

# WEBINAR

# Industrial Stormwater Monitoring – A Community Approach

**April 29, 2020 11:30 AM - 12:30 PM**

**California Water Quality Monitoring Collaboration Network**

A statewide forum for members of the monitoring community to share ideas, successes and common concerns.

[https://mywaterquality.ca.gov/monitoring\\_council/collaboration\\_network/index.html](https://mywaterquality.ca.gov/monitoring_council/collaboration_network/index.html)



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## ***TODAY'S PRESENTERS:***



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# Industrial Stormwater Monitoring- A Community Approach



# Stormwater is everywhere but sites vary by purpose

- Point Source
- Non Point Source
- Agricultural
- MS4



# Stormwater monitoring can utilize several methods:

- Observation of site  
Camera/Written documentation
- Water quality sampling  
Sample bottles/meters



# Purpose

- **Collect site data and water samples to document conditions and determine compliance with Industrial permits**
- **Could lead to Notice of Violation, Fines, Litigation**
- **Enforcement actions allowed under Federal Clean Water Act**
- **Ensure drinkable, swimmable, fishable water**



# Monitoring is intended to answer the following general questions:

- Who are the operators of the Facility?
- What are the conditions at the facility?
- Where is water discharging from the facility and where does it go?
- When is the discharge happening?

# Constraints

Extreme wet weather may pose a safety hazard to sampling personnel and may therefore impact planned storm event sampling.





