



U.S. Environmental Protection Agency



National Perspective on the Stormwater Permitting Program



Stormwater Challenges

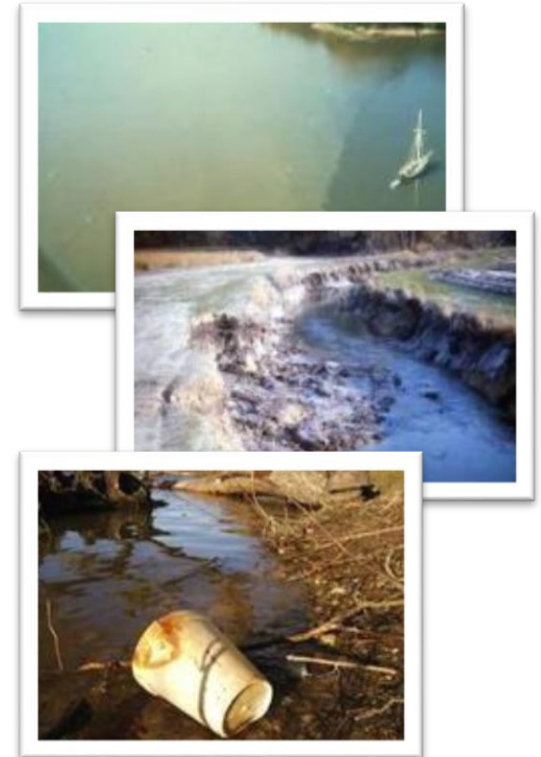
1. Increased amounts of stormwater and pollutants...



2. Enter the municipal separate storm sewer system (MS4) or is directly discharged to a nearby waterbody...



3. Which can lead to stream degradation and increased pollutants entering waterbodies



Stormwater Impacts: Pollution

- Cause beach closures and swimming illnesses through bacterial contamination and algal blooms
- Impact fisheries and shellfish harvesting through excess sedimentation, nutrients, bacteria, metals, and temperature
- Increase the costs of treating drinking water supplies



LOS ANGELES

Once unthinkable: making runoff drinkable

Regional board trying to filter rainwater, keep it from ocean

LOS ANGELES — Surfers here have long lived by a simple rule: When it rains, no matter how good the waves may be, stay out of the water. Those who do head out to the Venice Pier on a rainy day might have their bravery (or naivete) repaid with pinkeye, a fever or diarrhea.

"The water will have this weird, funky smell to it," said Sean Stanley, 26, who has been surfing here his entire

life. "It's murky. You'll see soda cans and plastic bottles, oil from the cars. All the runoff from the city gets in there."

Even in this water-starved region, storm water and other runoff has become the primary source of water pollution. After the rare rains, runoff drags heavy metals, pesticides, cigarette butts, animal waste and other pollutants into streams and rivers and eventually to the Pacific Ocean, turning Los Angeles County's beaches into the filthiest in the state.

But now, local officials are

trying to deal with runoff pollution and another problem — the lack of drinking water — with an ambitious plan to make the runoff drinkable.

The Los Angeles Regional Water Quality Control Board has issued new rules that include strong incentives for cities to work together on projects that capture and filter rainwater in the ground. Not only would those projects keep runoff pollution out of the waterways, they would also bolster groundwater supplies, which could eventually be used for drinking water.

The question is how to pay for it.

Regional projects to capture stormwater by using soil and plants that naturally absorb and filter the water are often expensive, and those costs threaten to derail the Southern California plan.

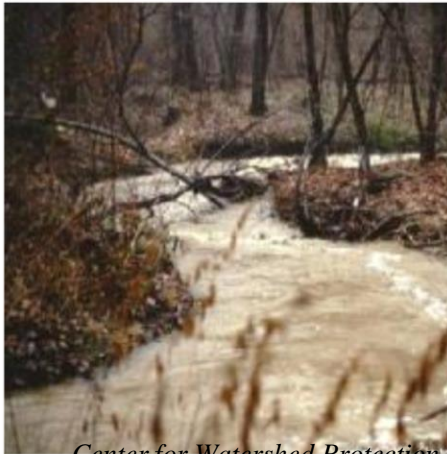
But the incentive to tackle the problem is big, not only because of the dearth of drinking water, but because the beaches play such a vital role in the region's economy, bringing billions of dollars into the county each year.

