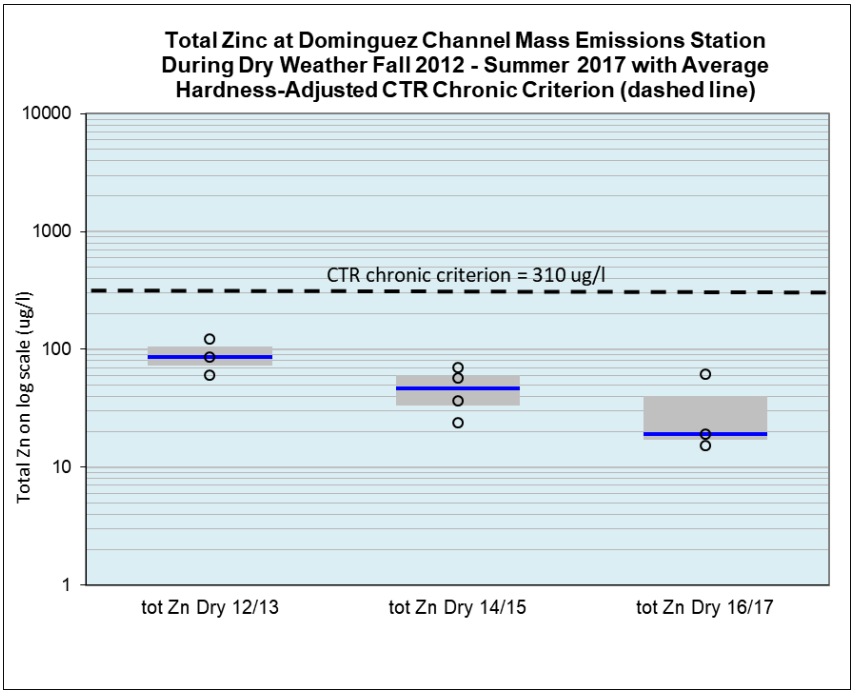
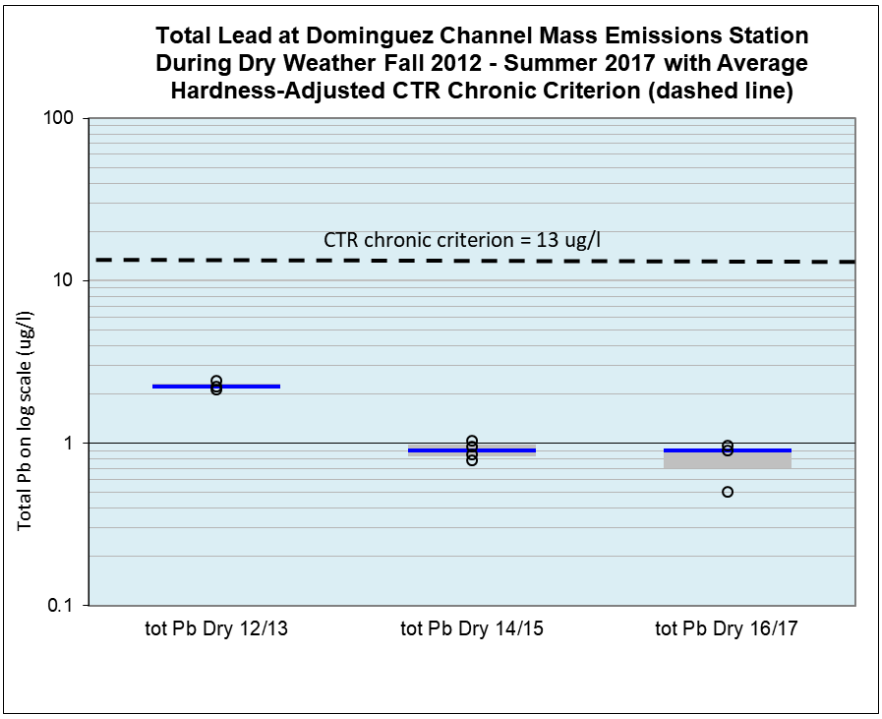


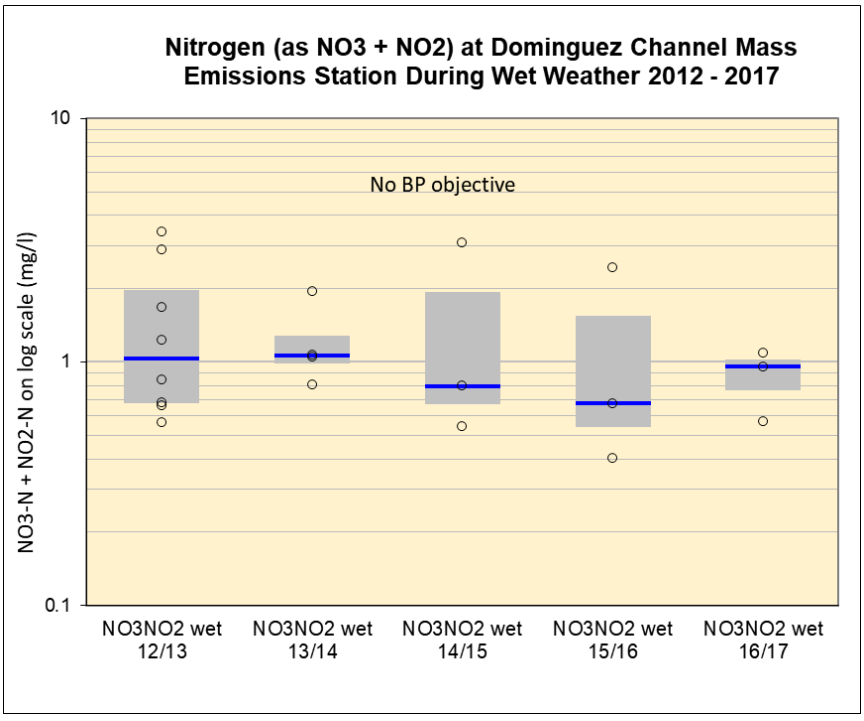
*Figure 76: Boxplots of Total Lead during Dry Weather*




## *Nutrients (Total Nitrogen)*

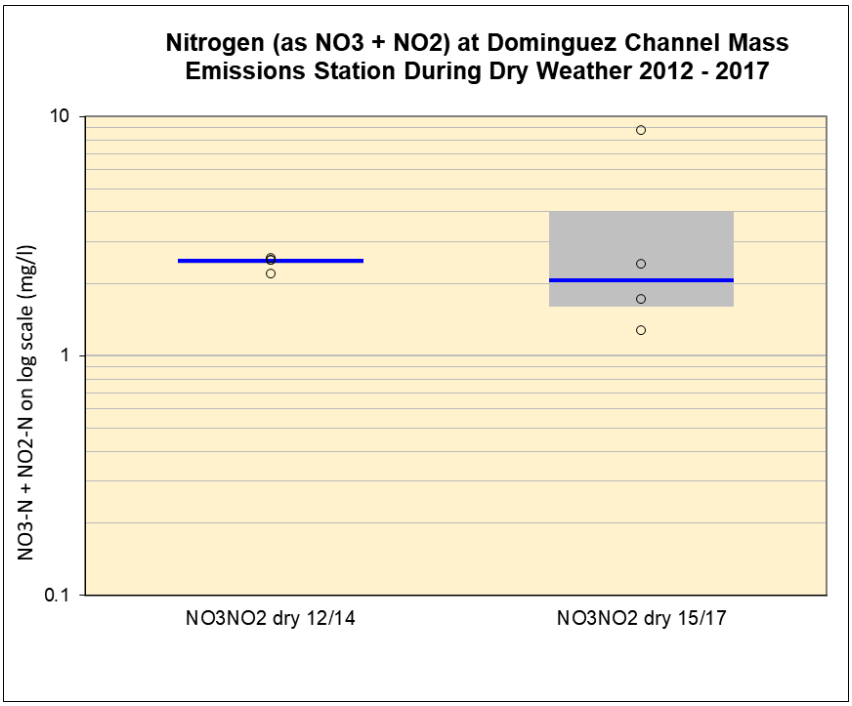
There is no Basin Plan objective for nutrients in Dominguez Channel. However, the plot below shows a slight decreasing trend through time of nitrogen (NO3-N + NO2-N) in the channel during wet weather.

*Figure 77: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*



The relatively few dry weather datapoints for nitrogen (NO3-N + NO2-N) are plotted below and show no trend through time other than increasing variability.

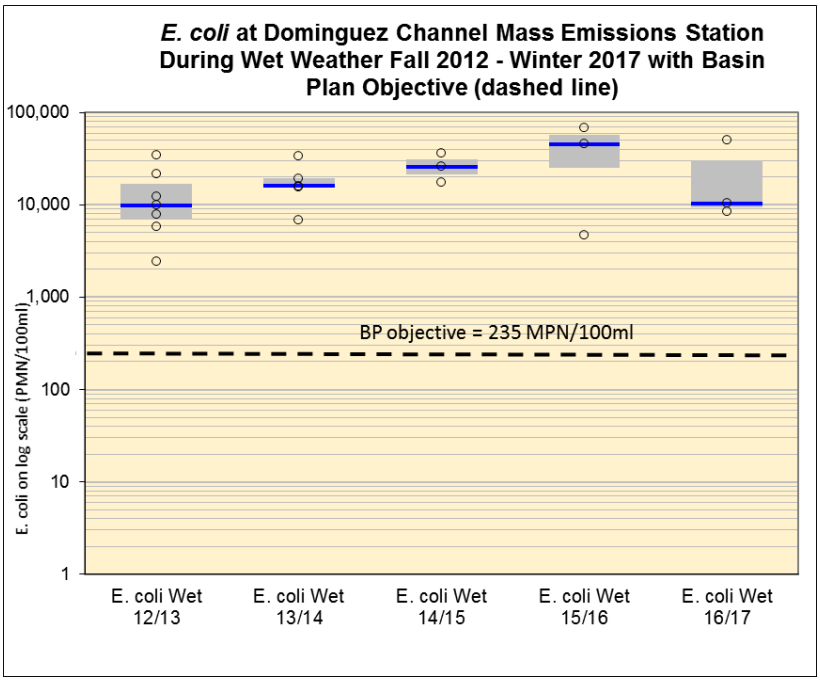
*Figure 78: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Dry Weather*




*E. coli*

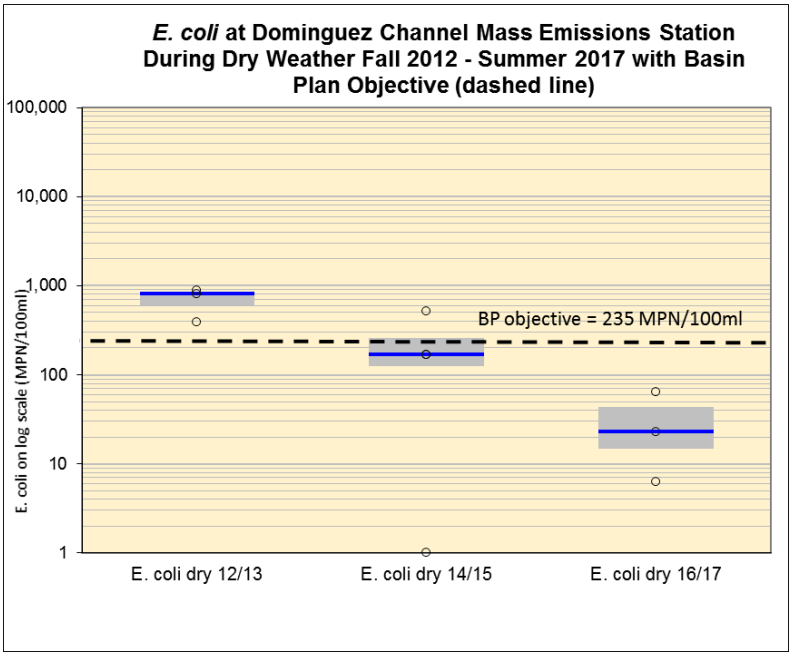
There is no bacteria TMDL for Dominguez Channel, so wet weather results are compared to the Basin Plan objective in the plot below. All datapoints are over the Basin Plan objective with little change through time.