# BMPs to look for



Driveway Drain

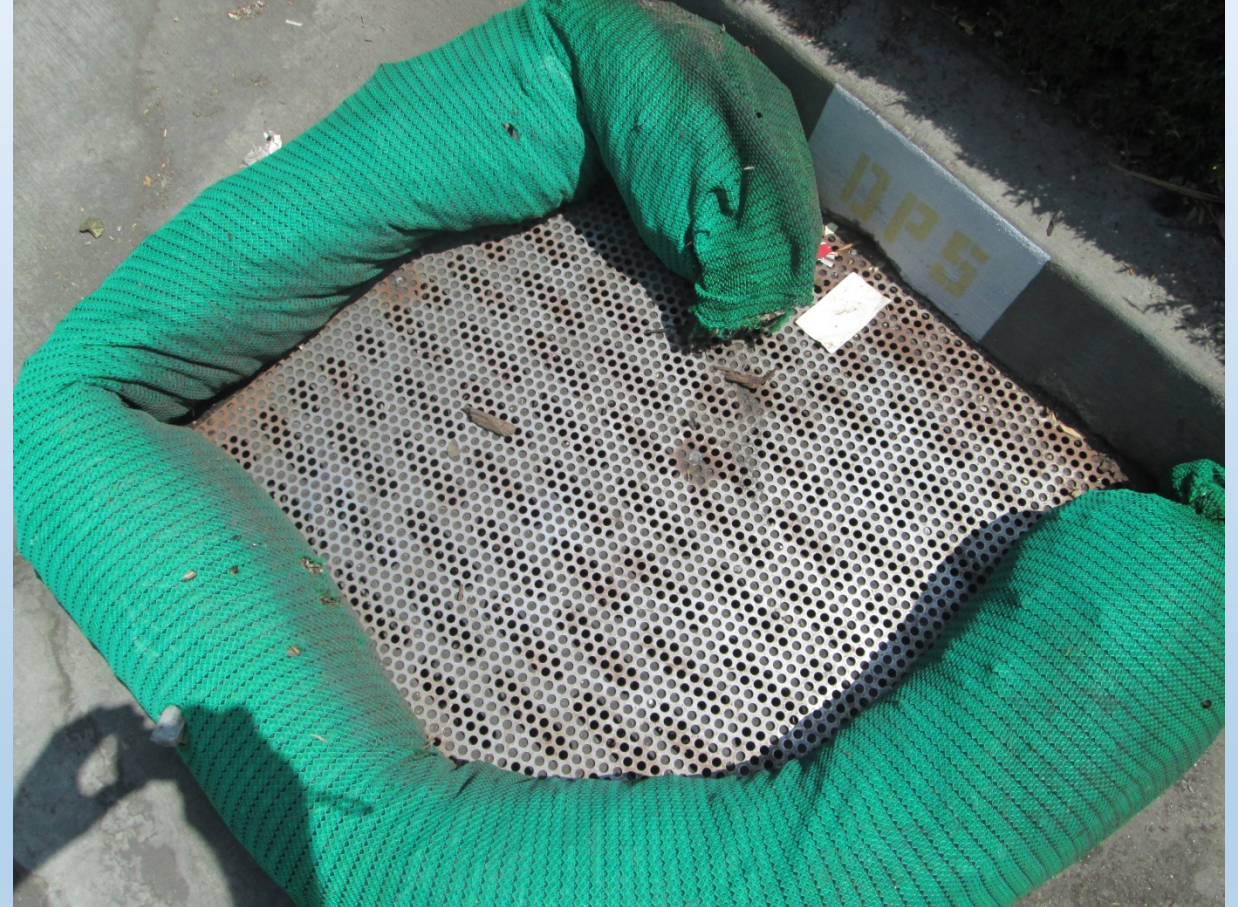


Concrete Swale

# BMPs to look for



Rumble strips



Socks

## BMPs to look for



Drums, Containers

Coverings, Hazardous waste

Secondary Containment

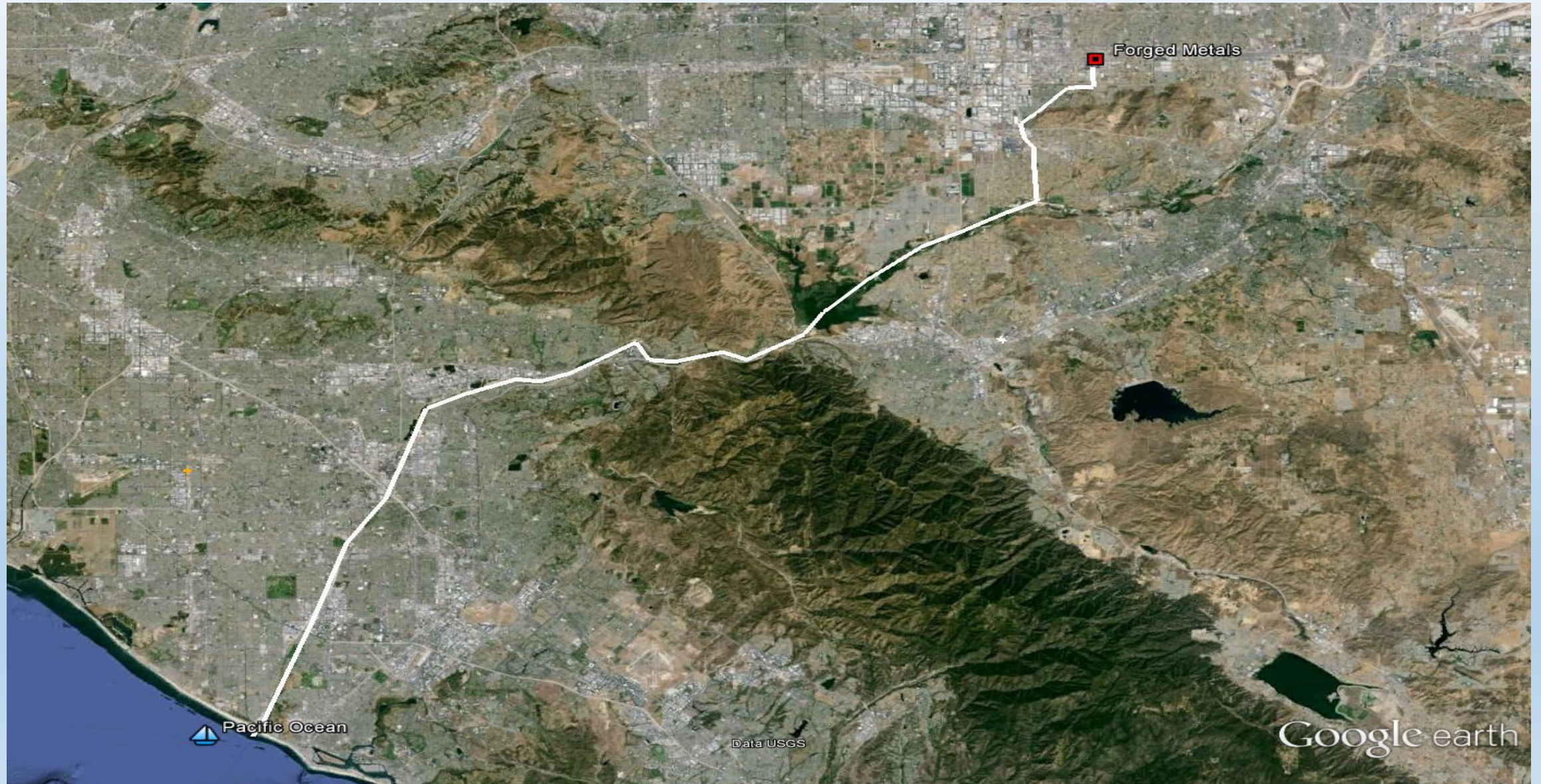
# Examples



# Site Overview



# Runoff path to the Sea



# Santa Ana River

## Impairments

- Copper
- Lead
- Indicator Bacteria

## Beneficial Uses

- Agricultural Supply
- Groundwater Recharge
- Water Contact Recreation
- Non-Contact Recreation
- Wildlife Habitat
- Warm Freshwater Habitat
- Rare, Threatened or Endangered Species