lan Lovett
The New York Times

Hydrologic Impacts: Flooding and Property Loss



- Increase stormwater volume and velocity causing flooding, scouring and sewer overflows
- Reduce groundwater recharge impacting water supplies



Center for Watershed Protection

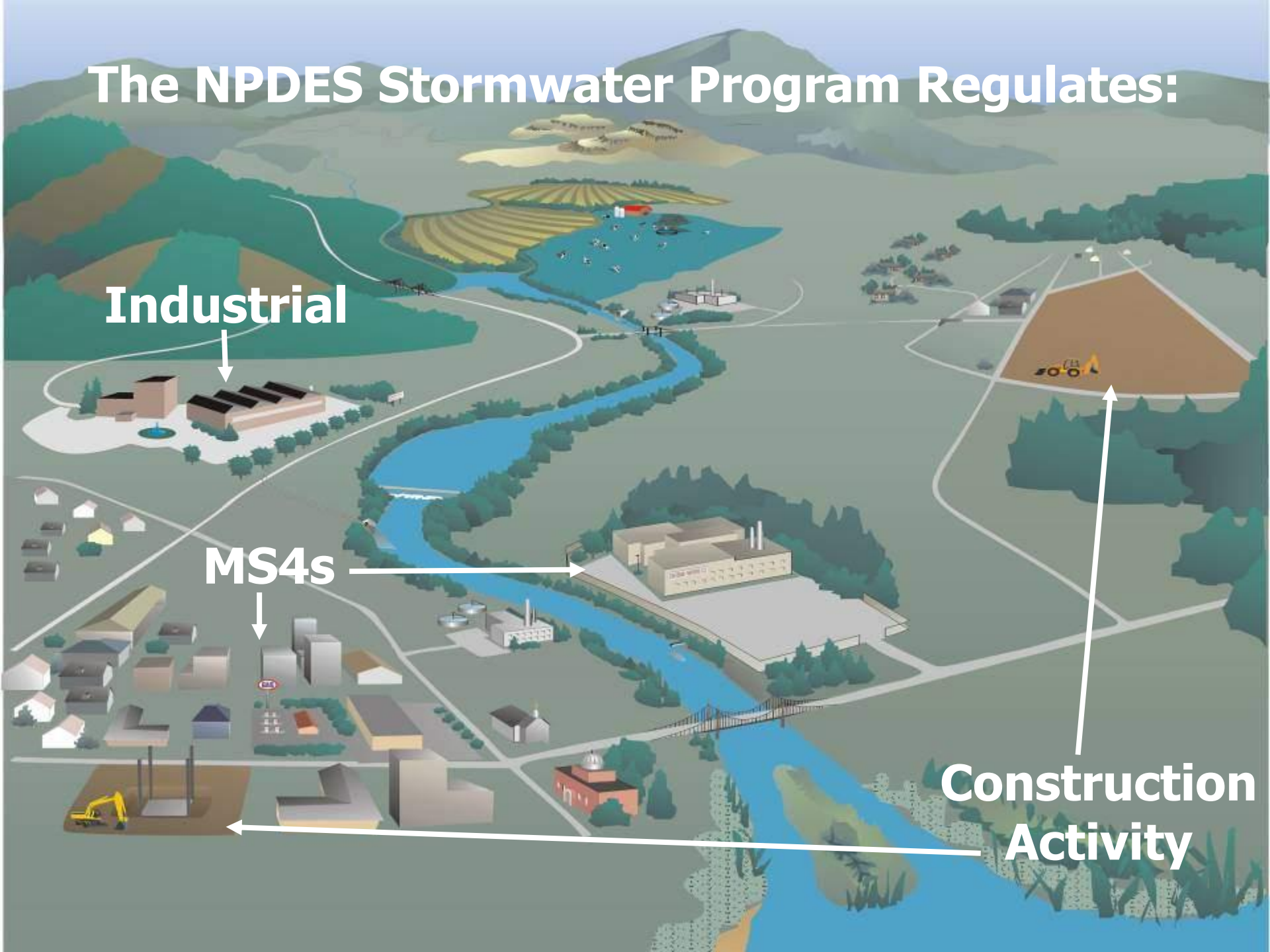


The NPDES Stormwater Program Regulates:

Industrial

MS4s

Construction Activity



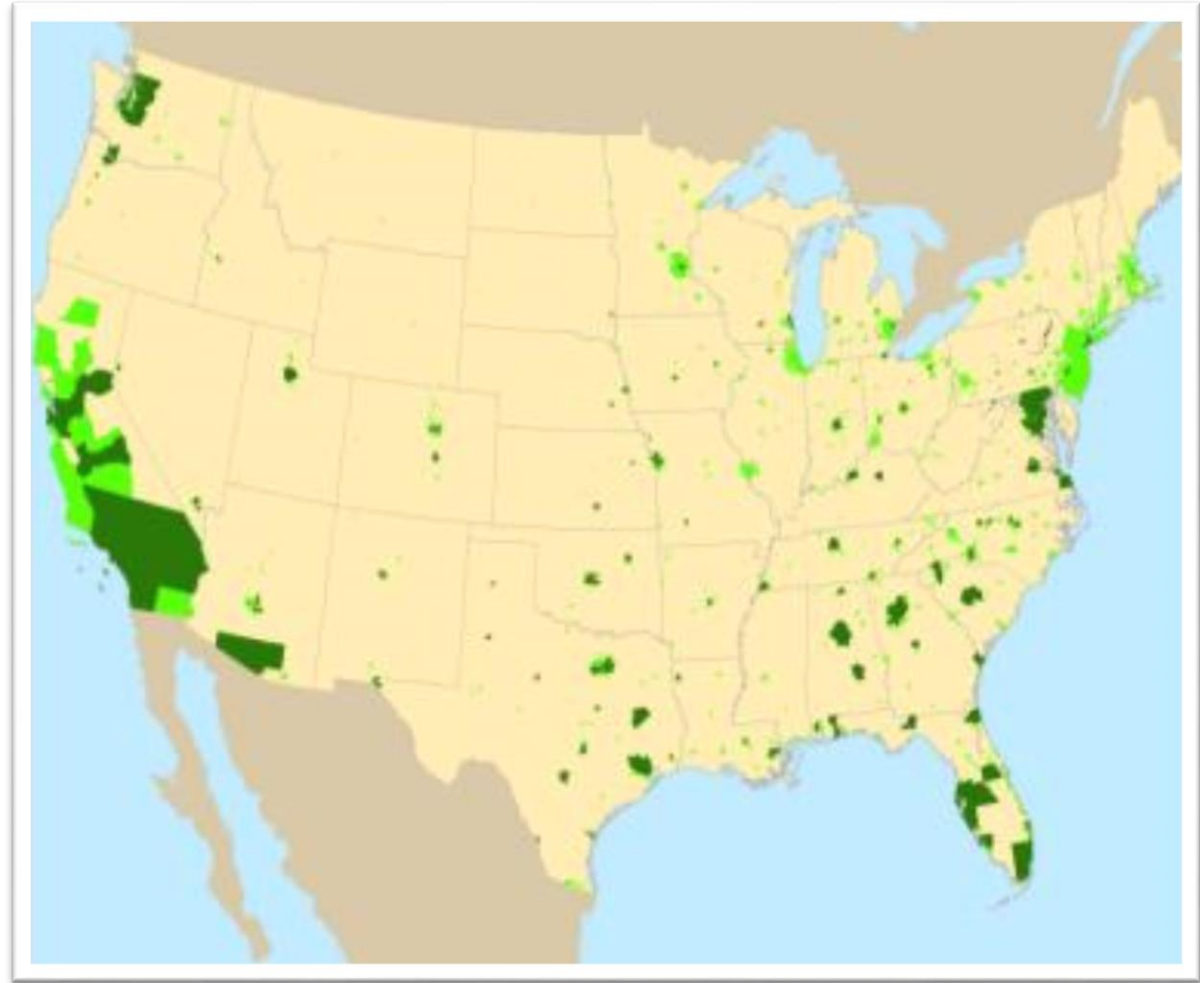
This is an MS4!