*Figure 79: Boxplots of E. coli during Wet Weather*



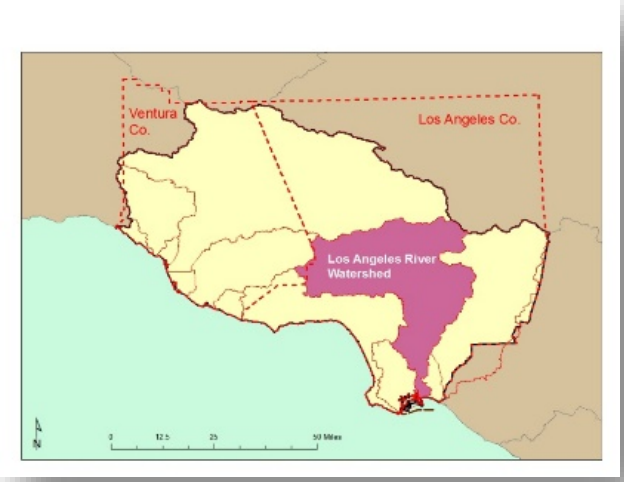

Dry weather results are presented in the plot below. While datapoints from earlier years exceeded the Basin Plan objective, there has been considerable improvement through time with recent datapoints being below the objective.

*Figure 80: Boxplots of E. coli during Dry Weather*



## Los Angeles River

The Los Angeles River Watershed is one of the largest in the Region at 824 square miles; the river is 55 miles long. It is also one of the most diverse in terms of land use patterns. Approximately 324 square miles of the watershed are covered by forest or open space land including the area near the headwaters which originate in the Santa Monica, Santa Susana, and San Gabriel Mountains. The rest of the watershed is highly developed.




### *Total Copper, Total Lead, and Total Zinc*

There are wet weather TMDL targets in place for total copper, zinc, and lead with a final compliance date in 2028. As shown in the boxplots below, total copper and zinc have exceeded the targets through time, but concentrations have been decreasing in recent years. Total lead concentrations have been mostly below the target with no obvious trend through time.

*Figure 81: Boxplots of Total Copper during Wet Weather*

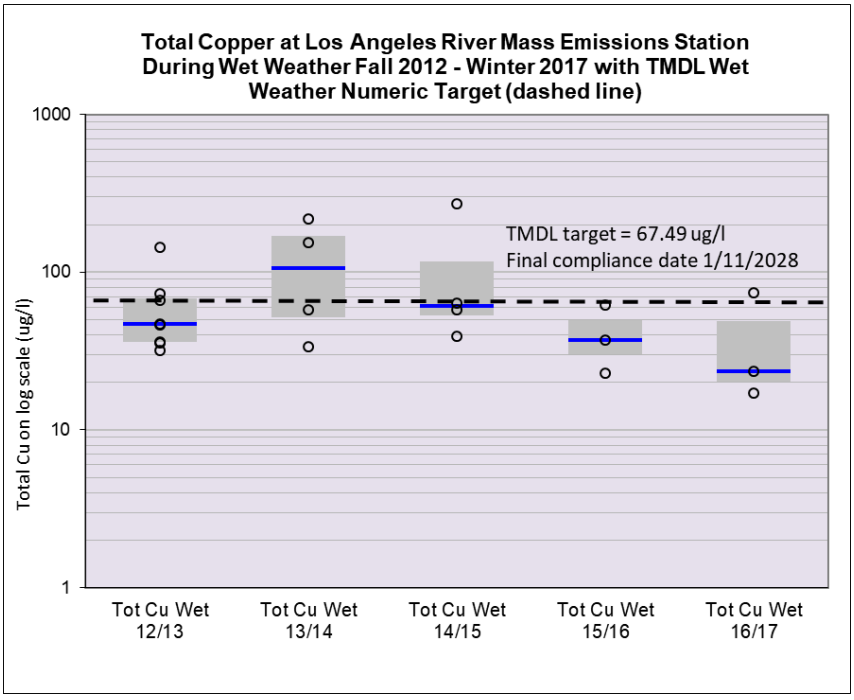


*Figure 82: Boxplots of Total Zinc during Wet Weather*

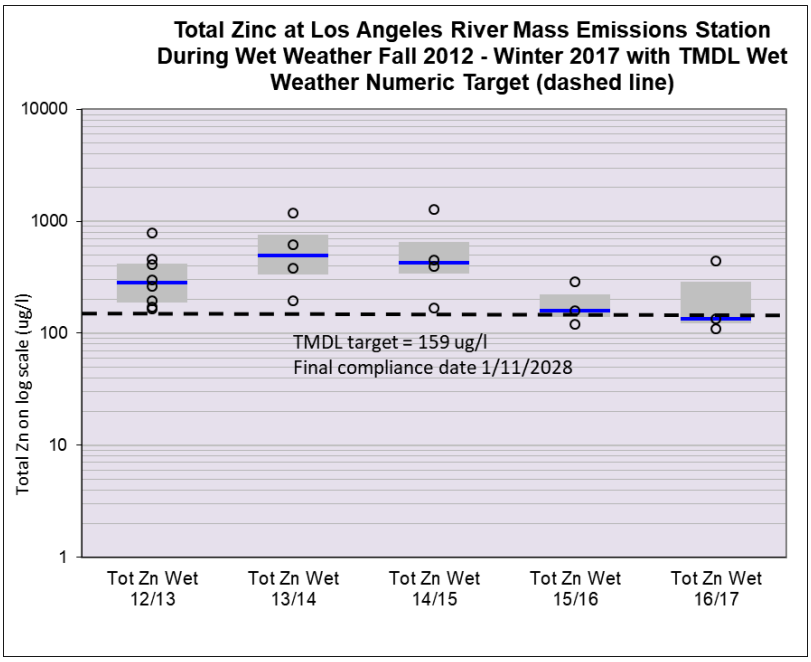
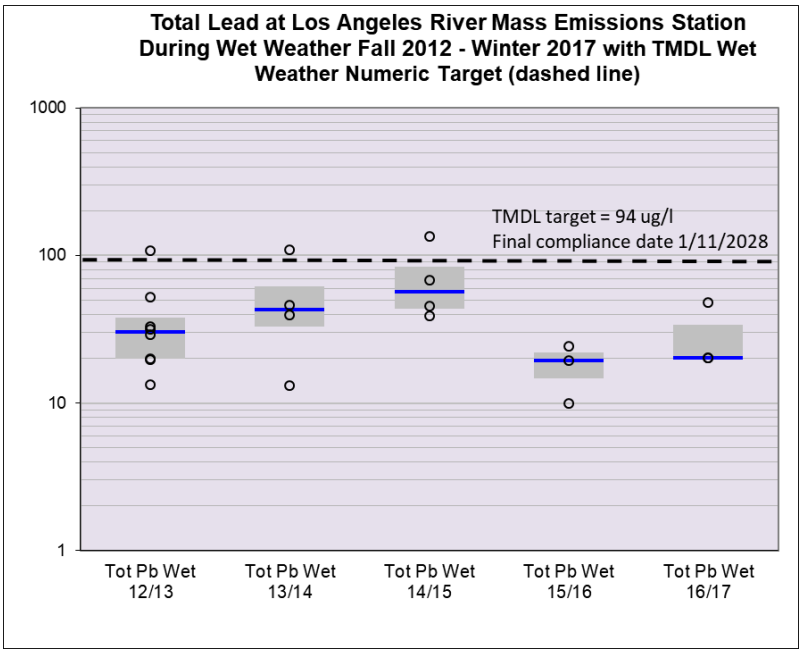



*Figure 83: Boxplots of Total Lead during Wet Weather*




There are dry weather TMDL targets in place for total copper and lead but not for zinc; concentrations of the latter are compared against the hardness-adjusted CTR chronic criterion. As shown in the boxplots below, the metals are below their respective targets or criterion and show a gradual decrease through time.

