TMDL's & Its National Effects

California's TMDL Amendment and the National Impact

Guest: Laurel Warddrip

mapistry

Ryan Janoch, PE

Mapistry
Co-founder & COO

mapistry

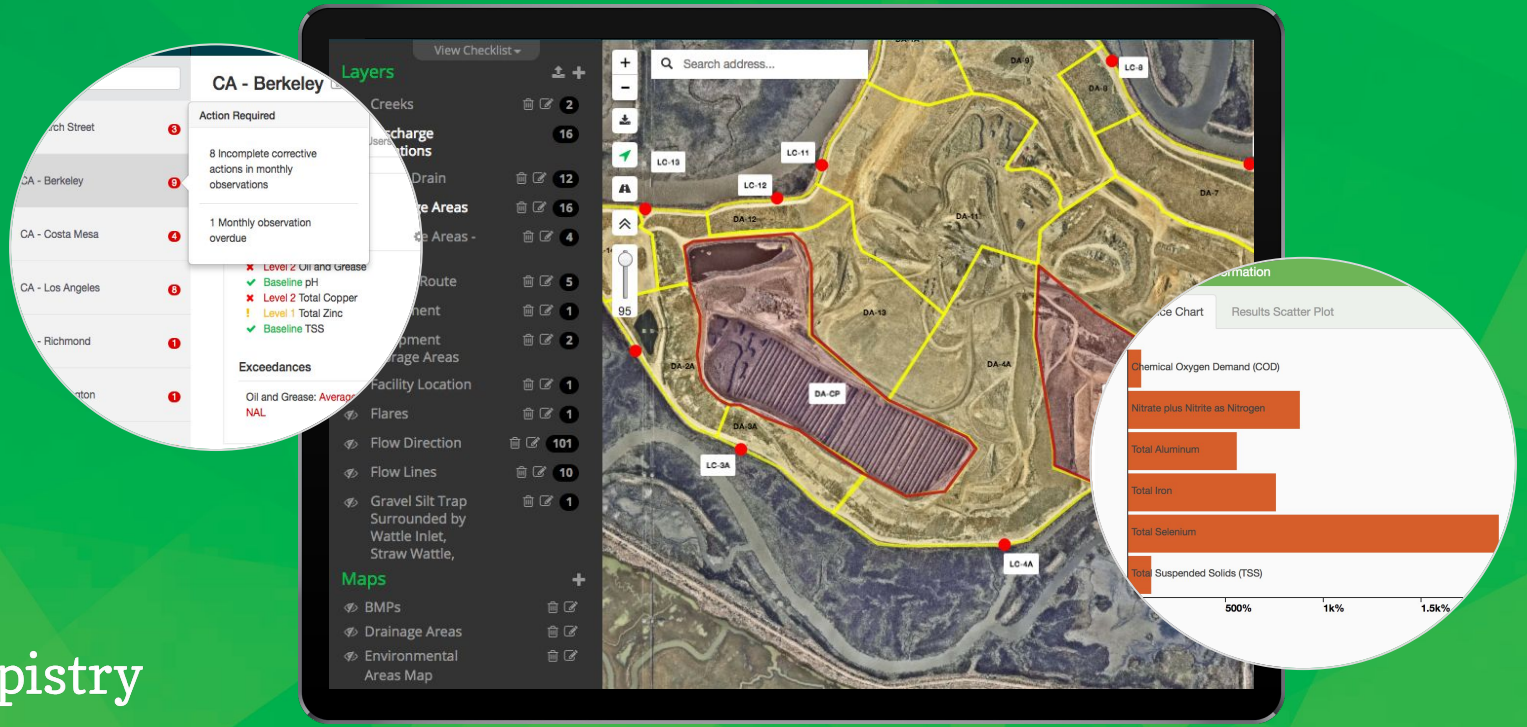
Laurel Warddrip

State Water Resources Control Board
Industrial and Construction Unit Chief

mapistry

mapistry

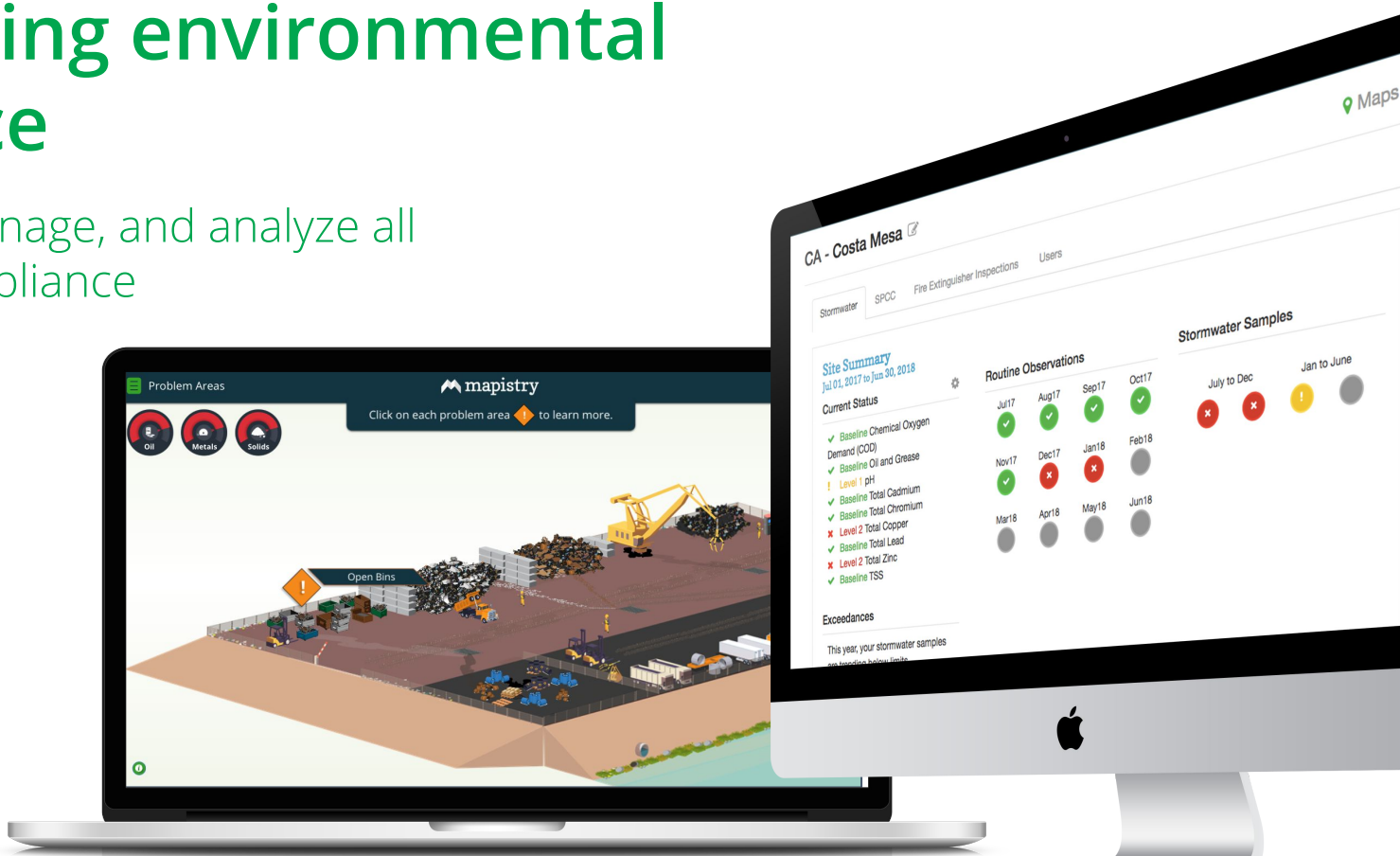
Software for Ensuring Environmental Excellence



