



county of san diego



STORMWATER TRAINING

FOR COUNTY
OPERATIONS STAFF

FISCAL YEAR 2020-2021



The purpose of this training is to provide information on **stormwater** related topics that are relevant to the work you do for the County.

Understanding and following the guidance presented in this training is intended to **promote healthy environments** by **reducing stormwater pollution** and to **keep us in compliance** with State and Regional regulations.

We are all responsible for maintaining the health of the waters in our region, where we all live and work.

As County operations staff, you play a vital role in keeping pollution out of our waters through the implementation of **Best Management Practices** (BMPs) and compliance with regulations.

This training will cover the following topics:

- ✓ Water Quality
 - ✓ Stormwater Concepts
 - ✓ Regulatory Framework
 - ✓ Risks
 - ✓ Responsibilities
 - ✓ Best Management Practices
- ✓ Documentation
 - Pollution Prevention Plans
 - Facility Self-Inspections
 - Annual Staff Training
 - Annual Reporting
- ✓ Referrals & Notifications
 - ✓ Resources

Water flowing into storm drains is not treated before it enters our creeks, rivers, lakes, and ocean.

Responsible storm water management results in cleaner water, which is vital to public and environmental health.

We can manage our stormwater by:

- ✓ Identifying types of water pollution
- ✓ Implementing & maintaining BMPs
- ✓ Complying with regulations



Morrison Pond; Bonita, CA

STORMWATER CONCEPTS

Storm Drain System

Sewer System

STORM DRAIN SYSTEMS ARE NOT TREATED

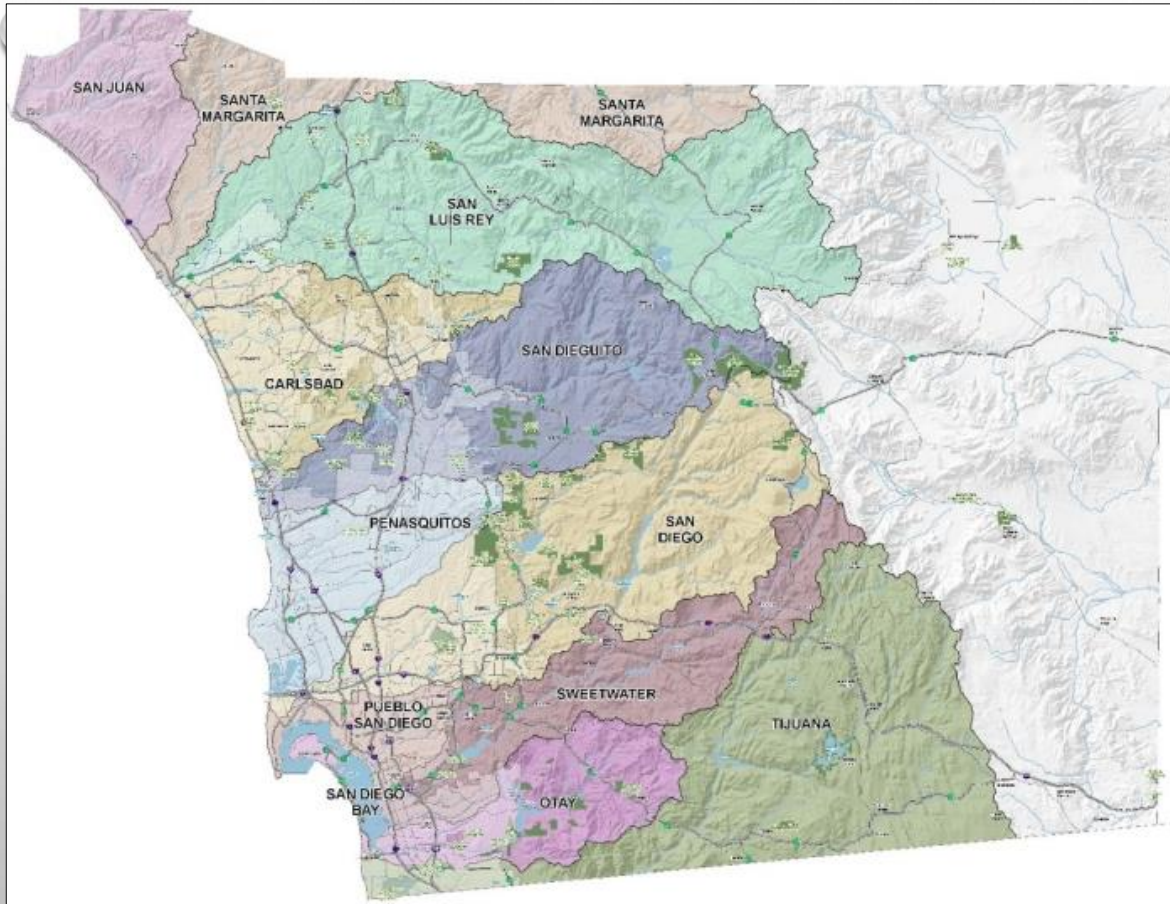
Sewage Treatment Plant



The technical term for the “storm drain system” is the
Municipal Separate Storm Sewer System (MS4)