*Figure 84: Boxplots of Total Copper during Dry Weather*

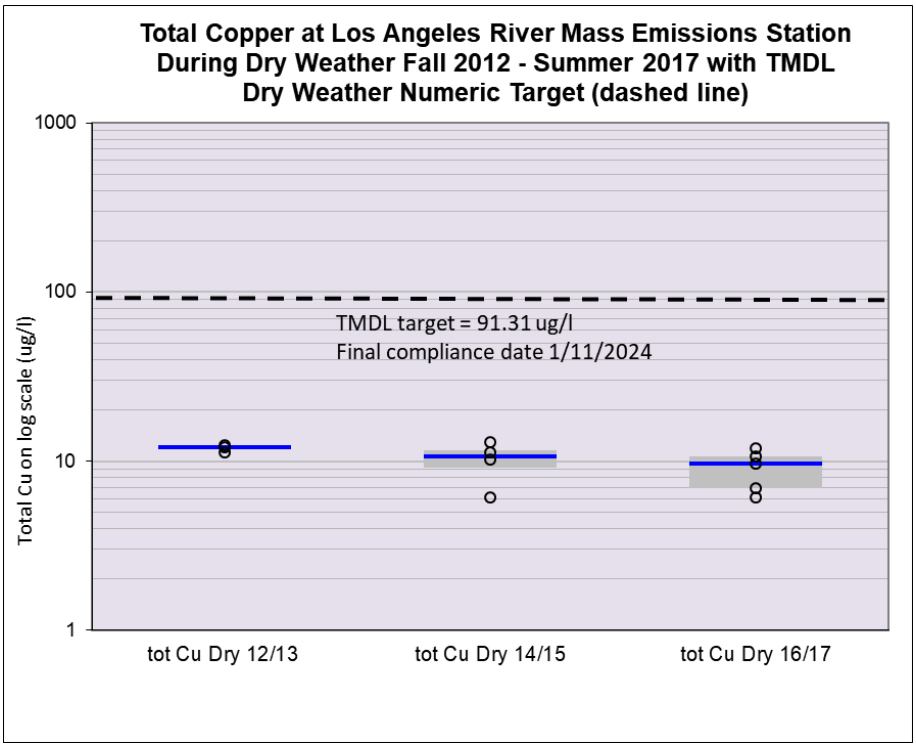



*Figure 85: Boxplots of Total Zinc during Dry Weather*

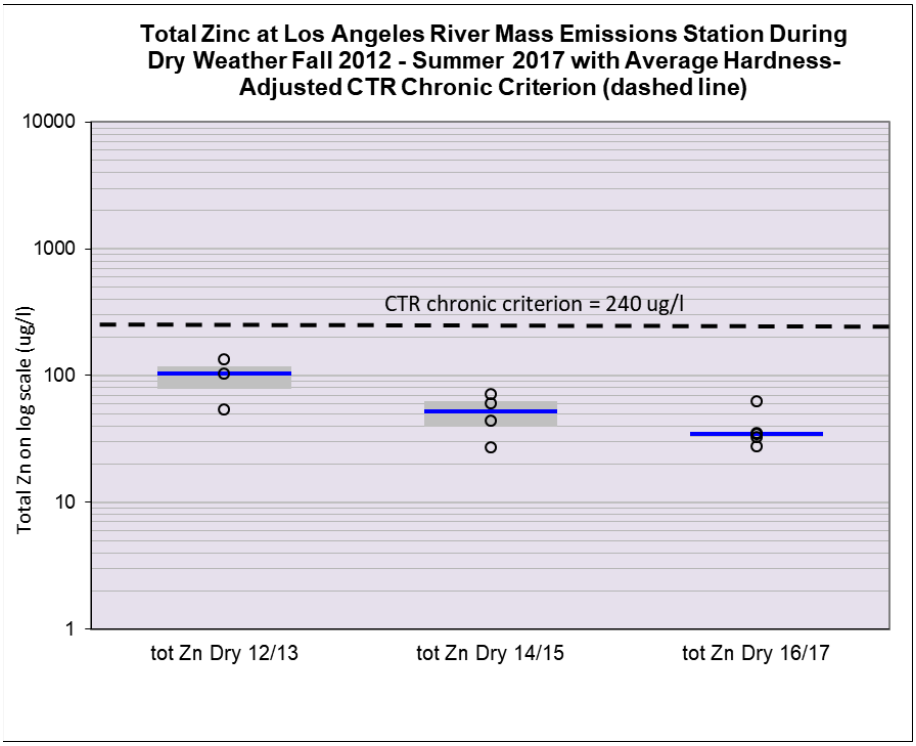
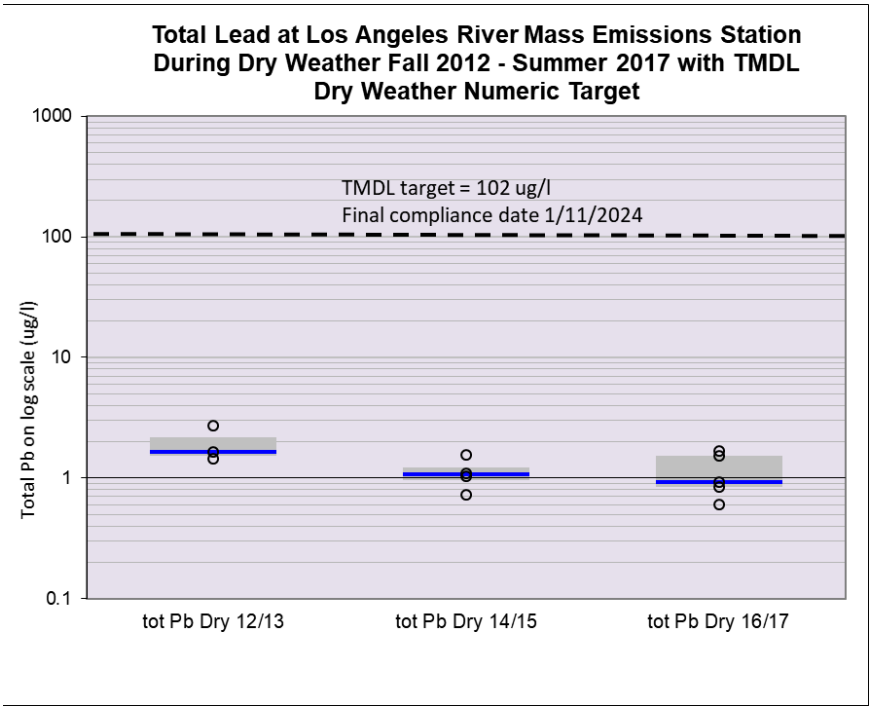


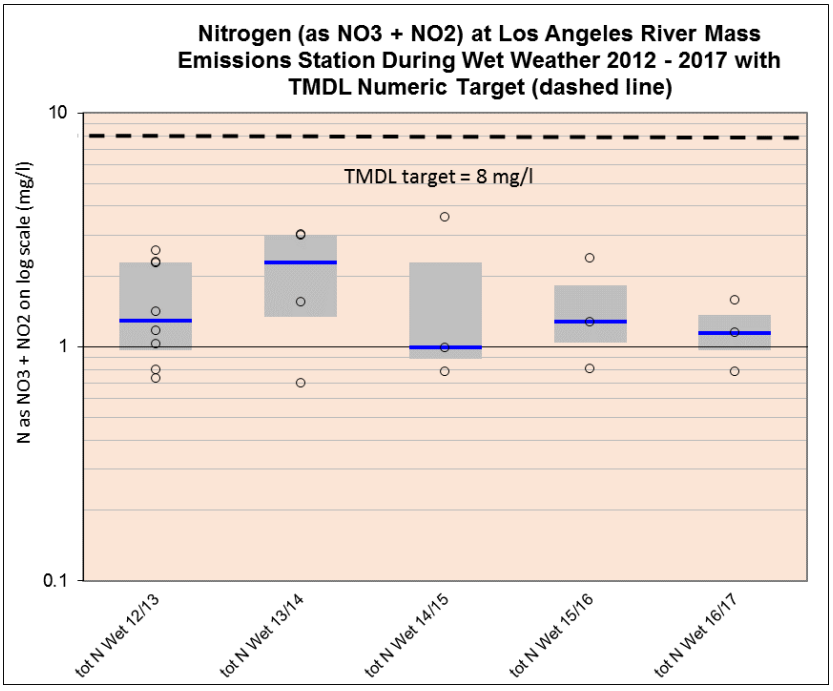
*Figure 86: Boxplots of Total Lead during Dry Weather*




## *Nutrients (Total Nitrogen)*

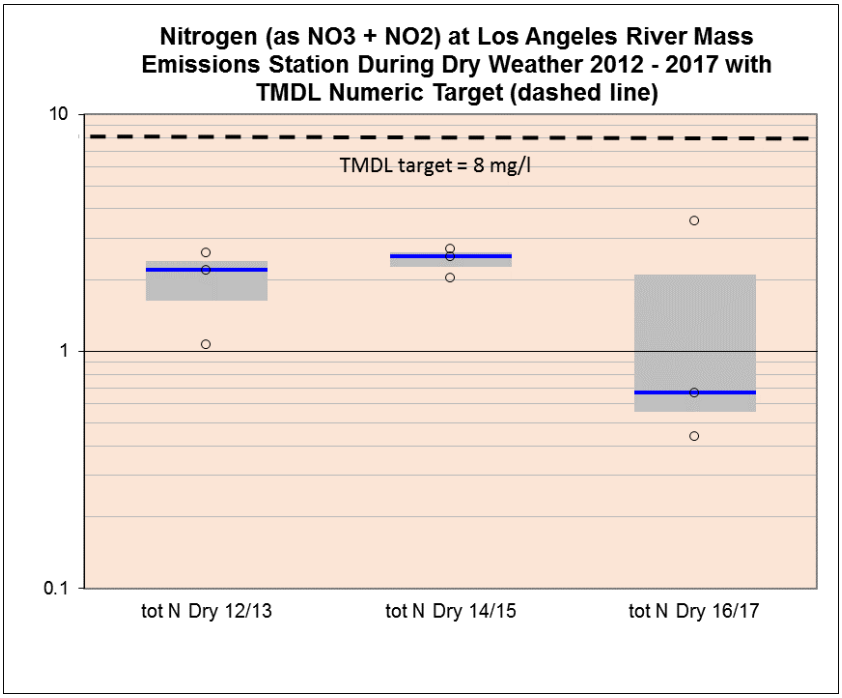
A nitrogen TMDL exists for the Los Angeles River and the results shown below are plotted with the TMDL target. All the wet weather results are below the target with a slight decreasing trend through time.

*Figure 87: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*



All the dry weather results are below the target with a slight decreasing trend through time.

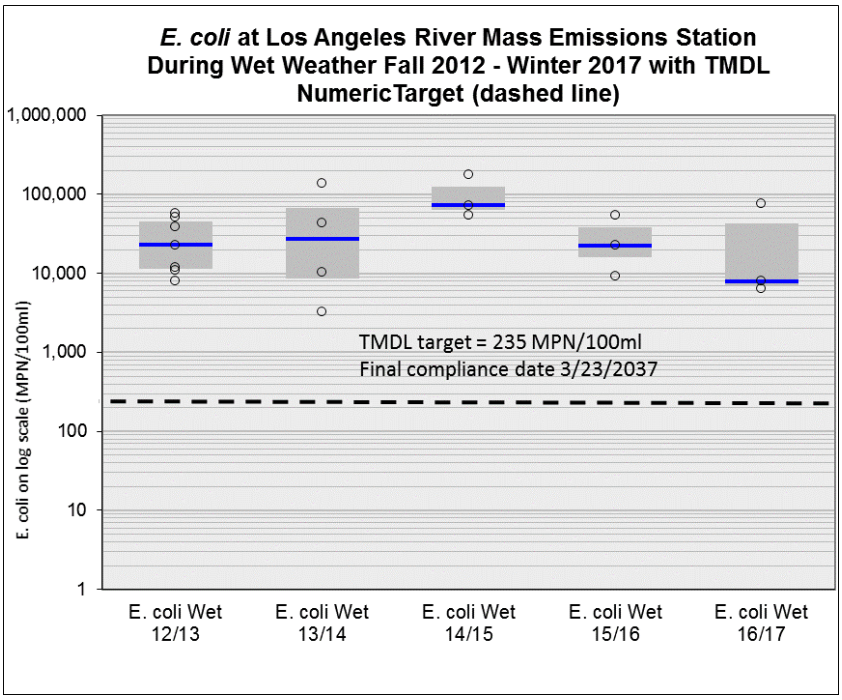
*Figure 88: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Dry Weather*




## *E. coli*

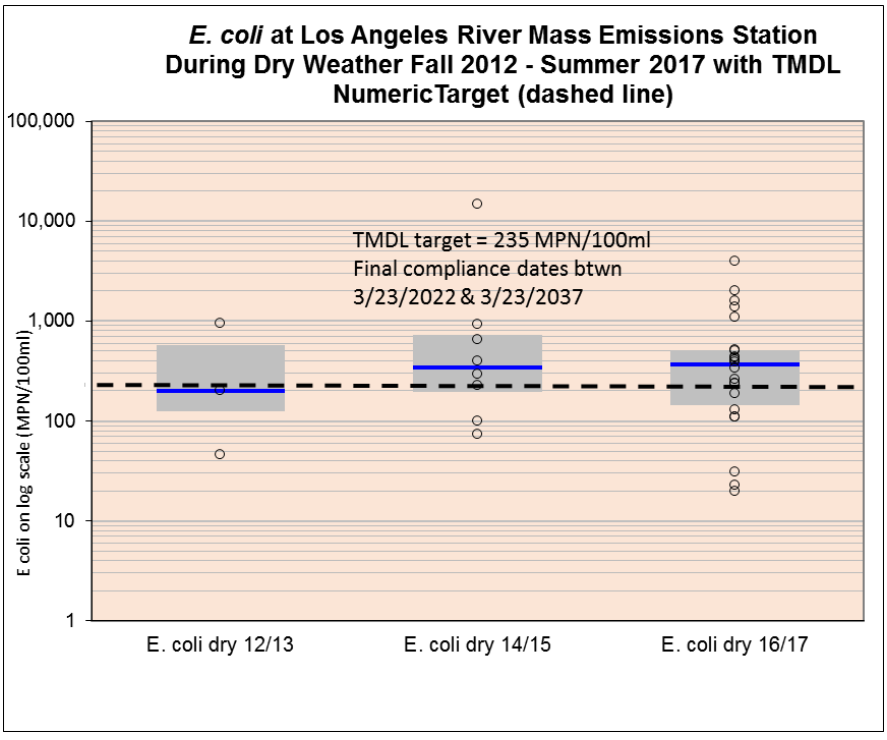
A bacteria TMDL is in place for the Los Angeles River with a final compliance date in 2037. All wet weather sampling results are over the TMDL target with little change through time.

*Figure 89: Boxplots of E. coli during Wet Weather*




About half of the dry weather sampling results are over the TMDL target though it appears there may be a slight decreasing trend when comparing the interquartile ranges from 14/15 to 16/17.

*Figure 90 Boxplots of E. coli during Dry Weather*



## San Gabriel River

The three forks of the San Gabriel River originate in the San Gabriel Mountains within the Angeles National Forest of Los Angeles County before joining into the mainstem that eventually descends to the San Gabriel Valley and thence south to the ocean. The river is highly managed through a series of dams and reservoirs; during much of the year, water is diverted from the river to spreading grounds to recharge groundwater basins. The upper watershed in the San Gabriel Mountains is predominately open space while once it reaches the lower elevations below it passes through the intensely urbanized Los Angeles Basin.