mapistry

Single platform for automating and ensuring environmental compliance

Easily capture, manage, and analyze all stages of the compliance lifecycle



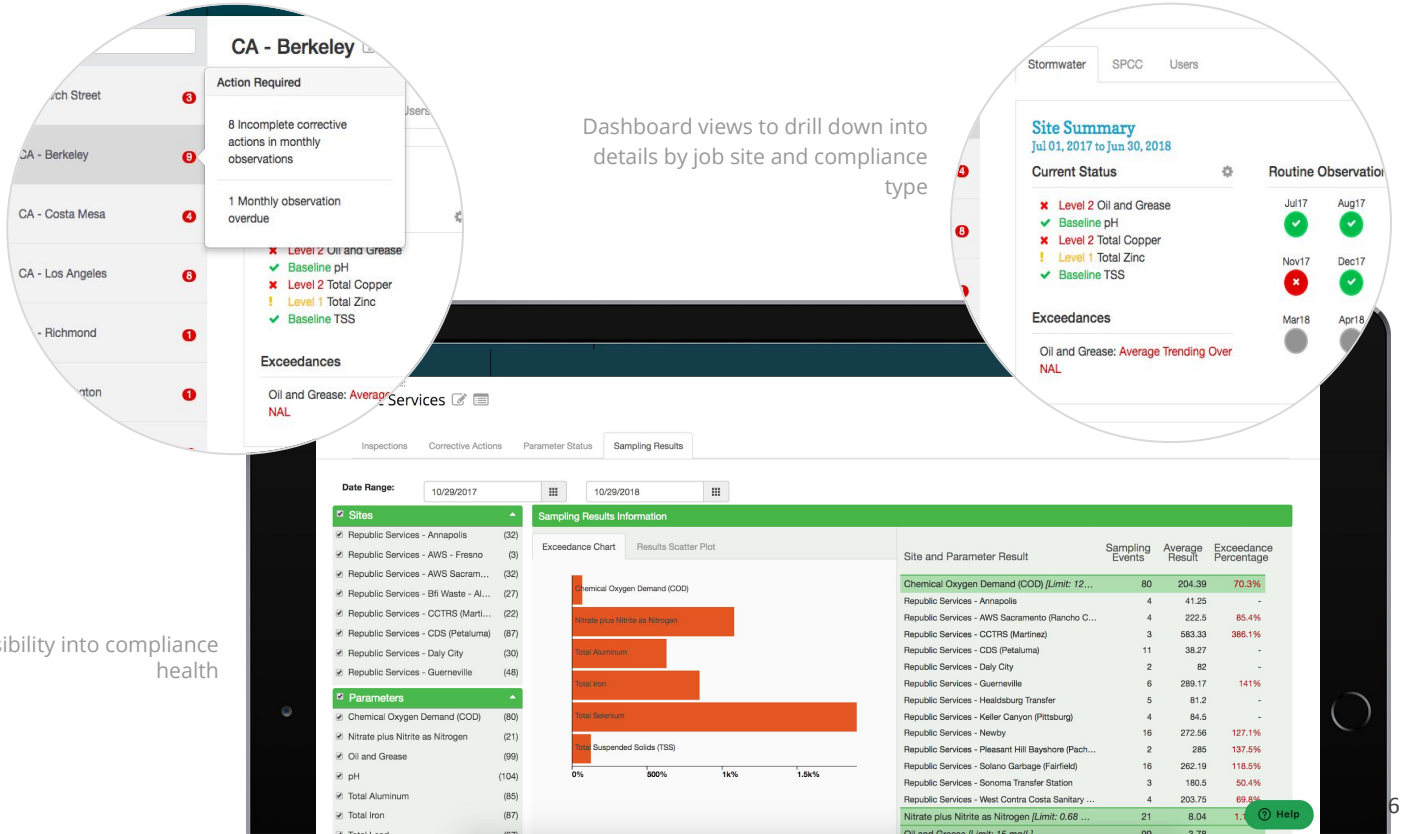
mapistry

Ensure environmental excellence across all of your facilities

Real-time alerts, performance, and results tracking all in one place

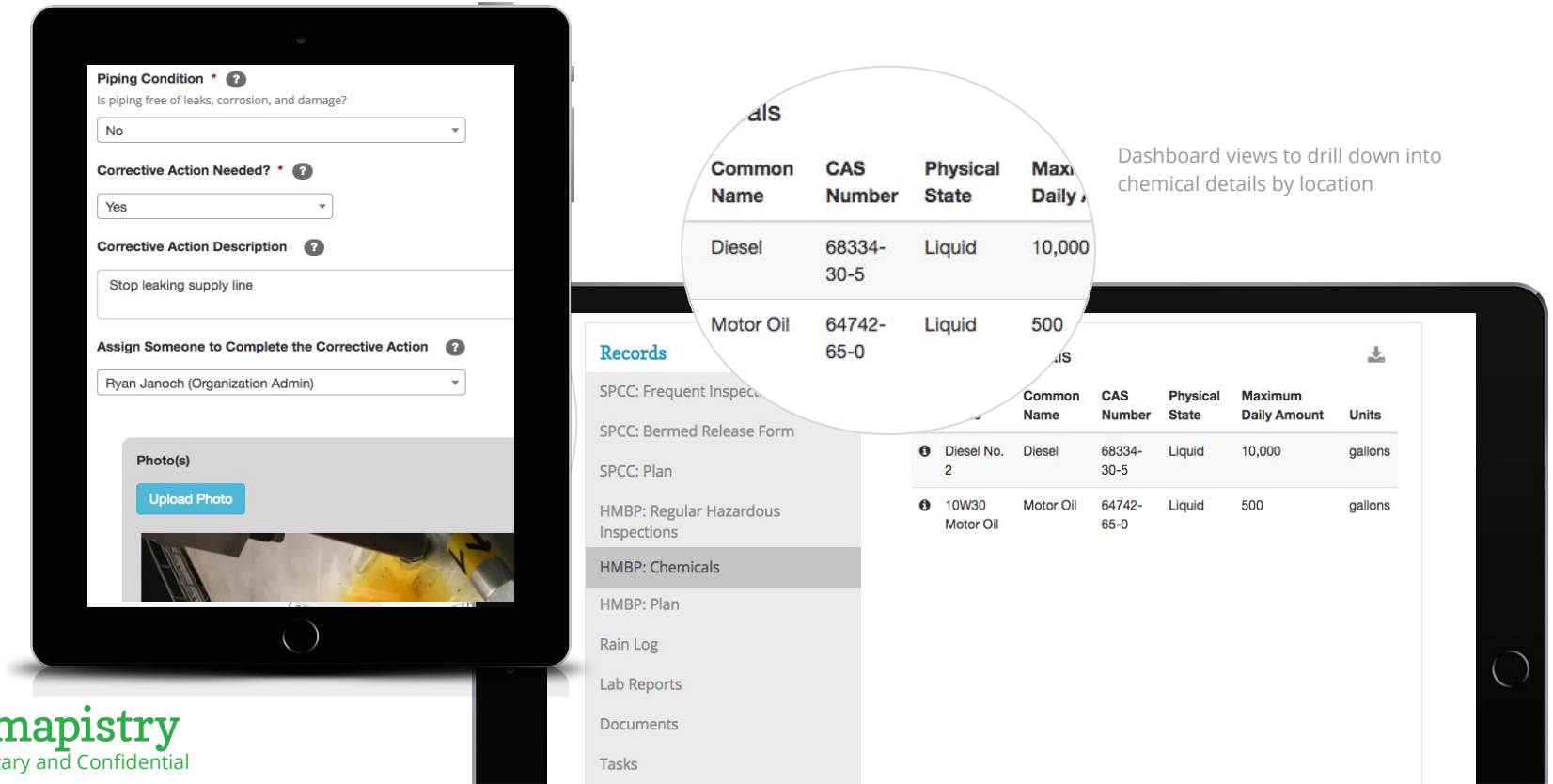
Dashboard views to drill down into details by job site and compliance type

Get continuous visibility into compliance health



Track materials and inspections
across all of your facilities

Inspect and collect chemical tanks info anytime, anywhere



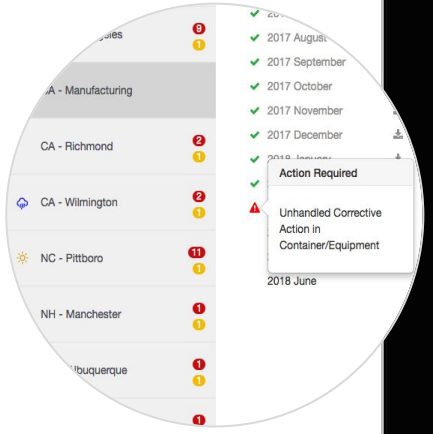
Dashboard views to drill down into chemical details by location

Completely painless and intuitive

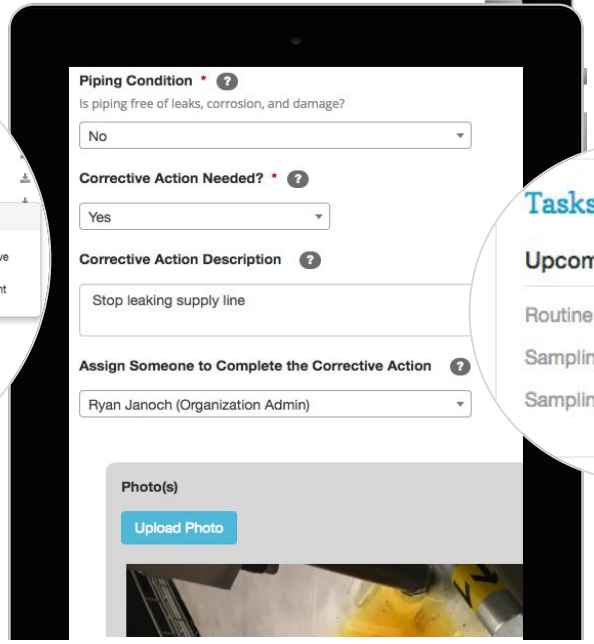
Easily manage tasks, log inspections, perform swppp updates, more…

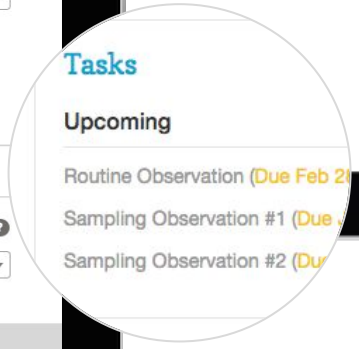
Instantly prepare and submit properly formatted regulatory reports to state and federal electronic reporting systems