- ❖ The MS4 is comprised of County storm drains, County roads, curb and gutters, County culverts, and County maintained flood control channels
- ❖ Unlike the sanitary sewer system, water flowing through the MS4 **does NOT receive treatment** before it reaches our local waterways





County of San Diego Watersheds

- ❖ A **watershed** is a land area that drains into a common water body
- ❖ In San Diego County, there are 11 major watersheds that ultimately drain to the Pacific Ocean

There are two main sources of water entering storm drains:

✓ **Stormwater Runoff**



Rainwater flows resulting from a storm

✗ **Urban Runoff**



Flows from human activities in the urban environment

ONLY STORMWATER IS LEGALLY PERMITTED TO ENTER STORM DRAINS

It is **unlawful** for any person to discharge or cause the discharge of pollutants or non-stormwater directly or indirectly into the MS4 or receiving waters (e.g., streams, lakes, bays, or the ocean).

There are multiple ways discharges can occur:

- ❖ **Illegal discharge:** direct discharge of pollutants to the MS4



- ❖ **Illegal connection:** a pipe/hose directing pollutants to the MS4



- ❖ **Dumping, littering, or stockpiling:** can result in an indirect illegal discharge



Some pollutants have significant negative impacts on surface waters, groundwater, the environment, and can potentially harm human health.

These are known as **Pollutants of Concern** and are defined as *common pollutants that degrade water quality, human health, and natural habitats.*

It is up to all of us to keep Pollutants of Concern out of the waters in our region.

Examples of Pollutants of Concern



Bacteria & trash



Sediment



Nutrients



Oil & Grease



Metals



Other Organics (soaps, chemicals)



Pesticides

Some activities you engage in have a higher risk of causing pollution.

These are known formally as **Pollutant-Generating Activities** and are defined as *activities that have the potential to discharge pollutants*.

When conducting Pollutant-Generating Activities, appropriate BMPs must be implemented to prevent pollution.

Common Pollutant-Generating Activities

- ❖ Loading/unloading
- ❖ Outdoor storage
- ❖ Construction
- ❖ Power-washing or steam cleaning
- ❖ Hosing off vehicles/equipment
- ❖ Spills and leaks
- ❖ Vehicle maintenance & parking
- ❖ Waste management
- ❖ Landscaping/irrigation



Power washing



Construction

Below are common sources of pollutants that you may encounter. **Implement BMPs to prevent these sources from reaching our waterways.**

POLLUTANT OF CONCERN	POTENTIAL SOURCES
Bacteria & Trash	Trash, animal waste, failing sewer/septic systems
Sediment	Land disturbance activities (grading/clearing/erosion)
Nutrients	Fertilizers, animal waste, failing sewer/septic systems
Metals	Rust, industrial activity (grinding, welding), car brake dust
Oil & Grease	Cooking oil, automotive oil, diesel fuel, gasoline
Other Organics	Cleaning agents, alcohol, solvents, wash water, additives
Pesticides	Insecticides, herbicides, fungicides, rodenticides

STORMWATER CONCEPTS



Redirect flows to landscape



**Raise & cover materials
& equipment**

Using **Best Management Practices (BMPs)** prevents pollutants from entering our storm drains. These are some examples of actions we can take to prevent discharges of pollutants to the MS4.

Stabilize eroding slopes



Stabilize entrances



**Timely containment
and cleanup of spills**



Proper storage of pollutants



- ✓ Consult your Facility Pollution Prevention Plan (F3P) to see which pollutants of concern, pollutant generating activities, and BMPs apply to your operations.
- ✓ Implement appropriate BMPs to prevent pollution.

REGULATORY FRAMEWORK



If you think your facility may be subject to the CGP or IGP, contact the WPP for guidance.