### *Total Copper, Total Lead, and Total Zinc*

The USEPA metals TMDL for the San Gabriel River includes a wet weather target for total lead in Reach 2; total copper and zinc are compared against average hardness-adjusted CTR acute criteria. The boxplots below show that the results for total copper and zinc at the mass emissions station are decreasing through time with more recent results below the CTR acute criteria during wet weather while earlier results were at times above the criteria. Total lead results remain below the TMDL target with no clear trend through time.

*Figure 91: Boxplots of Total Copper during Wet Weather*

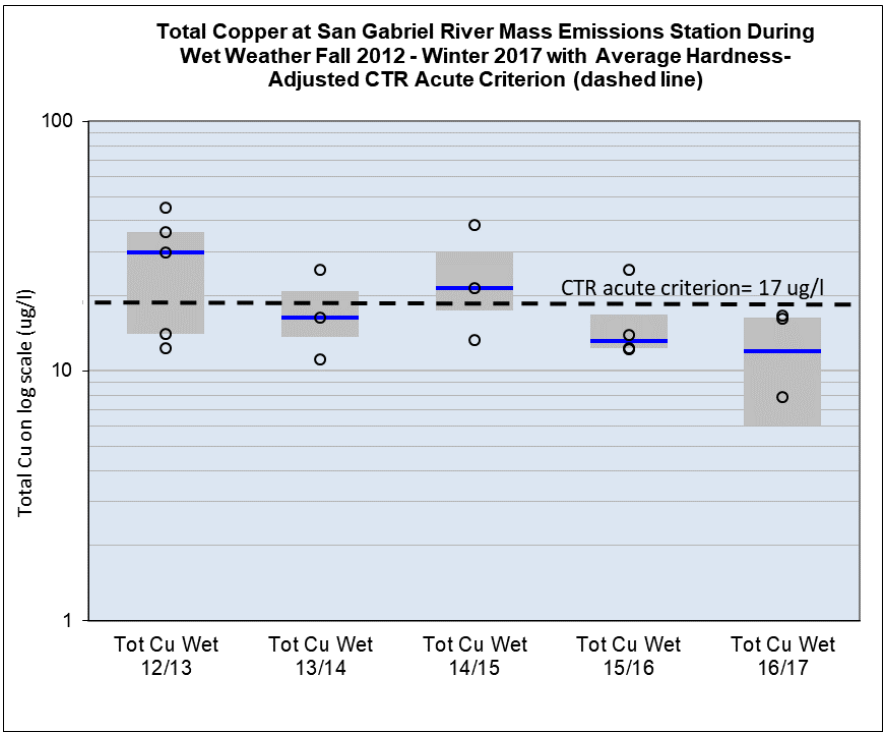



*Figure 92: Boxplots of Total Zinc during Wet Weather*

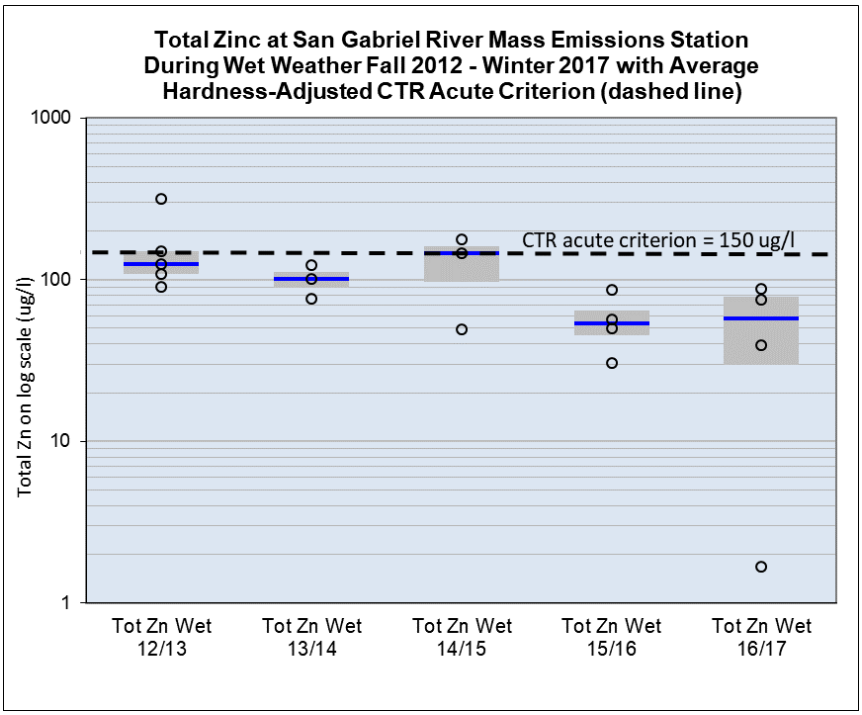
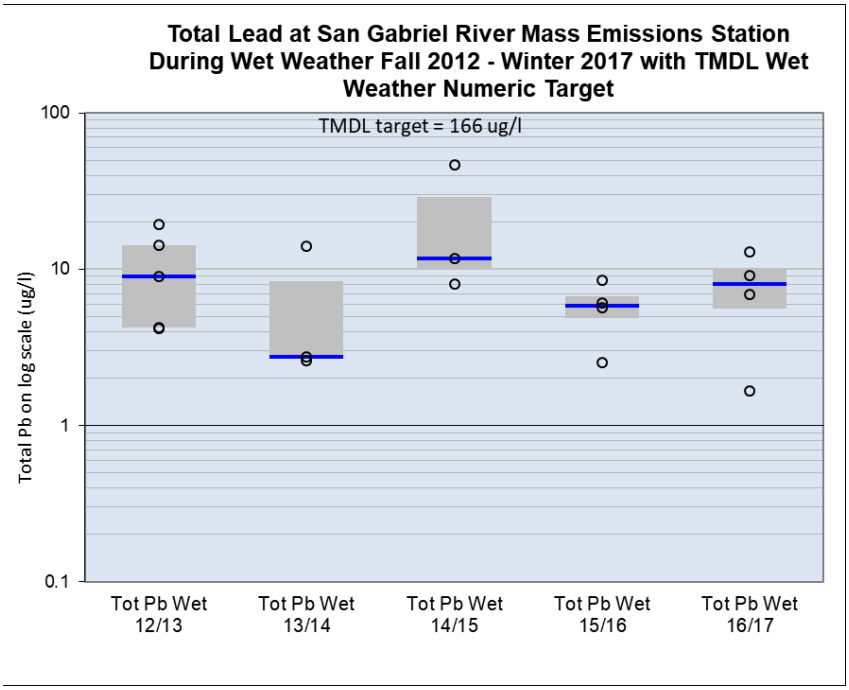


*Figure 93: Boxplots of Total Lead during Wet Weather*




The USEPA metals TMDL for the San Gabriel River does not include dry weather targets for copper, zinc, and lead in Reach 2 so the concentrations are compared against hardness-adjusted CTR chronic criteria. There were very few datapoints available, but the results shown in the boxplots below are all well below the chronic criteria.

*Figure 94: Boxplots of Total Copper during Dry Weather*

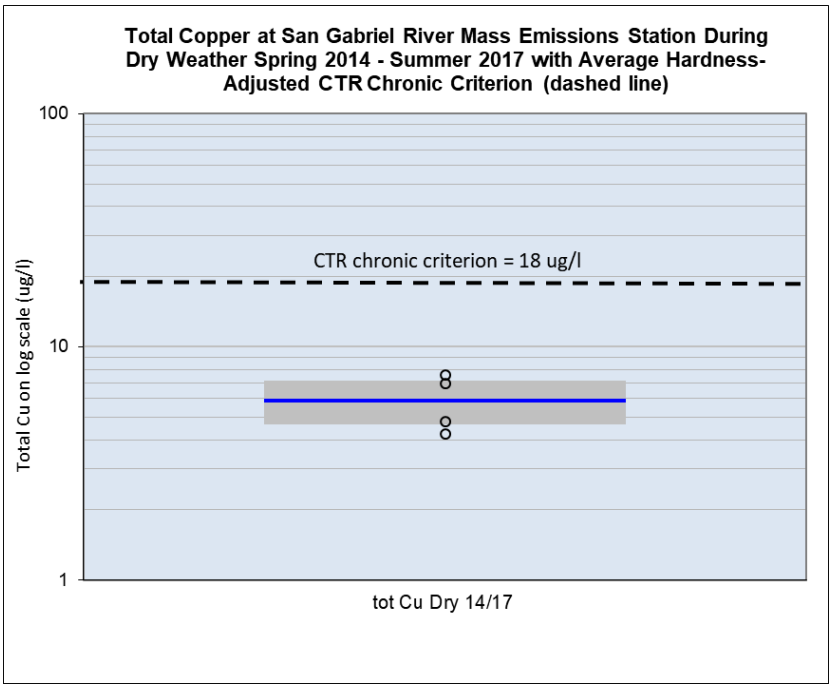



*Figure 95: Boxplots of Total Zinc during Dry Weather*

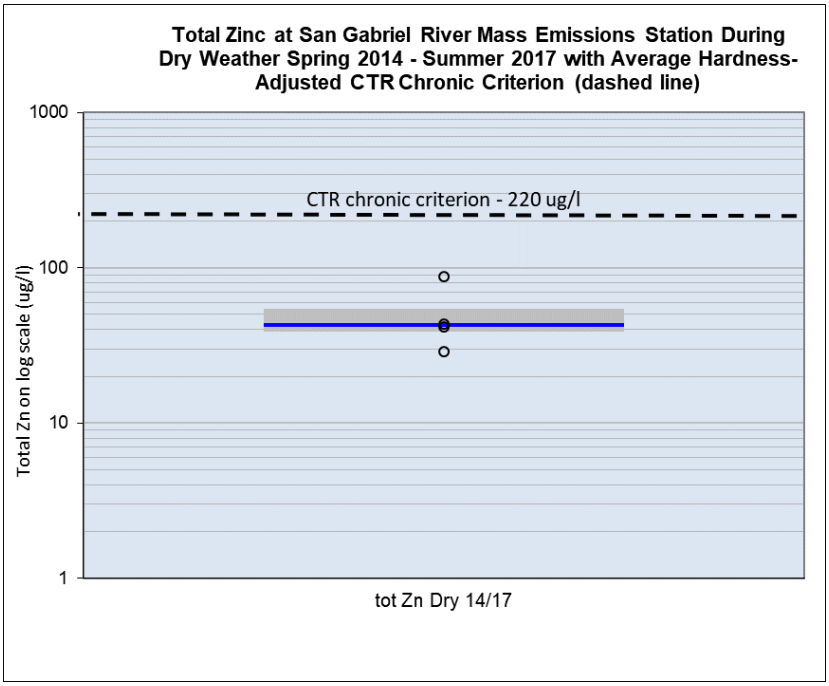
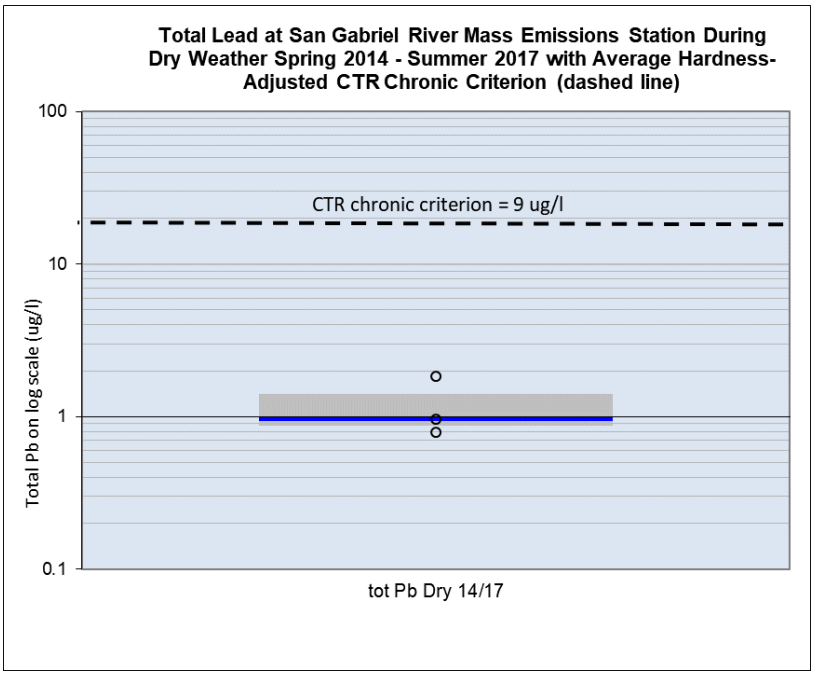