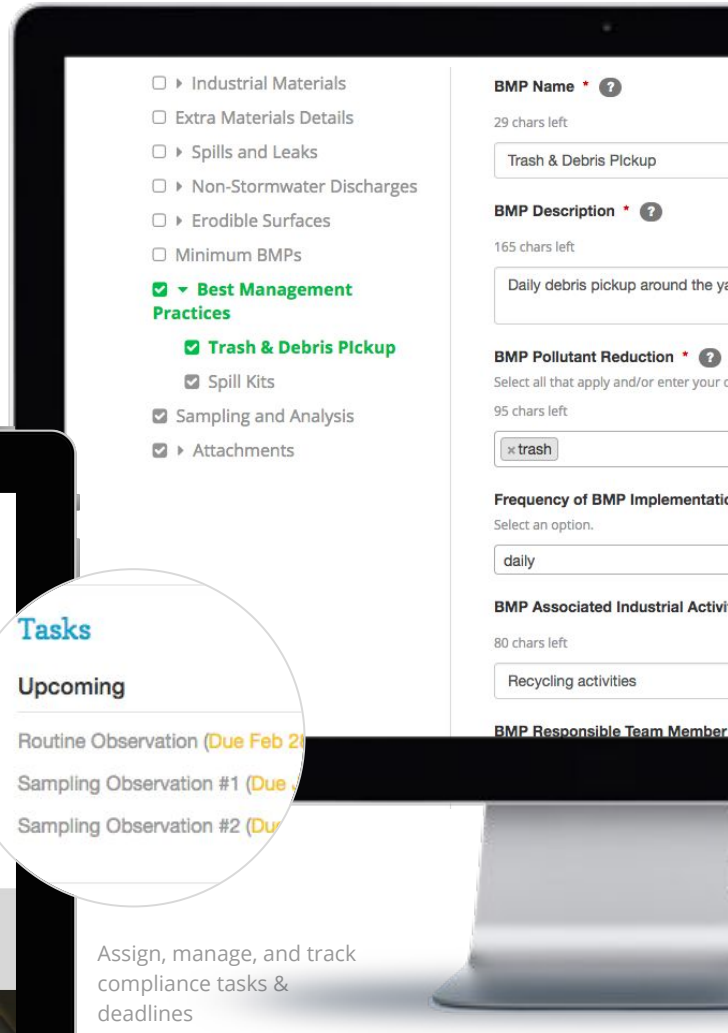
Centrally monitor weather changes, required actions, and compliance status



Easily log issues and corrective actions anytime, anywhere





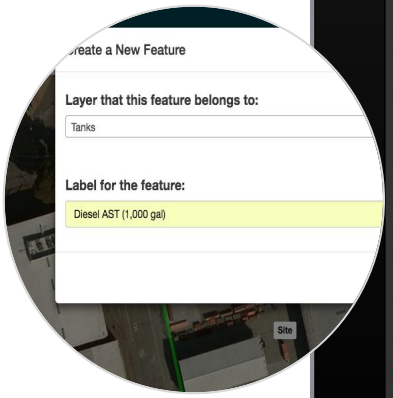


Assign, manage, and track compliance tasks & deadlines

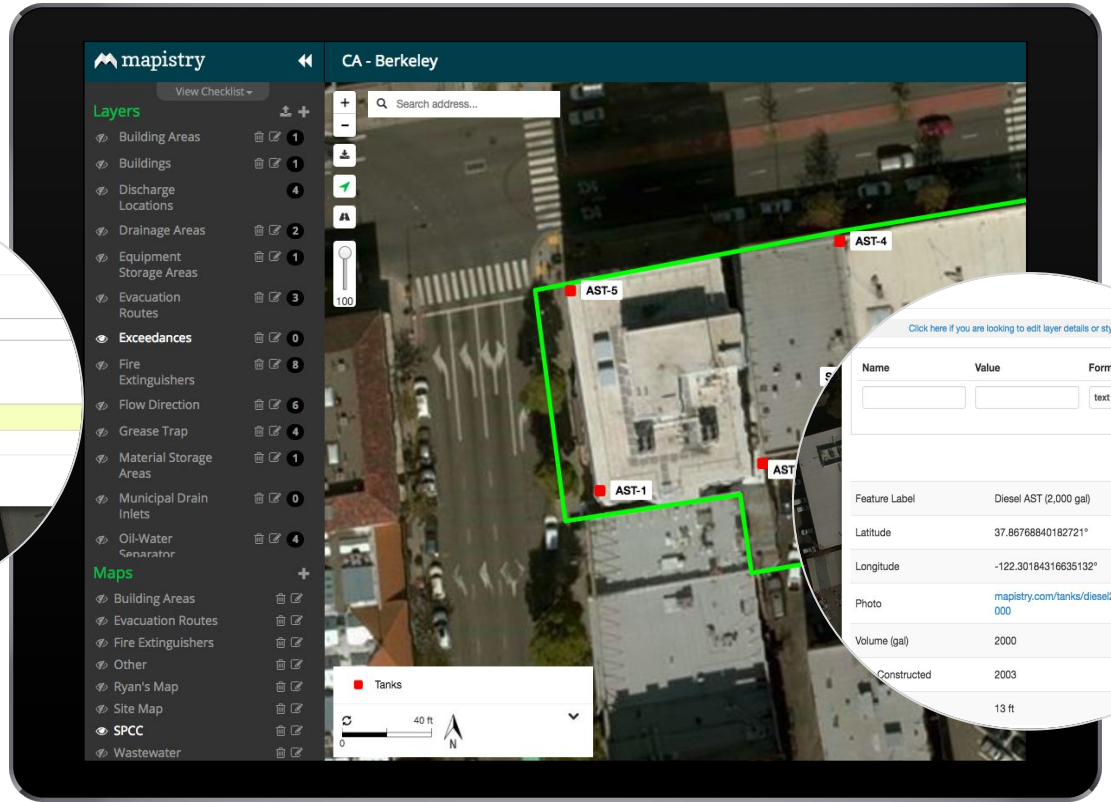
Intelligent site mapping

Move your maps from analog to digital

Use layers, custom styles, drag and drop, and other annotation features to easily generate/update facility maps



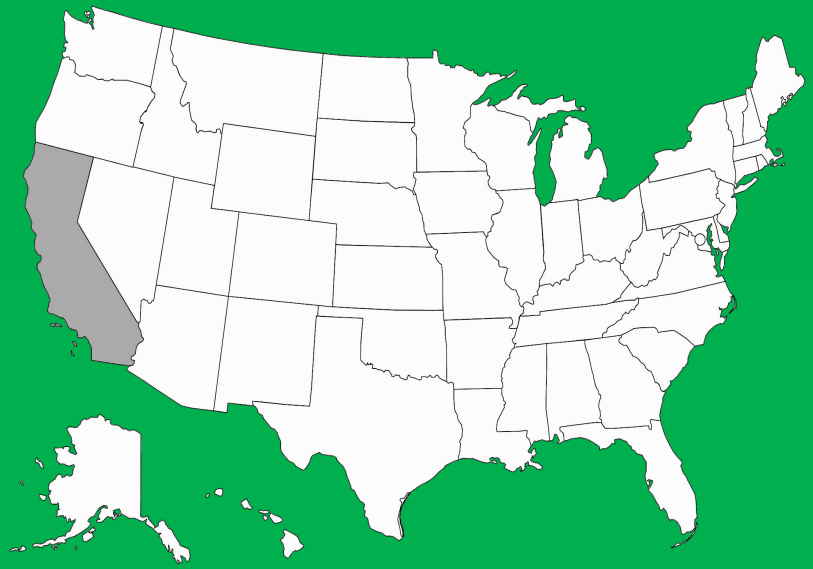
Mobile and web-based data capture simplifies updates while preserving the historic records



Instantly markup all required data points including storage areas, receiving waters, pollutant sources, tanks, drainage areas, and Best Management Practices (BMPs)

Capture feature details and link elements back to references in your plans and actions

TMDL's & It's National Effects



mapistry

Is this just crazy California?

Probably not.

The National Academy of Sciences included several recommendations to the EPA around sampling and effluent limits.

National Academy of Sciences Report

BOX S-1
Statement of Task

Three permit programs under the Clean Water Act are used to regulate discharges of stormwater to receiving waters—one for municipalities, one for industrial facilities, and one for construction sites. Of these, industrial stormwater is particularly challenging to control because of the wide range of industrial sectors that must be accounted for, each of which produces a unique suite of contaminants in stormwater. The industrial stormwater permit program includes a small number of individual facility permits as well as general permits that are issued to groups of industries at the state and federal level. The current Multi-Sector General Permit (MSGP) for industrial stormwater covers more than 2,000 facilities nationwide and is used as a framework for dozens of similar state programs.

The National Academies of Sciences, Engineering, and Medicine conducted a study to provide input to EPA as it revises its MSGP for industrial stormwater. The National Academies' committee was tasked to