Federal Clean Water Act (CWA)

National Pollutant Discharge Elimination System (NPDES)

Municipal MS4 Permit

Jurisdictional Runoff Management Program & Watershed Protection, Stormwater Management, and Discharge Control Ordinance

Statewide Construction General Permit (CGP)

Projects that disturb one or more acres

Statewide Industrial General Permit (IGP)

Certain manufacturing, transportation, power generation, and waste management activities

✓ As County operations staff it is important to be familiar with the sections of the **Jurisdictional Runoff Management Program (JRMP)** that apply to your team's activities.

❖ The County's JRMP is a plan that describes how the County will comply with the MS4 Permit

❖ The Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO) provides the legal support for JRMP implementation



For assistance locating or understanding the JRMP, contact the WPP.

projectcleanwater.org/downloads/jrmp

RISKS

Failure to comply with any Permit can result in enforcement from the State or in third-party lawsuits.

To avoid this, please ensure the following at your facilities:

- ✓ **Documentation is current**
- ✓ **BMPs are implemented properly**
- ✓ **Staff have been trained appropriately**

The San Diego Regional Water Quality Control Board issues fines to municipalities and businesses within the County of San Diego.



As County Operations Staff you may be responsible for the following:

- ✓ Knowing & understanding which BMPs are required for your operations
- ✓ Maintaining your Facility Pollution Prevention Plans (F3Ps)
- ✓ Conducting Facility Self-Inspections
- ✓ Providing data for the annual stormwater JRMP reporting
- ✓ Providing referrals & notifications for stormwater-related issues

There are multiple types of BMPs that may be relevant to your work. These include:

- Source Control
- Erosion Control
- Sediment Control
- Structural Control
- Significant Site Design



Example of a Structural BMP

Examples of each are found on the following slides.

Source Control BMPs

Definition: *operational practices that reduce potential pollutants at the source*

- ✓ General pollution prevention
e.g., storing pollutants properly



- ✓ Spill & leak response
e.g., spill kits



- ✓ Good housekeeping practices
e.g., sweeping



Erosion Control BMPs

Definition: *practices that prevent or reduce soil erosion*



✓ Planting vegetation



✓ Using geotextiles or mats on slopes



✓ Applying hydro-mulch



✓ Using plastic tarps to contain stockpiles



✓ Using riprap or gabions to slow and dissipate stormwater flows

Sediment Control BMPs

Definition: *practices that prevent loose sediment (dirt) from entering storm drains*

✓ Storm drain protection



✓ Fiber rolls



✓ Silt fences



✓ Gravel berms



Structural BMPs

Definition: *engineered BMPs that slow and filter pollutants from stormwater*

Structural BMPs allow pollutants to settle or filter through soil or other media, and they reduce overall flow downstream, which prevents erosion of stream banks.



Detention basin



Vegetated swale

- ❖ Structural BMPs require maintenance and can create a vector control issue if not properly managed
- ❖ Municipal Structural BMPs are tracked for maintenance by your departmental operations and the Watershed Protection Program

Each County facility must maintain documentation of the following:

- ✓ Facility Pollution Prevention Plans (F3Ps)
- ✓ Facility Self-Inspections
- ✓ Staff Training
- ✓ Annual Stormwater JRMP Reporting



Document your staff training

You may also need to document stormwater BMPs for outside vendors, contractors, or lessees conducting activities on County facilities.



A **Facility Pollution Prevention Plan (F3P)** is a *site-specific plan that describes stormwater pollution prevention practices, required BMPs, and operations & maintenance (O&M).*

Further details in an F3P include:

- Emergency contact information of responsible personnel
- Site map
- Location of structural BMPs
- Description of potential pollutant sources
- Description and maintenance of BMPs
- Facility self-inspection reports
- Staff training records
- Spill Prevention and Response plans
- Any O&M updates
- Review & update annually

As part of your F3P, you are required to conduct **self-inspections**

Facility self-inspections should be conducted at least annually to:

- ✓ Recognize areas or activities that could potentially discharge pollutants
- ✓ Identify where maintenance is needed
- ✓ Determine where to implement additional BMPs
- ✓ Record observations & corrective actions on the inspection forms



Inspection of sediment control BMPs

The documentation you maintain is part of the Annual Report submitted by the **Watershed Protection Program (WPP)** staff to the **Regional Water Quality Control Board (RWQCB)**

Each department that has some level of stormwater responsibility is required to submit data annually (in July) to the WPP.



Ensure that all requested data is submitted in a complete and timely manner to ensure the County remains in compliance. Contact the WPP if you are unsure how to complete any component.