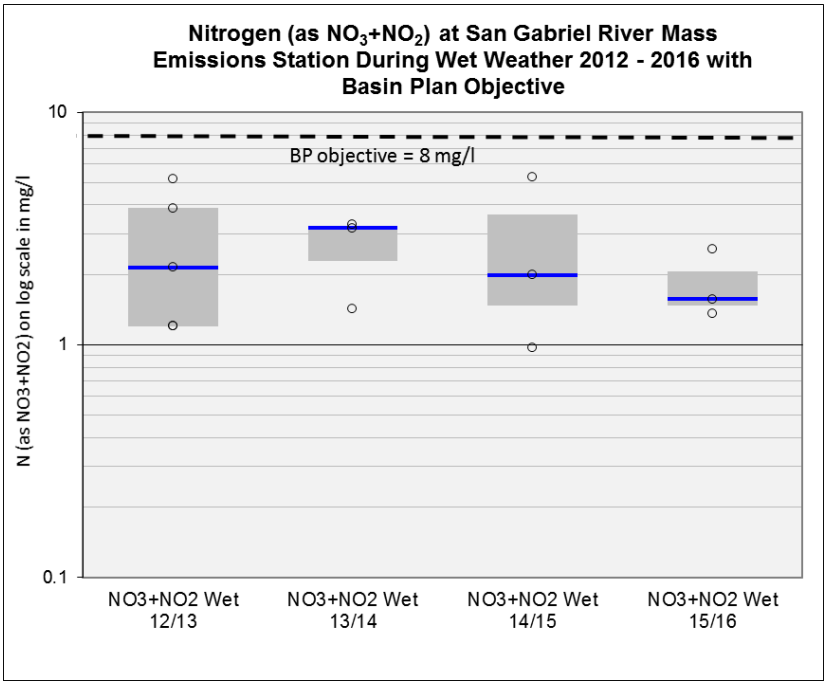
*Figure 96: Boxplots of Total Lead during Dry Weather*




## *Nutrients (Total Nitrogen)*

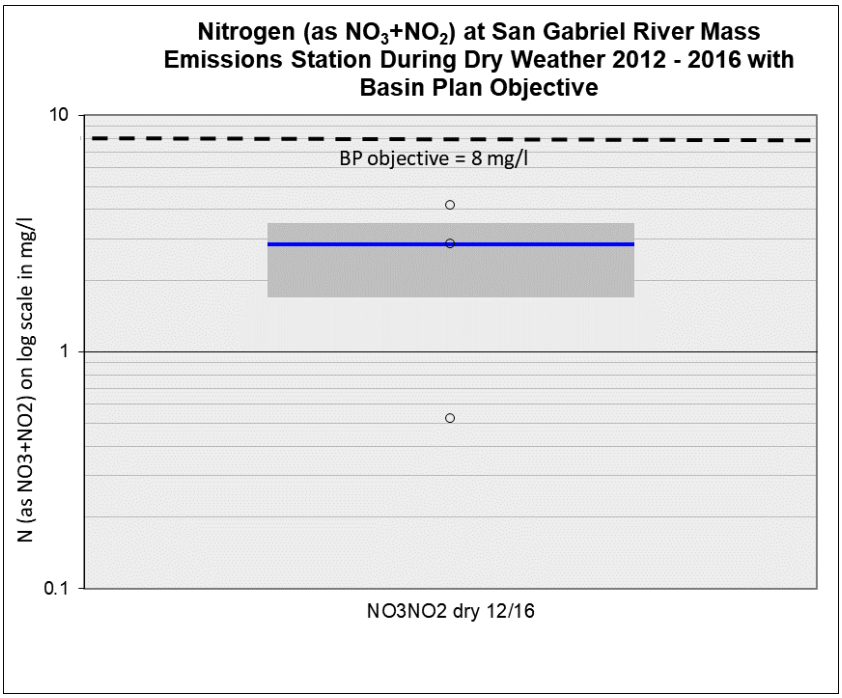
Wet weather nitrogen results in the San Gabriel River are below the Basin Plan objective as shown below and show a slight decreasing trend through time.

*Figure 97: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*



The San Gabriel River has a Basin Plan objective for nitrogen against which dry weather datapoints are compared in the plot below. Dry weather results are scarce, but all were below the Basin Plan objective.

*Figure 98: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Dry Weather*

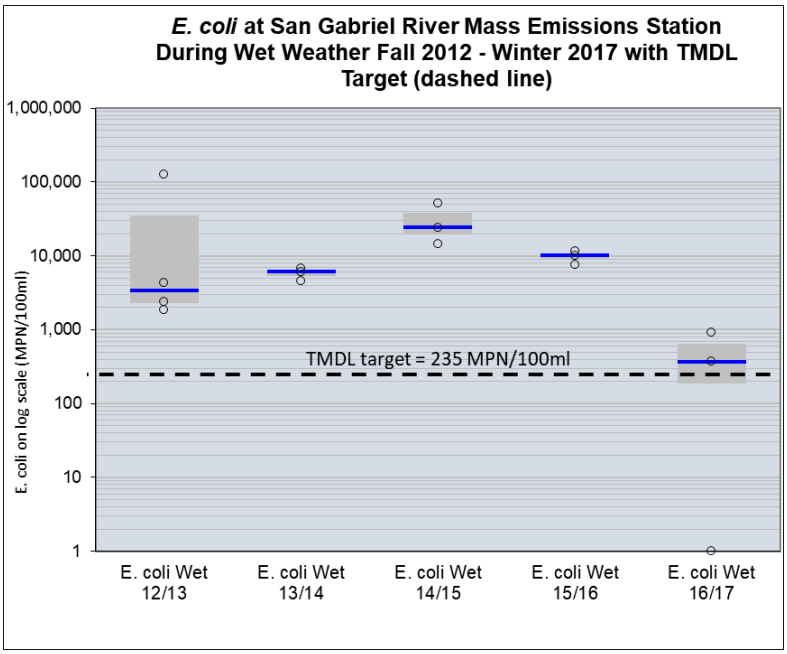



## *E. coli*

A bacteria TMDL is in place for the San Gabriel River with final compliance dates of June 14, 2026, for the dry weather target, and June 14, 2036, for the wet weather target. While the TMDL has not yet been formally incorporated into the MS4 permit, the TMDL target for E. coli is the same as the Basin Plan objective for E. coli (at the time of writing).

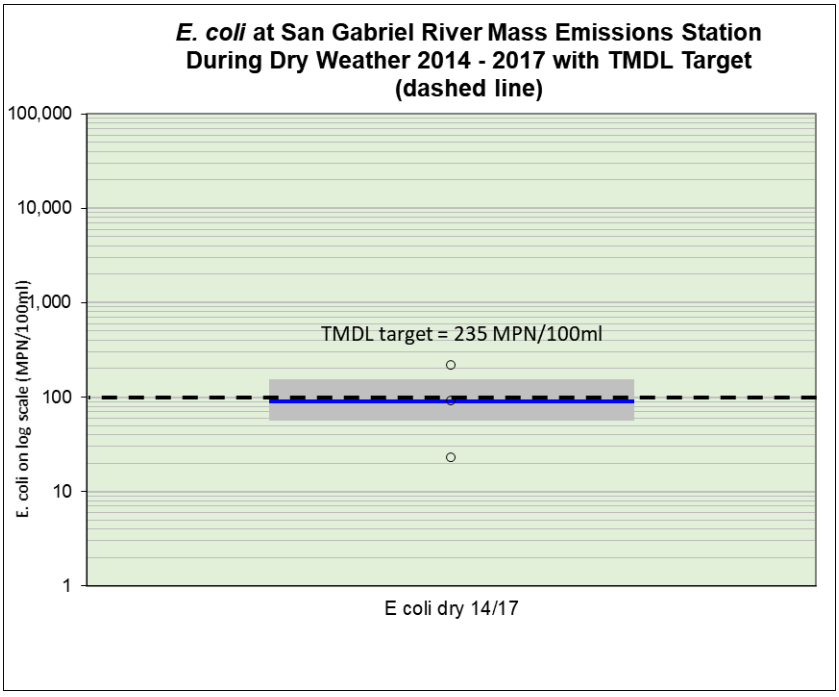
Almost all datapoints during wet weather are over the TMDL target with lower results in recent years.

*Figure 99: Boxplots of E. coli during Wet Weather*




There are very few datapoints available for dry weather, but they are evenly above and below the TMDL target.

*Figure 100: Boxplots of E. coli during Dry Weather*



## Coyote Creek


Coyote Creek is tributary to the San Gabriel River and its confluence with the river is just above the estuary. Coyote Creek drains mostly urbanized parts of both eastern Los Angeles County and northwestern Orange County.

### *Total Copper, Total Lead, and Total Zinc*

A USEPA metals TMDL is in place with wet weather targets for total copper, zinc, and lead. As shown in the boxplots below, total copper and zinc have mostly been exceeding the targets through time, but concentrations have been decreasing in recent years. Total lead concentrations have been consistently below the target with no obvious trend through time.