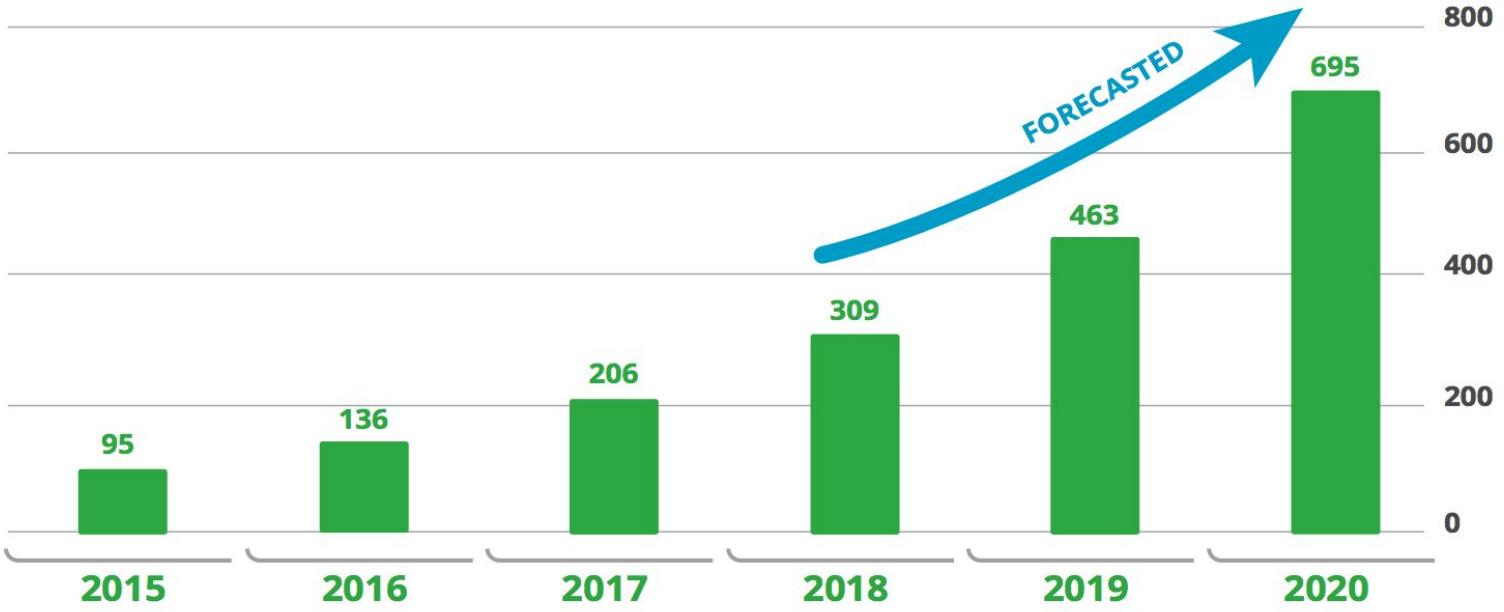
1. Suggest improvements to the current MSGP benchmarking monitoring requirements. Areas to examine could include
   - Monitoring by additional sectors not currently subject to benchmark monitoring;
   - Monitoring for additional industrial-activity-related pollutants;
   - Adjusting the benchmark threshold levels;
   - Adjusting the frequency of benchmark monitoring;
   - Identifying those parameters that are the most important in indicating whether stormwater control measures are operating at the best-available-technology or best-conventional-technology (BAT/BCT) level of control; and
   - New methodologies or technologies for industrial stormwater monitoring.
2. Evaluate the feasibility of numeric retention standards (such as volumetric control standards for a percent storm size or standards based on percentage of imperviousness).
   - Are data and appropriate statistical methods available for establishing such standards as both technology-based and water quality-based numeric effluent limitations?
   - Could such retention standards provide an effective and scientifically defensible approach for establishing objective and transparent effluent limitations?
   - What are the merits and faults of retention versus discharge standards, including any risks of groundwater or surface water contamination from retained stormwater?
3. Identify the highest-priority industrial facilities/subsectors for consideration of additional discharge monitoring. By "highest priority" EPA means those facilities/subsectors for which the development of numeric effluent limitations or reasonably standardized stormwater control measures would be most scientifically defensible (based upon sampling data quality, data gaps and the likelihood of filling them, and other data quantity/quality issues that may affect the calculation of numeric limitations).

*"...highest priority EPA means those facilities/subsectors for which **the development of numeric effluent limitations** would be most scientifically defensible."*

mapistry

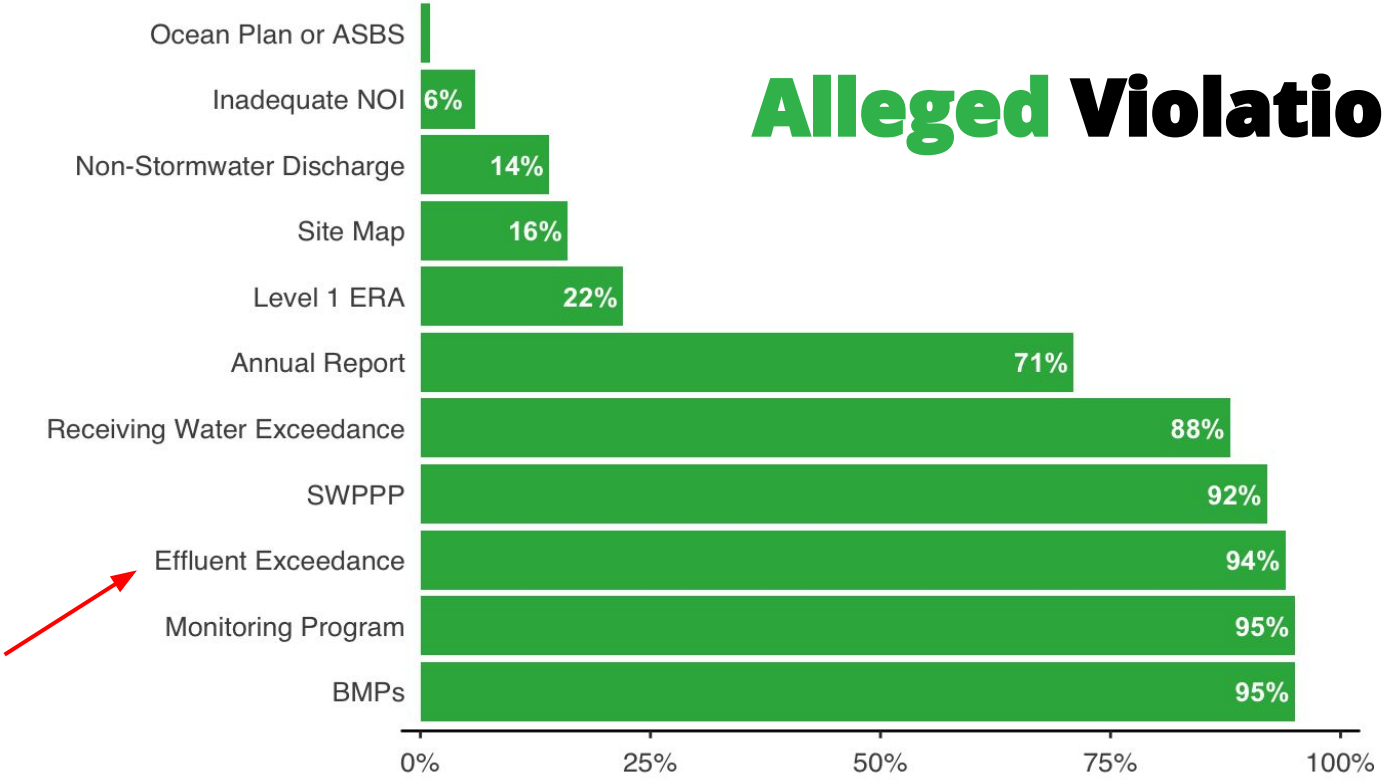

Mandated online reporting exposes your environmental deficiencies to the world
mapistry

Number of Industrial Stormwater Lawsuits Filed in California



mapistry

Alleged Violations



mapistry

Laurel Warddrip

State Water Resources Control Board
Industrial and Construction Unit Chief
Division of Water Quality

mapistry

AMENDED INDUSTRIAL STORMWATER GENERAL PERMIT (IGP)

JUNE 11, 2019

LAUREL WARDDRIP

INDUSTRIAL AND CONSTRUCTION STORMWATER UNIT CHIEF

DIVISION OF WATER QUALITY

STATE WATER RESOURCES CONTROL BOARD

AMENDED IGP TOPICS

- **Sufficiently Sensitive Test Methods*
- Total Maximum Daily Loads (TMDL) Timeline
- TMDL Definition
- TMDL Implementation in the IGP (process, applicability, and compliance)
- Optional Capture and Use Compliance “Incentives”

TOTAL MAXIMUM DAILY LOAD (TMDL) TIMELINE

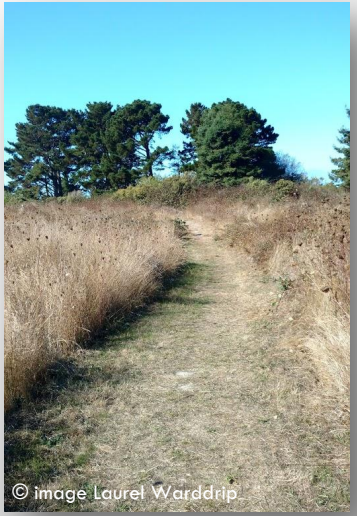
GENERAL PERMIT REQUIREMENTS TO IMPLEMENT TMDLS

- Findings 38 of the 2014 IGP:

  Discharges addressed by this general permit are considered to be point source discharges, and therefore must comply with effluent limitations that are “consistent with the assumptions and requirements of any available waste load allocation for the discharge prepared by the state and approved by U.S. EPA pursuant to 40 code of federal regulations section 130.7. (40 C.F.R. § 122.44 (d)(1)(vii).)

- Water code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans. Many TMDLs in water quality control plans include implementation requirements in addition to waste load allocations.

- Findings Section F of the IGP order cites additional TMDL implementation regulations.



Water Boards

TMDL IMPLEMENTATION PROCESS

Listing

- 303(d) impairment list developed
- One solution to address impairments: Total Maximum Daily Loads (TMDLs) developed by U.S. EPA or Regional Water Board
- State also develops Statewide Policies to address impairments

TMDL

- A TMDL goes through a separate public comment period and adoption process
- Adopted TMDLs are implemented by required permits (e.g. IGP) and incorporated into the Regional Water Board Basin Plans

Permit

- April 1, 2014 – IGP adopted by the State Water Board, included amendment reopener to include TMDLs with industrial sources
- IGP amendment reopener goes through Regional and State Water Board public comment period and process. Focused stakeholder outreach also included. ~2016-2018
- IGP amendment adopted by the State Water Board November 6, 2018
- IGP amendment requirement go into effect July 1, 2020

TMDL DEFINITION

KEY TERMS

- ‘TMDL’ means total maximum daily loads adopted by the regional water quality control boards and the U.S. EPA.
  - Adopted TMDLs are incorporated into the corresponding water quality control plans (basin plans).
- ‘Applicable TMDL’ means the TMDL had identified industrial stormwater sources and waste load allocation(s).

TOTAL MAXIMUM DAILY LOADS (TMDL)

- Defined as:
  - The maximum amount of a pollutant from potential sources in the watershed that a water body can receive while attaining water quality standards
  - The sum of the allowable loads of a single pollutant from all contributing sources, plus the contribution from background sources (40 C.F.R. § 130.2, subd. (I).)