# Stormwater to Drain 5 South 2/28/14





# Close up of Stormwater to Drain 5 South 2/28/14



Stormwater to Drain 5 South 2/28/14



# Stormwater to Drain 5 South 4/1/14



Uncovered outdoor storage by building 3,  
1/30/14



# Uncovered outdoor storage by building 3, 1/30/14



Uncovered bins and debris on ground in driveway south of building 2, 1/30/14



# Uncovered Outdoor Storage in north east area of site 7/18/14



# What do we measure?

Metals	Bacteria	Others and Field tests
Cadmium	Total coliform	Chemical Oxygen Demand (COD)
Copper	Fecal Coliform	Turbidity
Lead	Enterococcus	Total Suspended Solids
Nickel	E.coli	Field Tests (multimeter)
Selenium	DNA Analysis	Electrical conductivity
Zinc		Dissolved Oxygen
CaCO3 hardness		PH
		Temperature

# Specialized training

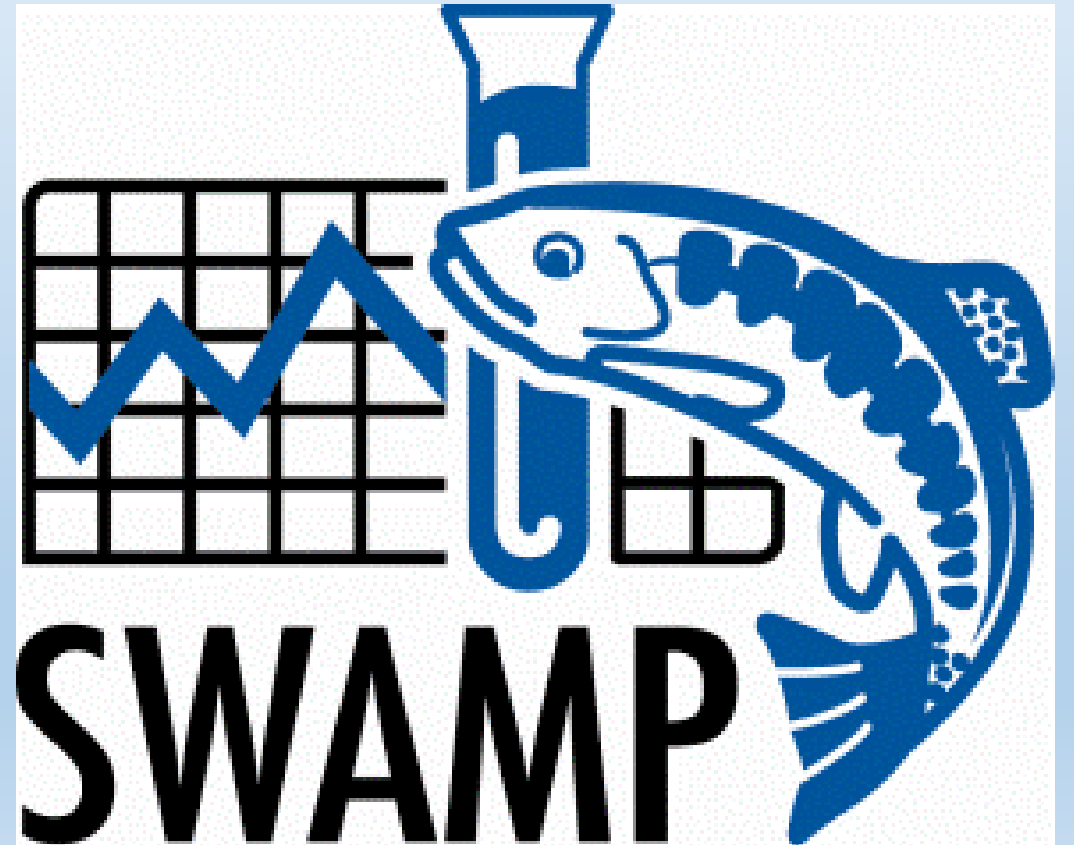
Every member of the field crew will be instructed on

- Personal health and safety while in the field;
- Field and lab paperwork protocols (e.g., chain of custody, GPS);
- Sample collection methods, and
- Sample transport and hold- time protocols.



# Quality Assurance Project Plan

- Guiding Document for all sampling efforts
- Covers all aspects of Project
- Data Sheets
- Chain of Custody forms



# Laboratory Analysis

There are many laboratories available and it is a competitive business. Shop for the best deal and service.

- State Certified
- Can do the testing you need
- Close by and open when you need them
- Good customer service is critical



# Different Containers for Different Tests

- 120 ml amber glass for Ammonia- Nitrogen, Nitrate – Nitrogen, Orthophosphate
- 120 ml Polystyrene for E. coli bacteria and Total coliform, Enterococcus bacteria
- 1 liter Amber glass for Total recoverable Petroleum Hydrocarbons
- 1 liter polyethylene container for Dissolved metals, Total Hardness

# Water chemistry field measurements

- water temperature ( $^{\circ}\text{C}$ )
- specific conductivity ( $\mu\text{S}/\text{cm}$ )
- Total dissolved solids (TDS) (ppt)
- pH
- dissolved oxygen (mg/L and % saturation)
- Meters can be rented.



# Legal Considerations