*Figure 101: Boxplots of Total Copper during Wet Weather*

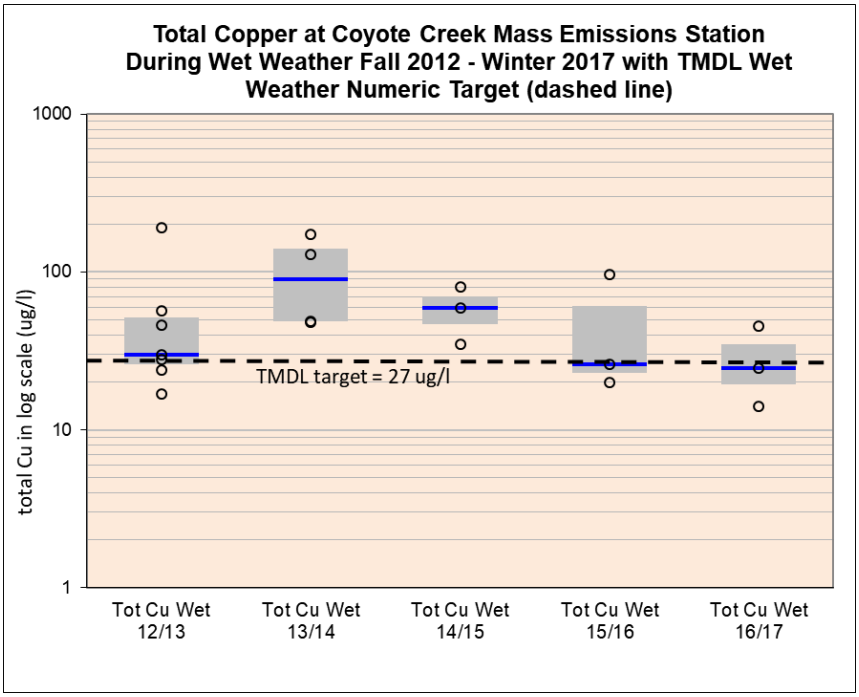


*Figure 102: Boxplots of Total Zinc during Wet Weather*

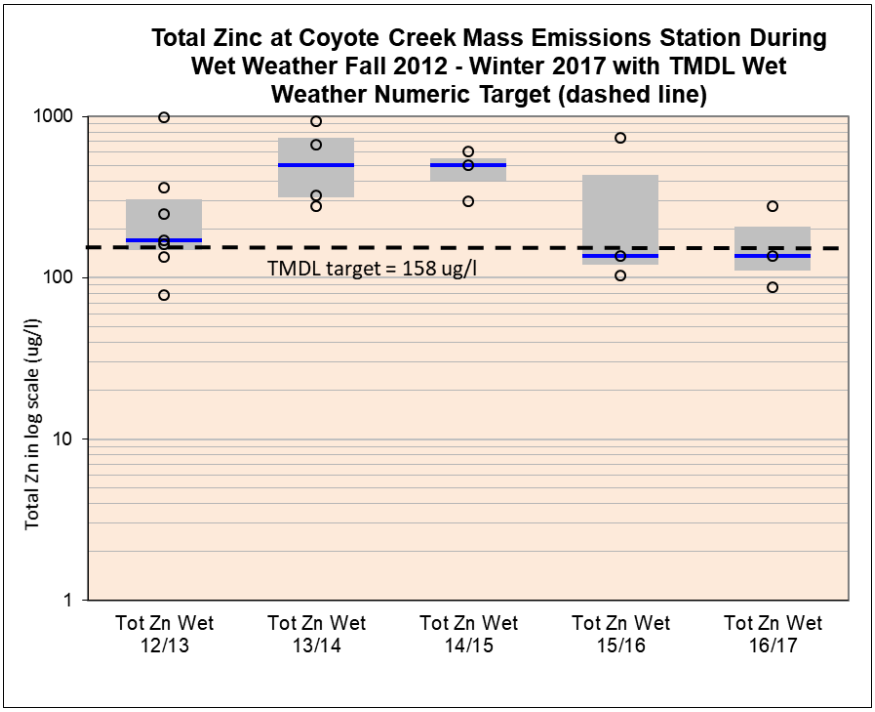
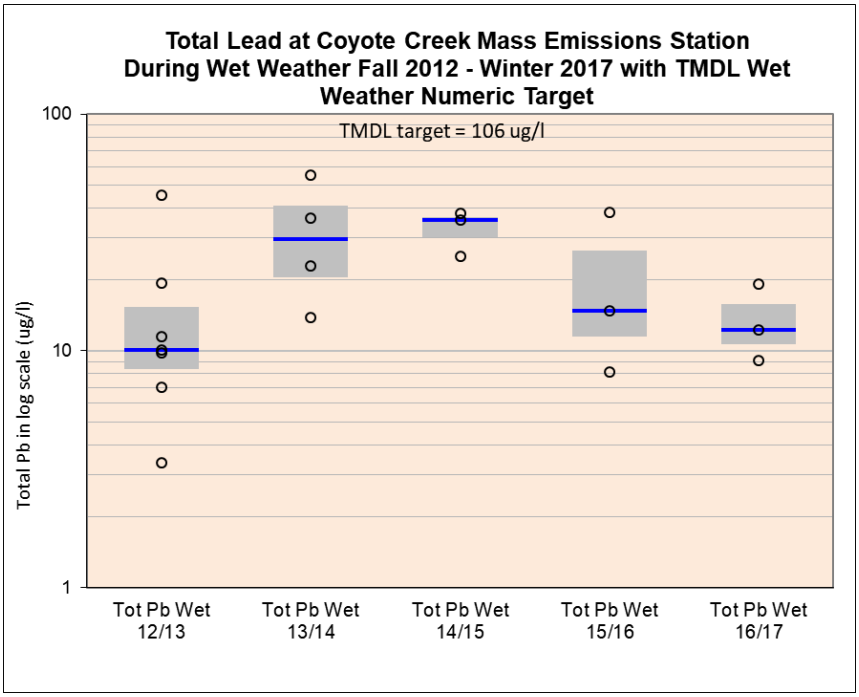



*Figure 103: Boxplots of Total Lead during Wet Weather*




The USEPA metals TMDL in place does not include dry weather instream targets for total copper, zinc, and lead, so concentrations are compared to average hardness-adjusted CTR chronic criteria. As shown in the boxplots below, concentrations of the metals during dry weather are well below the chronic criteria with zinc and lead showing a decreasing trend through time.

*Figure 104: Boxplots of Total Copper during Dry Weather*

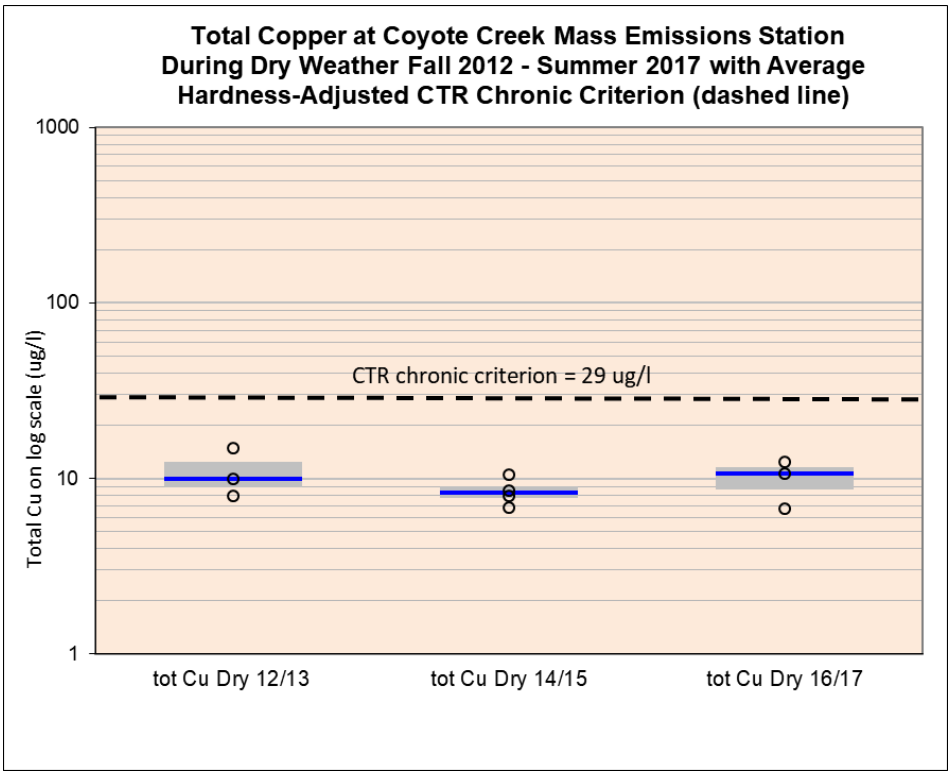



*Figure 105: Boxplots of Total Zinc during Dry Weather*

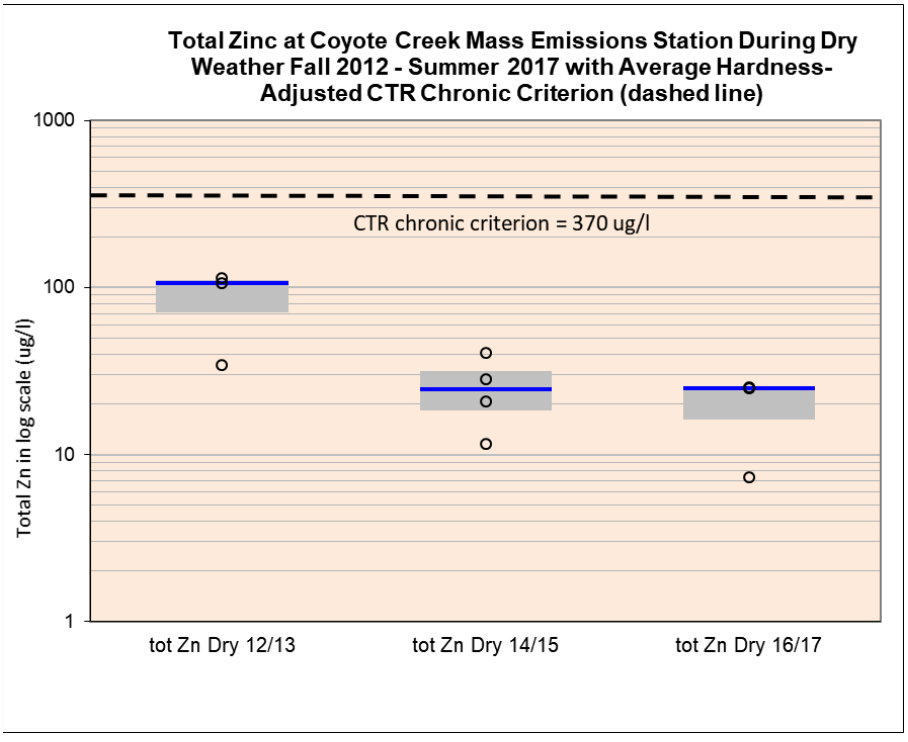
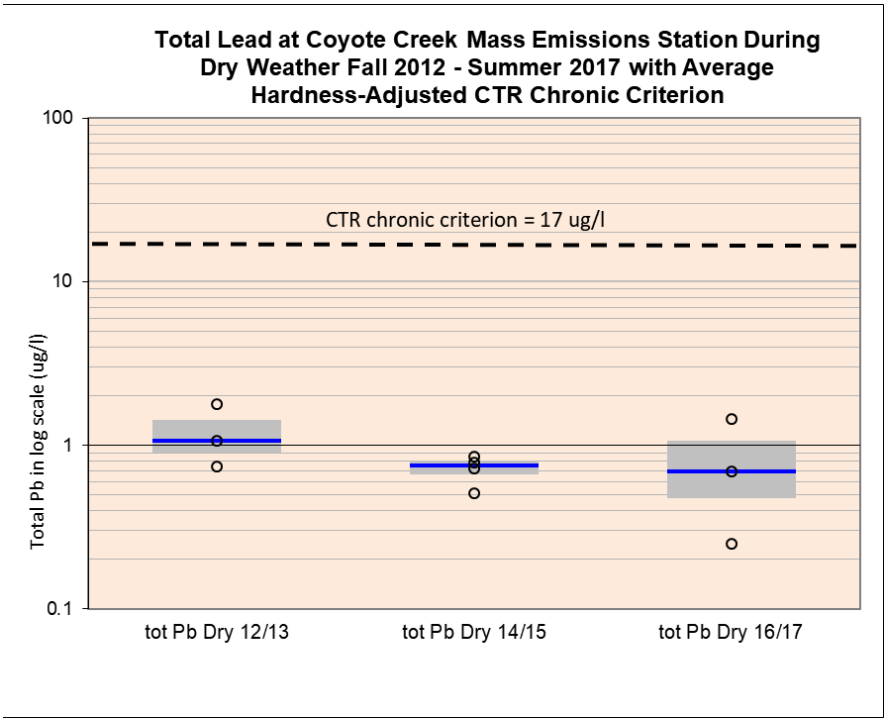


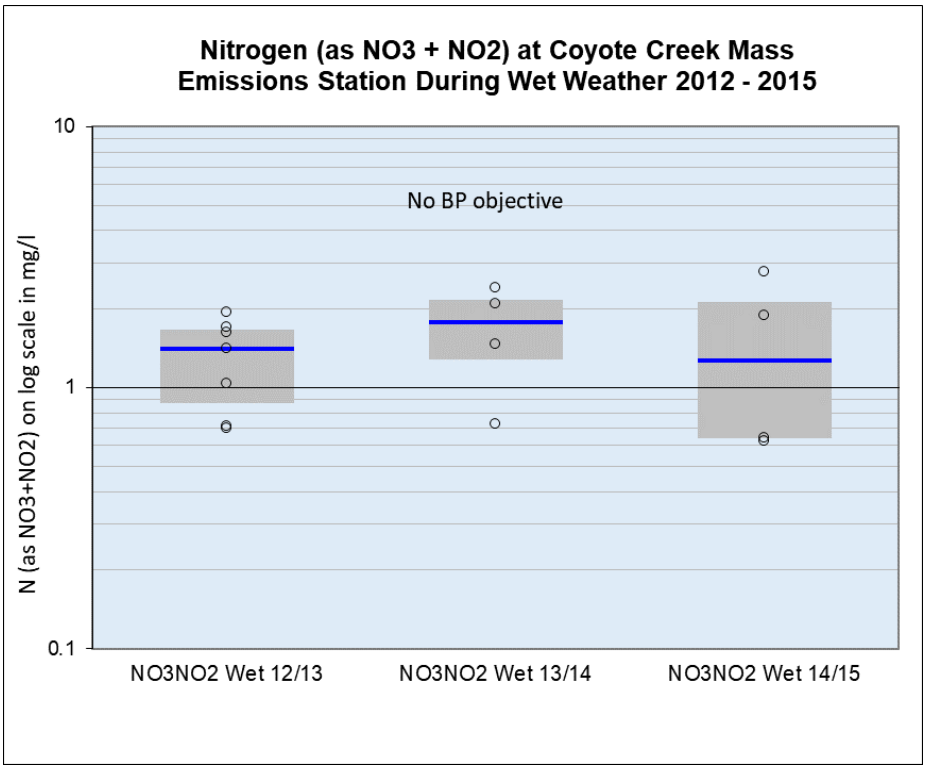
*Figure 106: Boxplots of Total Lead during Dry Weather*