- IGP Attachment E contains the TMDL-specific requirements for watersheds/water bodies with U.S. EPA-approved and U.S. EPA-established TMDLs for IGP dischargers.

Table E-1: List of Applicable TMDLs

TMDL	Pollutant
San Francisco Bay Regional Water Quality Control Board	
Napa River Sediment TMDL	Sediment
Sonoma Creek Sediment TMDL	Sediment
Walker Creek Mercury TMDL	Mercury
Los Angeles Regional Water Quality Control Board	
Ballona Creek Metals TMDL	Metals
Ballona Creek Estuary Toxics TMDL	Toxic Pollutants
Ballona Creek, Ballona Estuary and Sepulveda Channel TMDL	Bacteria
Calleguas Creek Salt TMDL	Salts
Calleguas Creek Watershed Metals and Selenium TMDL	Metals and Selenium
Colorado Lagoon TMDL	Pesticides, Polycyclic aromatic hydrocarbons, PCBs, and Metals
Harbor Beaches of Ventura County TMDL	Bacteria
Long Beach City Beaches and Los Angeles River Estuary TMDL	Indicator Bacteria
Los Angeles and Long Beach Harbors Waters TMDL	Toxic and Metals
Los Angeles Area Lakes TMDL	Nitrogen, Phosphorus, Mercury, Trash, Organochlorine Pesticides and PCBs
Los Angeles Harbor (Inner Cabrillo Beach and Main Ship Channel) TMDL	Bacteria
Los Angeles River Nitrogen TMDL	Nutrients
Los Angeles River Metals TMDL	Metals
Los Cerritos Channel TMDL	Metals
Machado Lake Nutrient TMDL	Nutrient
Machado Lake Toxics TMDL	Toxics
Marina del Rey Harbor Mothers' Beach and Back Basins TMDL	Bacteria
Marina Del Rey Harbor Toxics TMDL	Copper, Lead, Zinc, and Chlordane, and Total PCBs
Oxnard Drain 3 TMDL	Pesticides, PCBs and Sediment Toxicity
San Gabriel River Metals and Selenium TMDL	Metals and Selenium
Santa Clara River TMDL	Bacteria
Santa Clara River Chloride TMDL	Chloride
Santa Clara River Nitrogen TMDL	Nutrients
Santa Monica Bay Dichlorodiphenyltrichloroethane and Polychlorinated Biphenyls TMDLS	Dichlorodiphenyltrichloroethane and Polychlorinated Biphenyls
Santa Monica Bay Debris TMDL	Nearshore Debris
Santa Ana Regional Water Quality Control Board	
San Diego Creek and Newport Bay Toxics TMDL	Toxic Pollutants
San Diego Regional Water Quality Control Board	
Baby Beach and Shelter Island Indicator Bacteria TMDL	Indicator Bacteria
Chollas Creek Diazinon TMDL	Diazinon
Chollas Creek Metals TMDL	Copper, Lead, and Zinc
Los Peñasquitos Lagoon Sediment TMDL	Sediment
Rainbow Creek Watershed TMDL	Total Nitrogen and Total Phosphorus
Shelter Island Yacht Basin Copper TMDL	Dissolved Copper
Twenty Beaches and Creeks Bacteria TMDL	Indicator Bacteria

TMDL IMPLEMENTATION IN THE IGP

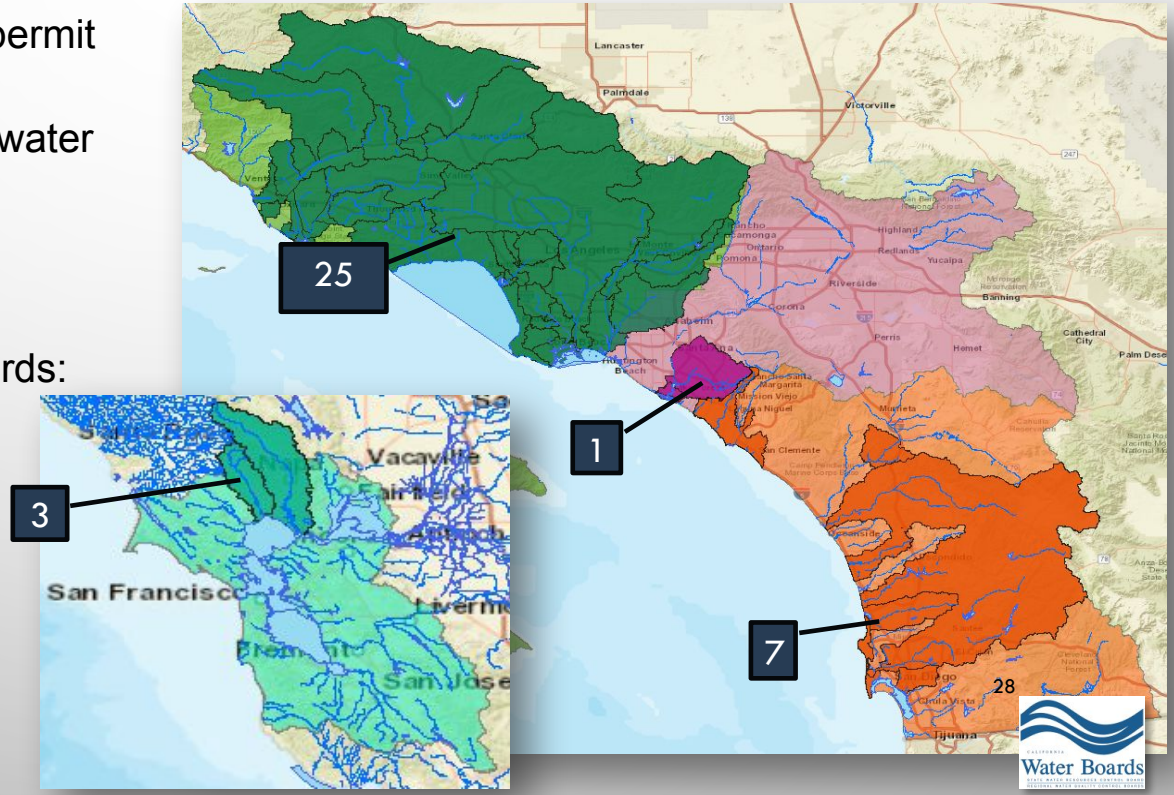
Table E-1: List of Applicable TMDLs

TMDL	Pollutant
San Francisco Bay Regional Water Quality Control Board	
Napa River Sediment TMDL	Sediment
Sonoma Creek Sediment TMDL	Sediment
Walker Creek Mercury TMDL	Mercury
Los Angeles Regional Water Quality Control Board	
Ballona Creek Metals TMDL	Metals
Ballona Creek Estuary Toxics TMDL	Toxic Pollutants
Ballona Creek, Ballona Estuary and Sepulveda Channel TMDL	Bacteria
Calleguas Creek Salt TMDL	Salts
Calleguas Creek Watershed Metals and Selenium TMDL	Metals and Selenium
Colorado Lagoon TMDL	Pesticides, Polycyclic aromatic hydrocarbons, PCBs, and Metals
Harbor Beaches of Ventura County TMDL	Bacteria
Long Beach City Beaches and Los Angeles River Estuary TMDL	Indicator Bacteria
Los Angeles and Long Beach Harbors Waters TMDL	Toxic and Metals
Los Angeles Area Lakes TMDL	Nitrogen, Phosphorus, Mercury, Trash, Organochlorine Pesticides and PCBs
Los Angeles Harbor (Inner Cabrillo Beach and Main Ship Channel) TMDL	Bacteria
Los Angeles River Nitrogen TMDL	Nutrients
Los Angeles River Metals TMDL	Metals
Los Cerritos Channel TMDL	Metals
Machado Lake Nutrient TMDL	Nutrient
Machado Lake Toxics TMDL	Toxics
Marina del Rey Harbor Mothers' Beach and Back Basins TMDL	Bacteria
Marina Del Rey Harbor Toxics TMDL	Copper, Lead, Zinc, and Chlordane, and Total PCBs
Oxnard Drain 3 TMDL	Pesticides, PCBs and Sediment Toxicity
San Gabriel River Metals and Selenium TMDL	Metals and Selenium
Santa Clara River TMDL	Bacteria
Santa Clara River Chloride TMDL	Chloride
Santa Clara River Nitrogen TMDL	Nutrients
Santa Monica Bay Dichlorodiphenyltrichloroethane and Polychlorinated Biphenyls TMDLS	Dichlorodiphenyltrichloroethane and Polychlorinated Biphenyls
Santa Monica Bay Debris TMDL	Nearshore Debris
Santa Ana Regional Water Quality Control Board	
San Diego Creek and Newport Bay Toxics TMDL	Toxic Pollutants
San Diego Regional Water Quality Control Board	
Baby Beach and Shelter Island Indicator Bacteria TMDL	Indicator Bacteria
Chollas Creek Diazinon TMDL	Diazinon
Chollas Creek Metals TMDL	Copper, Lead, and Zinc
Los Peñasquitos Lagoon Sediment TMDL	Sediment
Rainbow Creek Watershed TMDL	Total Nitrogen and Total Phosphorus
Shelter Island Yacht Basin Copper TMDL	Dissolved Copper
Twenty Beaches and Creeks Bacteria TMDL	Indicator Bacteria

APPLICABILITY OF TMDL-SPECIFIC REQUIREMENTS

- Attachment E of the general permit includes approved TMDLs applicable to industrial storm water discharges

- The 36 TMDLs are within the following Regional Water Boards:
  - San Francisco Bay (3 TMDLs)
  - Los Angeles (25 TMDLs)
  - Santa Ana (1 TMDL)
  - San Diego (7 TMDLs)