Certain activities require referral to the RWQCB

The County must notify the RWQCB within **5 calendar days** if staff become aware of any of the following activities being conducted without permit coverage:

- Grading or land disturbances >1 acre



Example of active grading

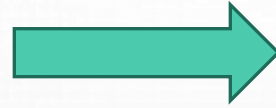
- Industrial operations:

- Manufacturing
- Treatment, Storage, or Disposal of Hazardous Waste, Sewage, or Wastewater
- Recycling Facilities

✓ **Notify management and the Watershed Protection Program if you become aware of these unpermitted activities**

If you observe...

- X** Discharges or potential discharges at your job site
- X** Spills contained on-site
- X** Spills going off-site and/or discharges running onto the site from adjacent lots or pipes



Then...

- ✓** Refer to your F3P for BMP measures
- ✓** Consult with your group's emergency personnel listed in the F3P
- ✓** Contact your emergency personnel AND the Watershed Protection Program

If you observe discharges or spills, consult with your supervisor first.



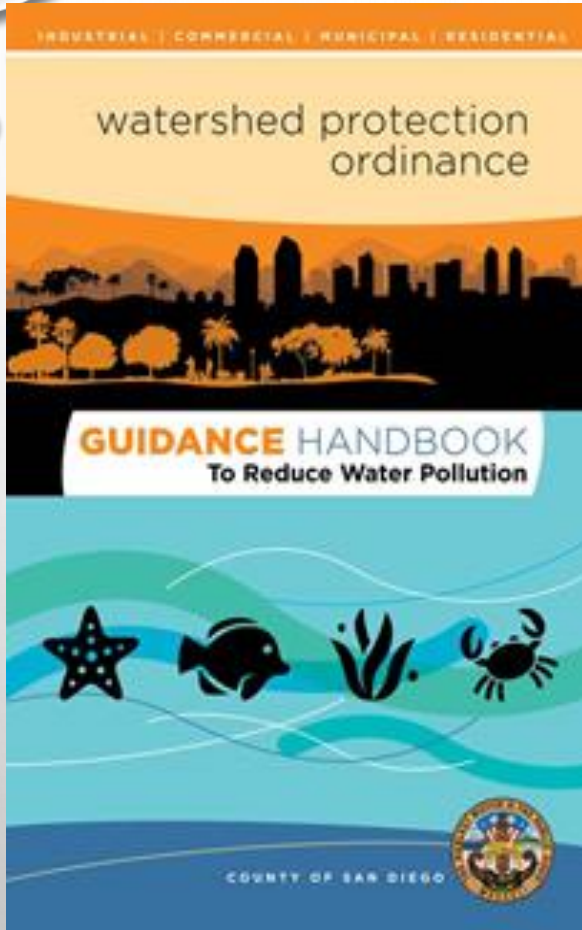
WATERSHED PROTECTION PROGRAM

The Department of Public Works **Watershed Protection Program** assists the County in complying with the MS4 Permit by:

- ❖ Providing resources & expertise on stormwater pollution prevention
- ❖ Conducting audits of municipal facilities to assist with compliance
- ❖ Conducting regular inspections of businesses & residential areas
- ❖ Acting as a liaison with the Regional Water Quality Control Board



**WPP can provide training on any specific applicable requirements.
Contact the WPP to arrange training.**



Additional BMP information can be found in the [Guidance Handbook to Reduce Water Pollution](#)



If you have questions about BMPs, the JRMP, reporting, or training, please contact us at: watersheds@sdcounty.ca.gov



To report water pollution or potential non-compliance:

- Call: **1-888-846-0800**
- Email: watersheds@sdcounty.ca.gov
- Web: projectcleanwater.org/report-pollution

ADDITIONAL RESOURCES

- **Regional Watershed Information at Project Clean Water:** projectcleanwater.org/watersheds
- **2018 Jurisdictional Runoff Management Program** projectcleanwater.org/downloads/jrmp
- **Annual Staff Training sign-in** insite.sdcountry.ca.gov/lueg/dpw/Pages/stormwater.aspx
Or file path access at: InSite/Departments & Services/Public Works/Stormwater
- **Guidance Handbook to Reduce Water Pollution**
[sandiegocounty.gov/content/dam/sdc/dpw/WATERSHED PROTECTION PROGRAM/watershedpdf/Guidebooks/2019%20Guidance%20Handbook%20FINAL.pdf](https://sandiegocounty.gov/content/dam/sdc/dpw/WATERSHED_PROTECTION_PROGRAM/watershedpdf/Guidebooks/2019%20Guidance%20Handbook%20FINAL.pdf)
- **CASQA BMP Handbooks for Municipal Facilities**
<https://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook>
- **Additional forms and stormwater information:** sandiegocounty.gov/stormwater