## *Nutrients (Total Nitrogen)*

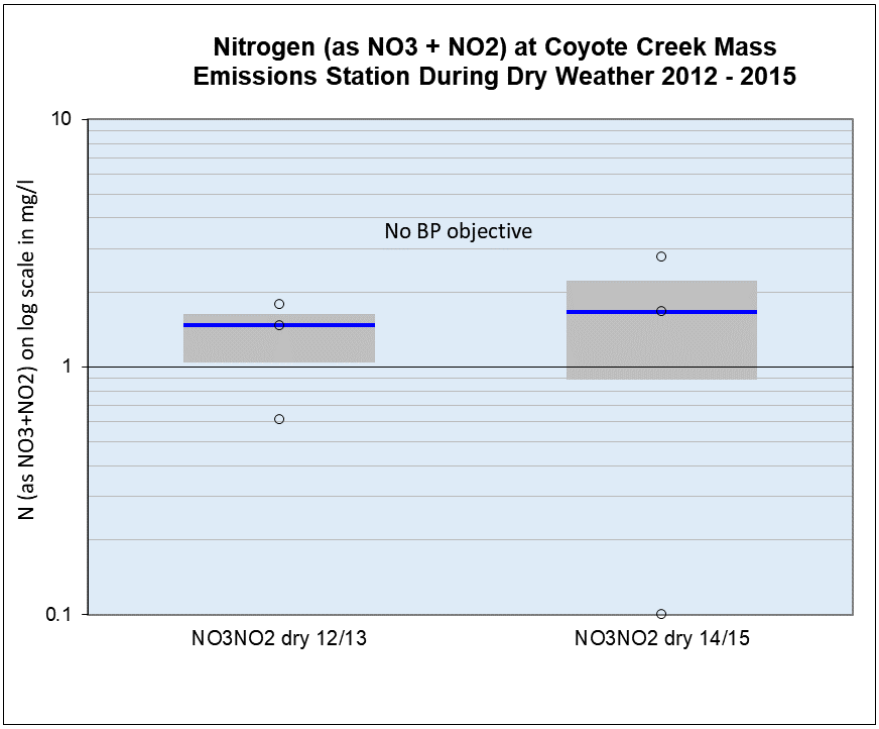
There is no TMDL target or Basin Plan objective for nitrogen in Coyote Creek. Nitrogen (NO3-N + NO2-N) concentrations are low during wet weather, but variable as shown in the plot below.

*Figure 107: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Wet Weather*




Dry weather data for nitrogen are minimal with no clear trend through time.

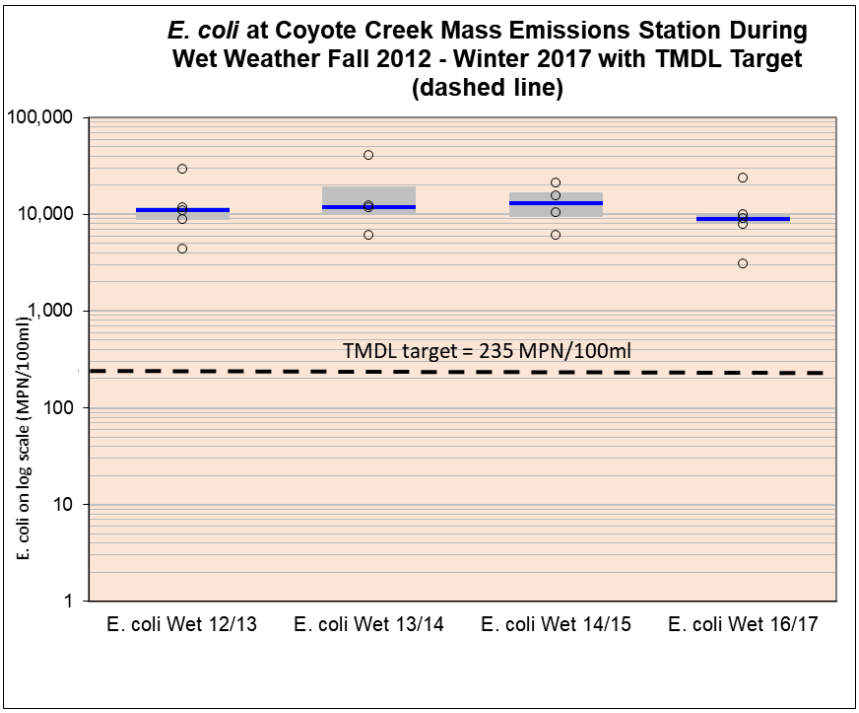
*Figure 108: Boxplots of Nitrogen (as $NO_3$+$NO_2$) during Dry Weather*




### *E. coli*

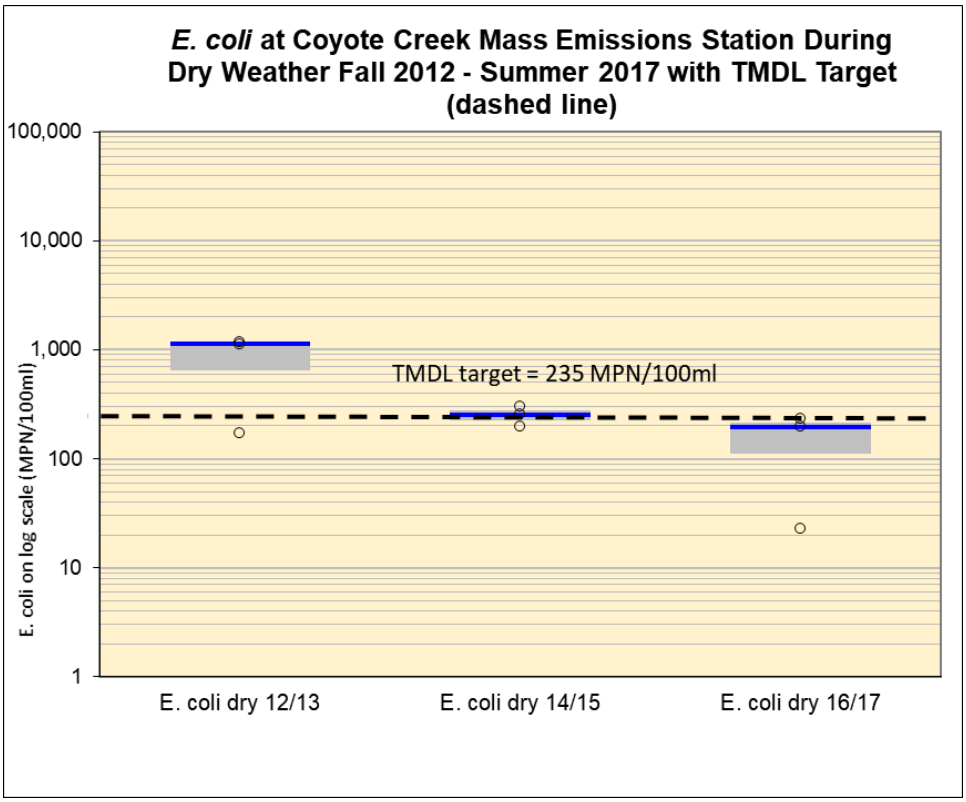
A bacteria TMDL is in place for Coyote Creek with final compliance dates of June 14, 2026, for the dry weather target, and June 14, 2036, for the wet weather target. While the TMDL has not yet been formally incorporated into the MS4 permit, the TMDL target for E. coli is the same as the Basin Plan objective for E. coli (at the time of writing). All datapoints during wet weather are over the TMDL target with little change through time.

*Figure 109: Boxplots of E. coli during Wet Weather*




While dry weather datapoints from earlier years generally exceeded the TMDL target, there has been considerable improvement through time with recent datapoints being below the target.

*Figure 110: Boxplots of E. coli during Dry Weather*



# Aquatic Toxicity

## Background

This review focuses on freshwater aquatic toxicity testing results and whether MS4 permittees are adhering to required follow-up procedures when there is observed toxicity. The current Los Angeles County and City of Long Beach MS4 permits' monitoring program requires toxicity testing on receiving water samples during wet and dry weather (at a frequency of two times per year and one time per year, respectively). It also requires that Permittees initially determine the most sensitive of three test species through conducting testing during two wet weather and two dry weather toxicity tests. The species identified as the most sensitive is used for all subsequent testing. Alternately, it allows for use of a most sensitive test species determined based on previous information although rescreening must occur in the fourth year of the permit term. All the Los Angeles County MS4 permittees' CIMPs/IMPs included a determination that *Ceriodaphnia dubia* (*C. dubia*) was the most sensitive species based on previous information.

A memo dated August 7, 2015, was sent to Los Angeles County and City of Long Beach MS4 permittees to clarify follow-up monitoring requirements in response to any observed toxicity in receiving waters. The intent of follow-up monitoring is to identify and eliminate sources of toxicity in MS4 discharges as expeditiously as possible.

The current Ventura County MS4 permit's monitoring program requires toxicity testing at mass emission and major outfall stations during wet weather. Screening for the most sensitive of three species is required during the first year followed by use of the most sensitive species during the following four years. There is no alternate approach to determine the most sensitive species.

All three permits include triggers (significant toxicity) to proceed to Toxicity Identification Evaluations (TIEs) and/or additional monitoring. But while the trigger is 50% or greater effect for all three, the Ventura County MS4 permit specifies that the trigger is 50% or greater mortality while the Los Angeles County and City of Long Beach MS4 permits specifies that the trigger is 50% or greater effect in either the survival or sublethal endpoints.

Based on a review of the freshwater aquatic toxicity testing data collected under the three permits' monitoring programs from 2015 to 2017, significant toxicity is rare under either wet or dry weather conditions with any of the species used. The instances of toxicity and when and where they did occur are described below.

## Wet weather

### *Los Angeles County*

The Upper Santa Clara River group conducts toxicity testing pursuant to the group's approved CIMP. During the January 12, 2017, wet weather event, results indicated a failed chronic toxicity test although not at a high enough percent effect to trigger a TIE. While the test failure was noted in the data submittal, there was no discussion of the exceedance in the group's 2016-17 annual report, covering that time period, or inclusion of required lab sheets. The MS4 permit's monitoring program and the

August 7, 2015, memo issued as a clarification states that if there is a "failed" toxicity test, but not toxicity in excess of the TIE trigger, then toxicity monitoring is to be added to the next existing upstream receiving water station during the same weather condition at a monitoring event that is at least 30 days following the original toxicity test sample collection. The next and final wet weather event sampled by the group was about a week later (no toxicity sample collected presumably since two already had been collected during wet weather as required) but a wet weather event occurred on February 18, 2017, during which the next upstream station could have been sampled but was not.