TMDLS TRANSLATION PROCESS

- Step 1: Determined whether the TMDL applies to industrial storm water discharges and authorized non-stormwater discharges regulated by the IGP;
- Step 2: Identified the specific TMDL requirements that are applicable to discharges regulated by the IGP;
- Step 3: Translated the TMDL requirements into TMDL-specific numeric action levels or numeric effluent limitations;
- Step 4: Determined a compliance schedule that corresponds with the compliance date of the TMDL;
- Step 5: Developed monitoring and reporting requirements to determine compliance with waste load allocations;
- Step 6: Identified existing IGP requirements applicable to each TMDL constituent and evaluated if additional TMDL-specific requirements were required to implement the TMDL; and,
- Step 7: Provided explanations of the TMDL translations into IGP-specific requirements

TRANSLATED TMDL-SPECIFIC REQUIREMENTS

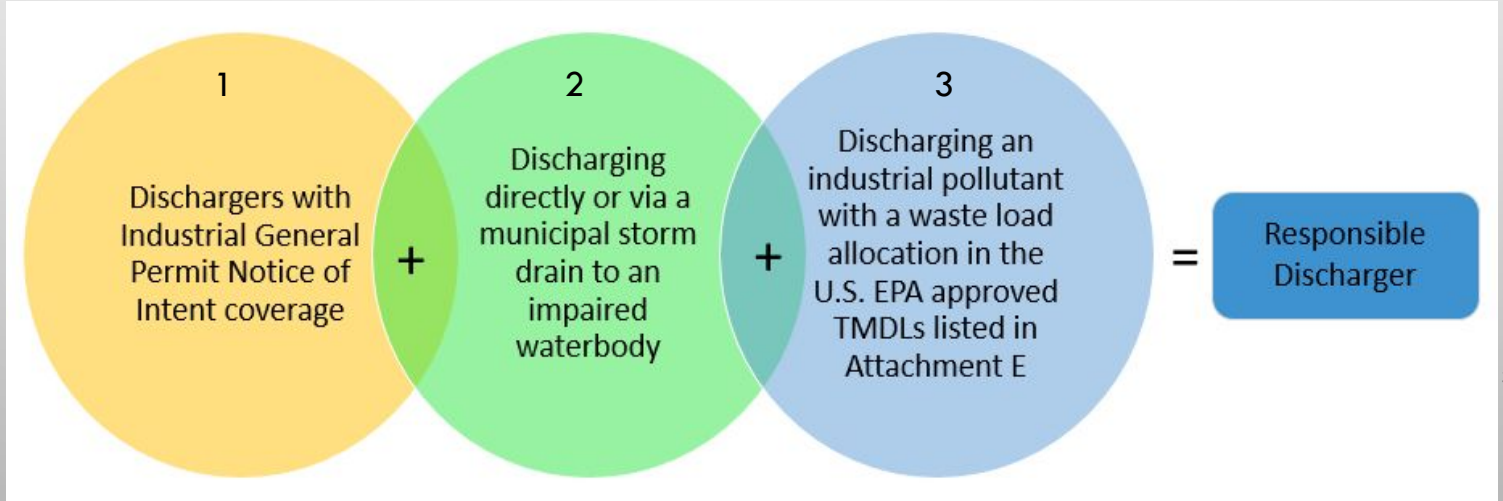
- Some TMDLs translated into the requirement to comply with the general permit
- TMDLs with concentration-based waste load allocation translations for industrial sources are implemented into this general permit as TMDLs numeric action levels (TNALs) or numeric effluent limitations (NELs)
- TNALs and NELs apply in addition to general permit numeric action levels. An exceedance is two sampling results over the value within a reporting year
- TMDL-specific general permit requirements are in Attachment E table E-2 of the IGP and on the program webpage:

https://www.Waterboards.Ca.Gov/water_issues/programs/stormwater/docs/industrial/unoff_igp_amend.Pdf

KEY TERMS

- ‘Responsible Discharger’ Means:

“A discharger with notice of intent (NOI) coverage under this general permit who discharges storm water associated with industrial activities (and authorized non storm water dischargers [NSWDS]) either directly or through a municipal separate storm sewer system (MS4) to impaired waterbodies identified in a U.S. EPA approved TMDL with a waste load allocation assigned to industrial storm water sources.”



APPLICABILITY OF TMDL-SPECIFIC REQUIREMENTS
ATTACHMENT E TABLE E-2

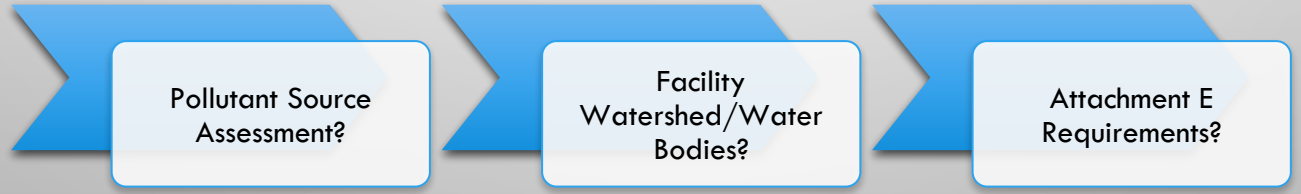
TMDL	Impaired Waterbody/ Watershed	Pollutants	Additional TMDL-related Numeric Action Level or Numeric Effluent Limitation	Required Actions	Compliance Due Date
Name of TMDL with industrial stormwater sources	TMDL impaired waterbody(ies) **or** watershed/tributaries	-TMDL Pollutants -Assessment and Monitoring required for industrial pollutants	Applicable TMDL numeric action level or TMDL numeric effluent limitation	Required TMDL compliance actions	Compliance assessed on or after the date in this column

APPLICABILITY OF TMDL-SPECIFIC REQUIREMENTS

- IGP Dischargers need to:
  - Complete a facility industrial pollutant source assessment (IGP Order Section X)
  - Implement best management practices (BMPs) to reduce/prevent the pollutant discharge
  - Develop and implement a monitoring implementation plan
  - Conduct sampling and analysis for all applicable parameters (IGP Order Section XI.B.6)
  - Develop and implement an updated storm water pollution prevention plan (IGP Order Section X)

APPLICABILITY OF TMDL-SPECIFIC REQUIREMENTS

- IGP Dischargers in Region 2, 4, 8, or 9 need to determine if they are a Responsible Discharger by identifying the:
  - Facility's watershed
  - Facility's receiving water body(ies) per the definition of Responsible Discharger
  - Identify if the receiving water body is tributary to a larger watershed system (e.g., un-named urban creek)
  - TMDL-specific pollutants in the industrial stormwater discharging from the facility
  - TMDL-specific actions applicable in the Attachment E of the IGP
  - Revise their storm water pollution prevention plan when significantly changed (IGP Section X.B)



IMPLEMENTATION OF AMENDED IGP IN SMARTS

- Reporting requirements will continue to be electronically through SMARTS
- Dischargers complying with TMDL-specific requirements will need to self-identify and report compliance
- Dischargers implementing a capture and use compliance-option will report electronically using SMARTS
- SMARTS will not calculate exceedances of TMDL-related numeric action levels or effluent limitations

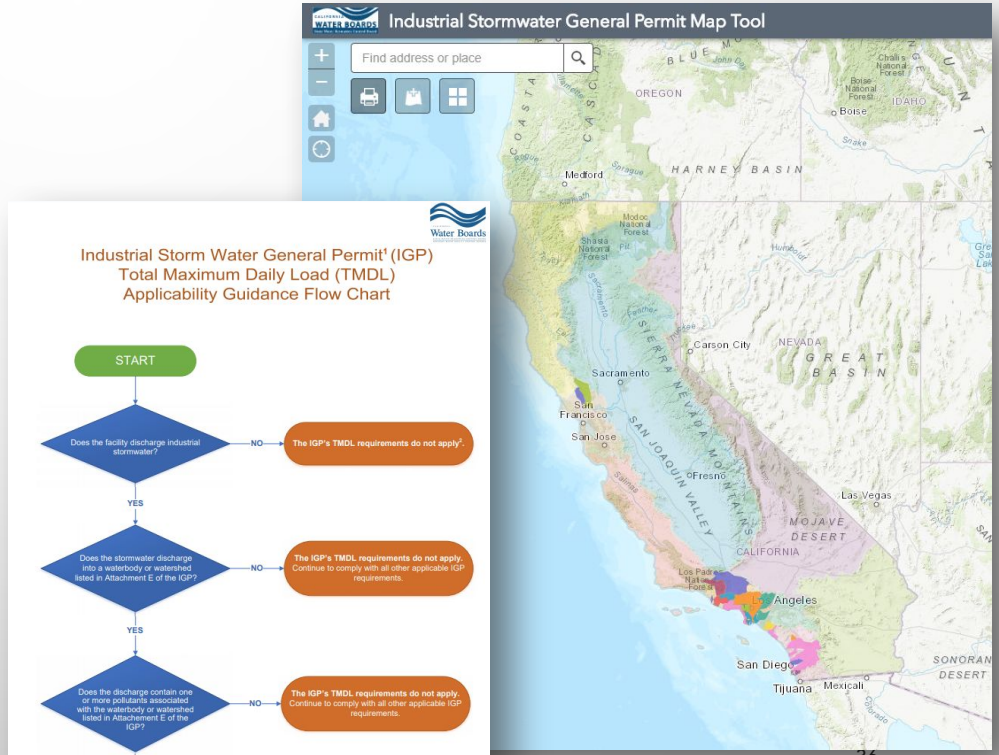
Resources Available For New TMDL Requirements

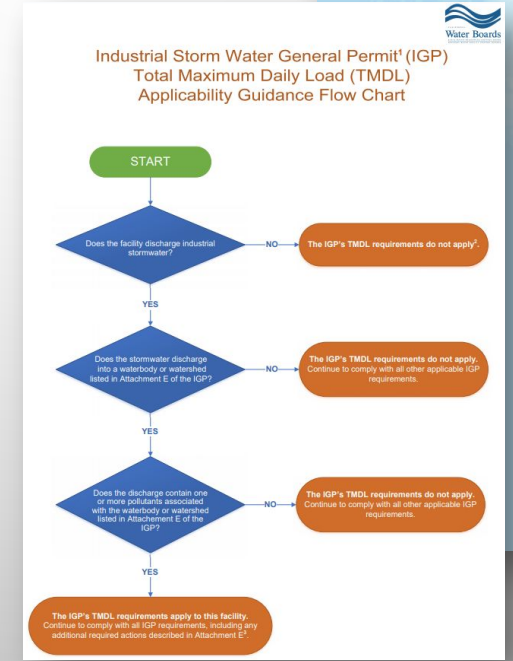
- Mapping tool featuring the TMDL waterbody(ies) and watersheds

https://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.html

- Guidance Flow Chart for dischargers with TMDL requirements
- Fact Sheet summarizing new requirements

https://www.waterboards.ca.gov/water_issues/programs/stormwater/igp_20140057dwq.shtml





OPTIONAL CAPTURE AND USE COMPLIANCE “INCENTIVES”

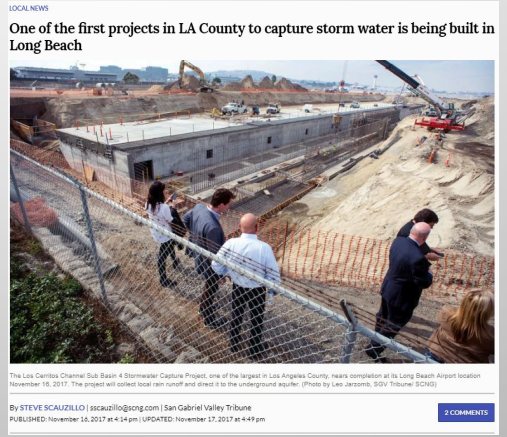
ATTACHMENT I OF THE IGP

1. On-site compliance: dischargers may install best management practices (BMPs) designed to capture and use the daily 85th percentile 24-hour storm event volume of industrial storm water and authorized non-storm water

Or

2. Off-site compliance: dischargers may participate in agreements with municipalities or other dischargers to install BMPs meeting the above requirements.

Colorado Stormwater Center CSU


LOCAL NEWS

One of the first projects in LA County to capture storm water is being built in Long Beach

The Los Cerritos Channel Sub Basin 4 Stormwater Capture Project, one of the largest in Los Angeles County, nears completion at its Long Beach Airport location November 16, 2017. The project will collect local rain runoff and direct it to the underground aquifer. (Photo by Leo Jarzombi, SGV Tribune/ SCNG)

By STEVE SCAUZILLO | sscauzillo@scng.com | San Gabriel Valley Tribune

PUBLISHED: November 16, 2017 at 4:14 pm | UPDATED: November 17, 2017 at 4:49 pm

2 COMMENTS

Water Boards

ATTACHMENT I OF THE IGP

- The On-Site and Off-Site Compliance Options include requirements for groundwater protection applicable to infiltration BMPs.

- The Off-Site Compliance Option requires an agreement between parties be approved by the Regional Water Quality Control Board.

- Dischargers complying with one of these options are deemed in compliance with the IGP discharge prohibitions, action levels, effluent limitations, and receiving water limitations (e.g. TMDLs) once the BMPs are implemented and operational

- The proposed capture and use incentives are available statewide to dischargers with IGP coverage able to meet the applicable Attachment I criteria. Dischargers with Level 2 Exceedance Response Action status can begin planning today.

TIMELINE

State Water Board adoption of new requirements

6 November 2018

Effective Date of new requirements

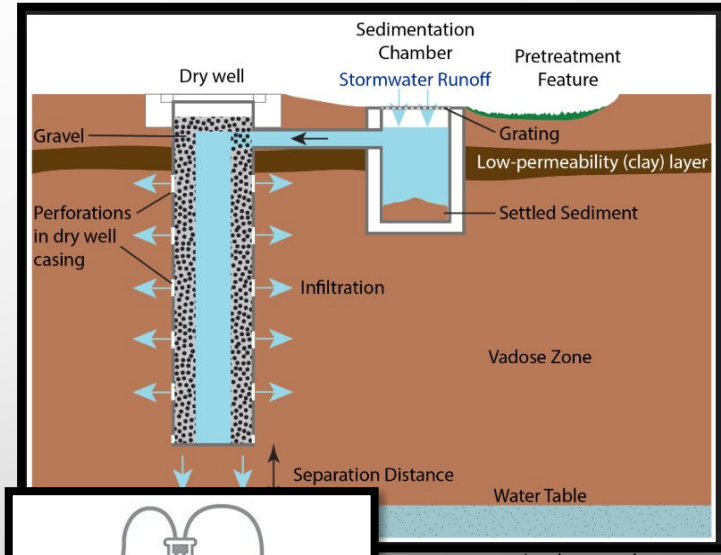
1 July 2020

August 19 2019 - Sacramento and Webcast
August 28, 2019 – Playa Del Rey
September 18, 2019 – Santa Ana RWQCB

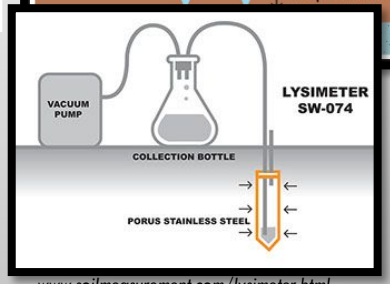
Statewide trainings on new requirements

ON-SITE COMPLIANCE GROUNDWATER PROTECTION

Compliance Demonstration	Maximum Contaminant Levels (MCLs)*	Constituents of Concern
Non-dry well BMPs	BMP influent or measured in groundwater	Prevent identified constituents in Table B from impacting groundwater beneficial uses
Dry well BMPs	BMP influent	



American geosciences.org



www.soilmeasurement.com/lysimeter.html

*APPLIES TO ALL PRIMARY MCLS AND SECONDARY MCLS FOR TOTAL DISSOLVED SOLIDS, CHLORIDE, SPECIFIC CONDUCTANCE, AND SULFATES

COMPLIANCE OPTIONS

TABLE B: Constituents of Concern

Pollutant/Constituent[23]
1,1-Dichloroethane (1,1-DCA)
1,1-Dichloroethylene (1,1-DCE)
1,2,3-Trichloropropane (1,2,3 TCP)
1,2-Dichloroethane (1,2-DCA)
1,4 Dioxane (as Dioxane)
Arsenic
Benzene
Cadmium
Carbon Tetrachloride *
Chromium, Total
cis-1,2-Dichloroethylene *
Cyanide
DBCP
Di(2-ethylhexyl) phthalate (DEHP) *
Fluoride
Lead
Manganese
Methylene Chloride
Nickel
Nitrite Plus Nitrate (as N)
N-Nitrosodimethylamine (NDMA)
Perchlorate *
Polychlorinated Biphenyls (PCBs)
Polycyclic Aromatic Hydrocarbons (PAHs)
Tertiary Butyl Alcohol (TBA) *
Tetrachloroethylene (PCE) *
Total Trihalomethanes *
Trichloroethylene (TCE) *
Triclosan *
Vanadium
Vinyl chloride

IV. Protection of Waters of the State

A. The following discharges are prohibited for any Discharger implementing a Compliance Option:

1. Water related to the cleaning and maintenance of the BMP is an unauthorized NSWD; and,

2. Storm water associated with industrial activities occurring below the 85th percentile 24-hour storm event and/or sources of non-storm water authorized by this General Permit in Section IV.

B. The migration of pollutants that cause or contribute to the exceedance of a water quality objective in groundwater is prohibited. The Discharger shall ensure infiltration BMP(s) implemented for compliance with a Compliance Option shall be designed and operated to:

1. Prevent captured and/or infiltrated storm water from causing or contributing to the exceedance of a water quality objective in groundwater;

2. Prevent the constituents in Table B from causing a threat to the attainment of the groundwater's beneficial use(s) if identified and have the potential to discharge to groundwater.

[23] * Constituents currently without a 40 C.F.R. 136 approved test method. The Discharger may request approval from the appropriate Regional Water Board or the State Water Board to review and approve a proposed test method for sampling and analysis.

Again…is this just crazy California?

Probably not.

The EPA National Enforcement Initiatives and eReporting will affect facilities nationally.

EPA National Enforcement Initiatives

Keeping Raw Sewage and Contaminated Stormwater Out of Our Nation's Water

Keeping Industrial Pollutants Out of Our Nation's Water

https://www.epa.gov/enforcement/national-compliance-initiatives

"...e-reporting will allow regulated entities, government agencies and the public to more quickly identify violations..."

-EPA Next Generation Compliance Strategic Plan 2014-2017

mapistry

“

“increased transparency and real time information…help us to better protect public health and the environment, [and] ***assure a level playing field for businesses that play by the rules…”***

-EPA Next Generation Compliance Strategic Plan 2014-2017

mapistry


Those who embrace technology,
automation, and real-time analytics
avoid violations.
mapistry


The public has
unprecedented
access to the details
of your stormwater
program
mapistry

How do we build a **world-class** environmental program?