The East San Gabriel Valley group conducts toxicity testing pursuant to the group's approved CIMP. On January 5, 2017, sublethal toxicity was noted, but not at a percent effect requiring a TIE. The lab report for this test suggested the possibility of very low sample hardness as a contributing factor and the possible need to include a hardness control in the future. While that may be one possible explanation for the toxicity, as noted above, the permit and the August 7, 2015, memo issued as a clarification states that if there is a "failed" toxicity test, but not toxicity in excess of the TIE trigger, then toxicity monitoring is to be added to the next existing upstream receiving water station during the same weather condition at a monitoring event that is at least 30 days following the original toxicity sample collection. In this instance, there is no existing upstream receiving water site so, as outlined in the August 7, 2015, memo, monitoring at the original site will need to continue until there are two consecutive samples which "pass" or a TIE is triggered and a cause is determined. The memo goes on to state that, additionally, an evaluation similar to a Toxicity Reduction Evaluation (TRE) be conducted to the extent practicable. It is possible the investigation into low hardness effects conducted by the lab may qualify as a TRE, but it was not characterized as such.

The Rio Hondo/San Gabriel River group conducts toxicity testing pursuant to the group's approved CIMP. On December 15, 2016, sublethal toxicity was noted at a receiving water station, but not at a high enough percent effect to trigger a TIE as discussed in the 2016/2017 annual report. Again, the permit and the August 7, 2015, memo issued as a clarification states that if there is a "failed" toxicity test, but not toxicity in excess of the TIE trigger, then toxicity monitoring is to be added to the next existing upstream receiving water station during the same weather condition at a monitoring event that is at least 30 days following the original toxicity sample collection. In this instance, there is no existing upstream receiving water site so, as outlined in the August 7, 2015, memo, monitoring at the original site will need to continue until there are two consecutive samples which "pass" or a TIE is triggered and a cause is determined. As stated above, the memo goes on to state that, additionally, an evaluation similar to a Toxicity Reduction Evaluation (TRE) be conducted to the extent practicable. The next and final wet weather event sampled by the group was on January 9, 2017, during which another sample for toxicity testing could have been collected at the receiving water site but was not. There is no indication an attempt was made to conduct a TRE.

The Malibu Creek Watershed group conducts toxicity testing pursuant to the group's approved CIMP. On October 28, 2016, significant sublethal toxicity was seen in a test sample collected at one receiving water station. However, the accompanying toxicity report indicated that when the results were compared to a conductivity control, the results were not a "fail." High background levels of dissolved solids can elevate conductivity at times in Malibu Creek.

The City of El Monte conducts toxicity testing pursuant to its approved IMP which includes only outfall monitoring (utilizing receiving water monitoring data from adjacent groups). On March 6, 2016 at the #6(LL) outfall station upstream of Legg Lake there was 57.14% significant sublethal effect but with no follow-up TIE conducted to identify the cause as outlined in the August 7, 2015, memo.

### *Ventura County*

Toxicity tests resulted in 50% or greater mortality on two dates, December 7, 2009, and December 7, 2013, both with *C. dubia* as the test species. The 2013 failed test occurred at the MO-HUE outfall station. As explained in that year's annual report, MO-HUE discharges into J Street Drain near the location where it enters the ocean and occasionally higher salinities can occur than can be tolerated by *C. dubia*. A salinity-tolerant species was used to conduct another test in lieu of a TIE since salinity is not addressed by TIEs and there was 100% survival. The 2009 toxicity event occurred at the MO-VEN outfall, which discharges to the lower Santa Clara River upstream of the estuary. A TIE was started but toxicity did not persist, so no cause was identified. Subsequent toxicity testing on samples from the site did not result in 50% or greater mortality.

## Dry weather

### *Los Angeles County*

Dry weather toxicity was rare in Los Angeles County and occurred on three dates at two locations. The Malibu Creek Watershed group conducts toxicity testing during dry weather pursuant to the group's approved CIMP. On August 4, 2016, sublethal toxicity was observed in a sample collected at one receiving water station, but not at a high enough percent effect to trigger a TIE. The permit and the August 7, 2015, memo issued as a clarification states that if there is a "failed" toxicity test, but not toxicity in excess of the TIE trigger, then toxicity monitoring is to be added to the next existing upstream receiving water station during the same weather condition at a monitoring event that is at least 30 days following the original toxicity sample collection. However, the accompanying toxicity report indicated that when the results were compared to a conductivity control, the results were not a "fail." As noted above, high background levels of dissolved solids can elevate conductivity at times in Malibu Creek.

The Upper Santa Clara River group conducts toxicity testing during dry weather pursuant to the group's approved CIMP. On two dates, July 12, 2016, and August 31, 2015, sublethal toxicity effects were seen. The percent effect during the 2016 sampling event was less than 50%. The percent effect during the 2015 event was slightly over 50% though in the data submittal it was reported that there was some variation depending on the statistical method used. A TIE was not conducted; however, due to this variation, there is some ambiguity over whether a TIE was required. While the test failure was noted in the data submittal, there was no discussion of the exceedance in the group's 2015-16 annual report, which covered that time period, or inclusion of required lab sheets. Again, the permit and the August 7, 2015, memo issued as a clarification states that if there is a "failed" toxicity test, but not toxicity in excess of the TIE trigger, then toxicity monitoring is to be added to the next existing upstream receiving water station during the same weather condition at a monitoring event that is at least 30 days following the original toxicity sample collection. Another dry weather sampling event for toxicity did not take place until the following year on July 12 when sublethal toxicity was again noted with no follow-up action.

# Other Trends

## High Levels of Other Non-TMDL Constituents

### *Los Angeles County*

There are some elevated concentrations of various non-TMDL parameters noted at both receiving water and outfall stations in Los Angeles County during both dry and wet weather. Some of these parameters are conventional pollutants for which water quality objectives do not exist but can be compared to ranges of expected concentrations. For example, biochemical oxygen demand (BOD) and chemical oxygen demand (COD), as well as at times total organic carbon (TOC), are found at unexpectedly high concentrations during both dry and wet weather at a number of locations in Los Angeles County. During an October 4-5, 2015, wet weather event, several receiving waters in the East San Gabriel Valley and Rio Hondo-San Gabriel River groups' jurisdictional areas experienced high concentrations of these parameters. One result for BOD was extraordinarily high at 1,800 mg/l, which would be considered excessive even for a discharge from a wastewater treatment plant. During a subsequent December 13-14, 2015, wet weather event, BOD, COD, and TOC were elevated in receiving waters on the west side of Los Angeles County in the SMB-J2J3, Ballona Creek, and Dominguez Channel groups' jurisdictional areas. During the summer of 2016, COD in particular has been quite elevated on a number of dry weather sample dates in the Palos Verdes Peninsula, Marina del Rey, and Los Cerritos Channel groups' jurisdictional areas. During a November 21-22, 2016, wet weather event, COD was again quite elevated in several receiving waters in Marina del Rey, Palos Verdes Peninsula, and Beach Cities groups' jurisdictional areas.

Unusually high concentrations of two organics (in excess of CTR objectives for protection of human health) are seen sporadically during wet weather events in receiving waters and at times in outfalls from 2015 through 2017. These constituents, bis (2-ethylhexyl) phthalate and hexachlorobenzene, were found at high concentrations in the Lower San Gabriel River groups' and Irwindale's jurisdictional areas, predominately. There may be problems with other organic constituents as well but, due to frequent high reporting limits over water quality objectives, many are undetected.

Mercury is another constituent that is found in excess of CTR objectives for protection of human health, mostly during wet weather, in both receiving waters and outfalls at a number of locations in Los Angeles County. Jurisdictional areas where excessive mercury concentrations occurred in more than one sample include those of the LA River Upper Reach 2, Palos Verdes Peninsula, Rio Hondo/San Gabriel River, Upper Santa Clara River, and Upper San Gabriel River groups.

### *Ventura County*

There are some elevated concentrations of various non-TMDL parameters noted at both receiving water and outfall stations in Ventura County during both dry and wet weather. Some of these parameters are conventional pollutants for which water quality objectives do not exist but can be compared to ranges of expected concentrations. For example, concentrations of COD are very high at some mass emission and major outfall stations, particularly during wet weather. The high concentrations occur throughout the three watersheds with most high results associated with major outfall stations. The exceptions are the mass emissions stations in Calleguas Creek and the Santa Clara River; the latter site in particular exhibited frequent occurrences (on seven dates) of high COD concentrations (over 200 mg/l and up to

2,200 mg/l). Some major outfall stations also exhibited high total organic carbon (TOC) concentrations during wet weather (over 100 mg/l). Levels of pH at major outfall stations during dry weather were at times well over the upper range of the Basin Plan objective of 8.5 up to over 10 pH units. The Camarillo Hills Drain in the Calleguas Creek Watershed most frequently exhibited these exceedances.

High concentrations of some metals were seen throughout Ventura County ("high" defined here as exceeding acute (wet weather) or chronic (dry weather) CTR water quality objectives at the highest allowable hardness (400 mg/l)). High total or dissolved copper concentrations were mostly seen at outfall stations during wet weather but on seven occasions were seen at the Santa Clara River mass emissions station. This station also exhibited the highest total copper concentrations found anywhere in the county (up to 1,900 ug/l total copper during a January 19, 2017, wet weather event). The Santa Clara River mass emissions station also exhibited an extremely high total lead result (930 ug/l) on that same date. The CTR human health objective for mercury is 0.051 ug/l and while many major outfall stations were marginally over the objective, the highest concentrations were found at the Santa Clara River mass emissions station (up to 2 ug/l total mercury). Exceedances occurred during wet weather during eleven sampling events. Exceedances for mercury also occurred at the Calleguas Creek mass emissions station on seven sampling dates during wet weather but concentrations were lower than at the Santa Clara River station. The CTR water quality objective for selenium for protection of aquatic life is 5.0 ug/l. Total selenium concentration exceeded that objective at many major outfall stations during both dry and wet weather. Frequent exceedances (eleven sampling events) of the objective occurred at the Santa Clara River mass emissions station, generally during wet weather. The results for zinc follow a similar pattern.

Total phosphorus concentrations would generally be expected to be well below 1 mg/l. Many mass emissions and major outfall stations had total phosphorus concentrations well in excess of 1 mg/l. The highest concentrations were seen at the Santa Clara River mass emissions station (as high as 88 mg/l during wet weather). The next highest concentration (76 mg/l) occurred during dry weather at the Calleguas Creek mass emissions station. Total Kjeldahl nitrogen (TKN), consisting of ammonia plus organic nitrogen, contributes to the total nitrogen concentration. Although the Basin Plan water quality objective refers only to nitrate-N + nitrite-N when calculating total nitrogen (and this approach is followed for most of the nutrient TMDLs in the Region), TKN may in the future be part of the total nitrogen target. While in many more urban areas, TKN is below 1 mg/l, in Ventura County there are several major outfall stations, particularly during wet weather, with TKN concentrations over 10 mg/l (10 mg/l is currently the highest Basin Plan objective for total nitrogen as currently defined). The highest concentrations occurred at the Santa Clara River mass emissions stations (up to 56 mg/l TKN). Since ammonia concentrations are not particularly elevated, it must be assumed that the high TKN concentrations are due to elevated organic nitrogen.

One base/neutral extractible organic compound (bis(2-ethylhexyl) phthalate or DEHP) has exceeded the CTR water quality objective for protection of human health on multiple occasions, generally during wet weather, at major outfall stations but also once at the Santa Clara River mass emissions station, twice at the Ventura River mass emissions station, and five times at the Calleguas Creek mass emissions station. Per the USEPA's website https://www.epa.gov/sites/production/files/2016-09/documents/bis-2-ethylhexyl-phthalate.pdf, the major uses of this compound is in the production of PVC and vinyl chloride resins, where it is added to plastics to make them flexible.

The legacy pesticide, DDT and its breakdown products, DDE and DDD, as well as the legacy pesticide Dacthal, are both long-lived and are still frequently detected especially during wet weather. Although at times high reporting limits minimize detections, when these parameters are detected, they frequently exceed CTR objectives for protection of human health associated with fish consumption or USEPA recommended criteria for protection of freshwater aquatic life. The more recently used pesticides chlorpyrifos and malathion are frequently detected at levels exceeding USEPA or California Department of Fish and Wildlife recommended criteria for protection of aquatic life.