Analytics

Automation

Mobile

Training

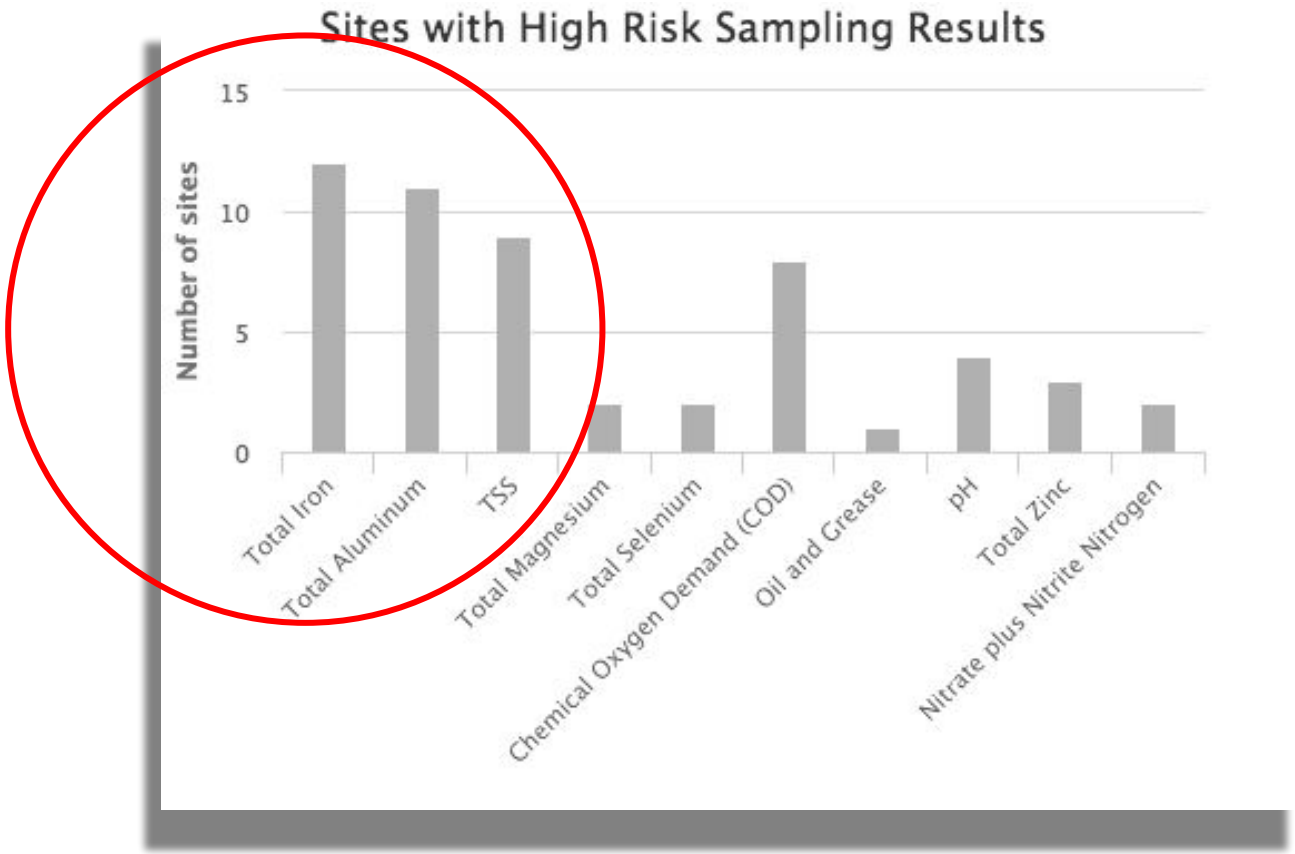
Subject Experts

For TMDL's

Analytics & Reminders

mapistry

Mapistry Software Analysis



mapistry

Rain Event Monitoring & Alerts

Upcoming QSE for your site(s) Inbox ×

Mapistry
to me

mapistry

Hello Page Rossen!

The National Oceanic and Atmospheric Administration (NOAA) weather forecast indicates the following site(s) may have a qualified storm event tomorrow:

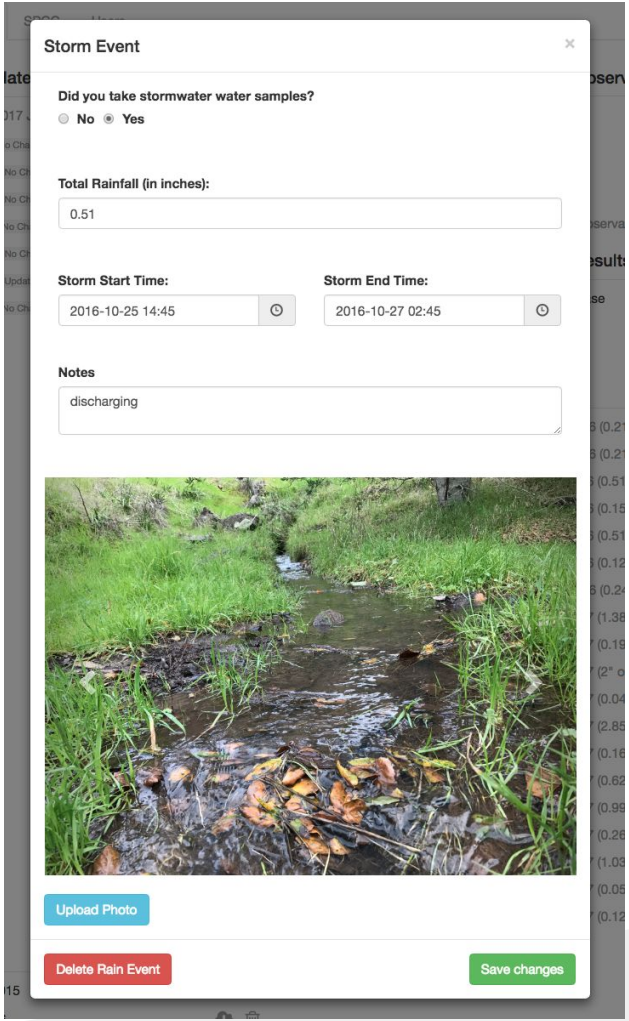
- Seattle Transfer Station
  - High chance of rain between Jun 7, 5:00AM PDT and Jun 7, 5:00PM PDT
  - High chance of rain between Jun 7, 5:00PM PDT and Jun 8, 5:00AM PDT
- Concord Transfer Station
  - High chance of rain between Jun 7, 5:00AM PDT and Jun 7, 5:00PM PDT
  - High chance of rain between Jun 7, 5:00PM PDT and Jun 8, 5:00AM PDT

A qualified storm event is a storm producing a minimum amount of discharge preceded by a 48 - 72 hour dry period depending on your state requirements.

Your Sampling Observation Form can be found online or on the mobile app.

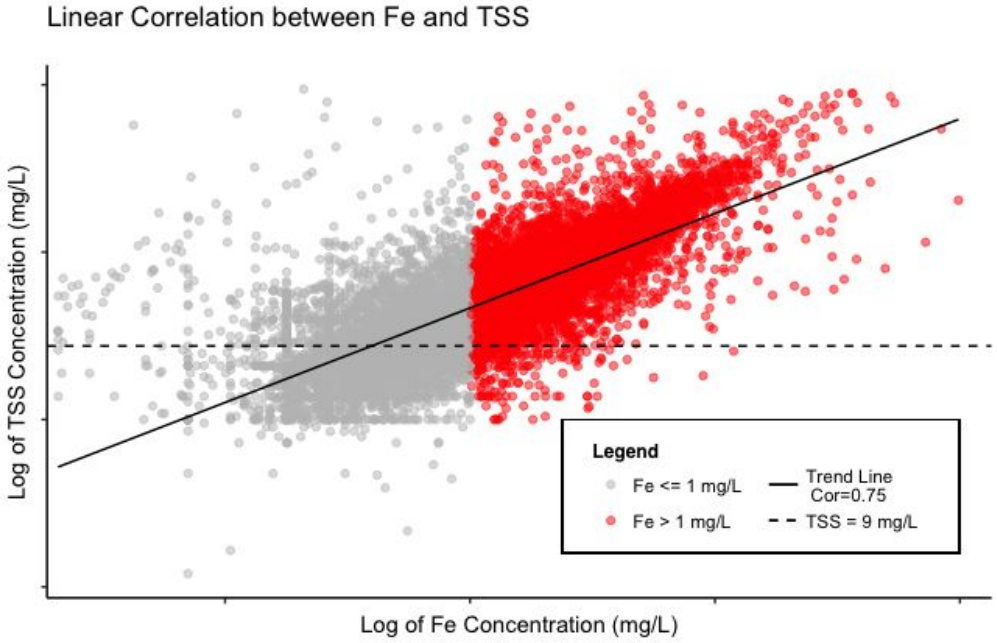
Happy sampling,
-The Mapistry Team

Reply Forward



mapistry

Sediment Removal = Metals Removal



mapistry

Sampling Status (and Risk)

Inspections | Corrective Actions | Parameter Status | Deficiencies

- Sites
- Parameters
- Site Tag: Region
- Status Legend
  - Alarming Results (9)
  - Flawed Results (10)
  - Good Results (7)

Parameter Status Information

Parameter Status Chart

Site and Parameter Status				Total
Total Copper	1	1	2	4
CA - Wilmington	Baseline	-	-	1
CA - Costa Mesa	-	-	Level 2	1
CA - Gardena	-	Level 1	-	1
CA - Berkeley	-	-	Level 2	1
Total Iron	2	2	4	8
Total Zinc	1	2	1	4
Total Suspended Solids (TSS)	-	4	2	6
pH	1	1	-	2
Oil and Grease	2	-	-	2
Totals	7	10	9	26

FOLSOM READY MIX

"Mapistry is a **complete and smart solution** for managing stormwater compliance. The interface along with continued training and staff support eliminate all the guesswork and give complete confidence that we are doing the right thing."

Josh Neff - Folsom Ready Mix

mapistry

Questions?

Laurel Warddrip (Water Board)

Laurel.Warddrip@waterboards.ca.gov

Ryan Janoch (Mapistry)

ryan@mapistry.com