Municipal Stormwater Program

Current coverage

- Primarily in urbanized area
- Accounts for much of the population
- Only about 2% of the land area



Municipal Stormwater Program: General Requirements

Permits require the development of stormwater management programs and must address:

- Public education & outreach
- Public participation/involvement
- Illicit discharge detection & elimination
- Pollution prevention/Good housekeeping
- Construction site runoff control
- Post-construction runoff control



Municipal

Construction

Industrial

New Directions in Post-Construction Stormwater Management

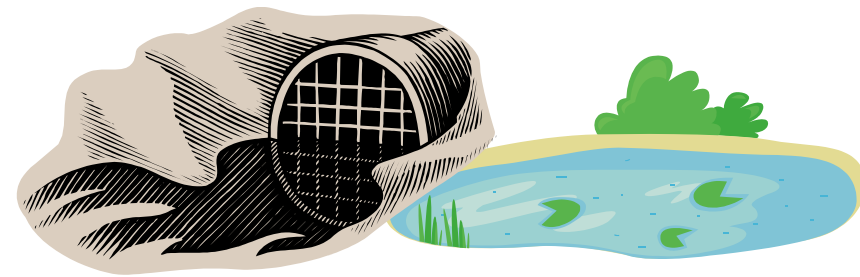
Traditional Approach

- Stormwater is a nuisance
- Convey stormwater quickly away from sites
- Often either directly conveyed to waterbody with no treatment or sent to detention pond
- Primary focus was to manage peak flows for flood control and drainage, and minimize large scale downstream erosion



New Approach

- Stormwater is a resource
- Slow down the flow of stormwater and allow to infiltrate as much as possible
- Primary focus is to manage stormwater on-site as much as possible to reduce pollutant loads entering waterbodies



Municipal

Construction

Industrial

Green Infrastructure Approaches

Infiltration ~ Evapotranspiration ~ Capture & Use



- ❑ Reduce impervious cover in parking & street designs
- ❑ Bioretention/rain gardens
- ❑ Permeable pavements
- ❑ Green roofs
- ❑ Cisterns & rain barrels
- ❑ Trees & expanded tree boxes
- ❑ Reforestation & restoration



Municipal

Construction

Industrial

Construction Stormwater Program: Overview

Permits require the development of Stormwater Pollution Prevention Plans and must:

- Implement a comprehensive soil erosion and sedimentation control plan
- Include controls for other construction activities/pollutants such as construction & demolition debris, paints and fuel.



Pollutants Commonly Discharged from Construction Sites

- Sediment
- Solid and sanitary wastes
- Phosphorus
- Nitrogen
- Pesticides
- Oil and grease
- Concrete truck washout
- Construction chemicals
- Construction debris



Construction Stormwater

- TECQ and EPA utilize a Construction General Permit:
 - Number of Texas Authorizations: 22088
 - Number of EPA/R6 Authorizations: 224
- Related tools:
 - Archived webinars
 - Updated Stormwater Pollution Prevention Plan Template
 - Sample Inspection/Corrective Action Forms

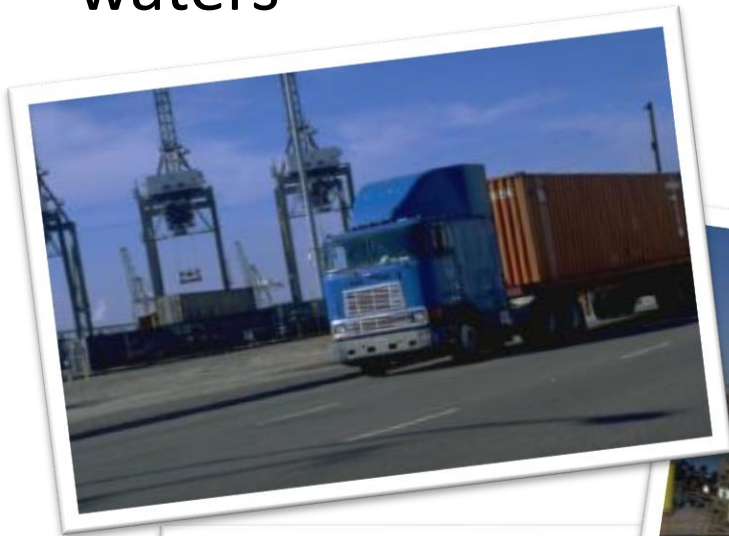


For more information:

www.epa.gov/npdes/stormwater/construction

Industrial Stormwater Program

Polluted stormwater runoff from industrial activities can contain a variety of pollutants that can impact our nation's waters



Pollutants Commonly Associated with Industrial Activities

- Sediment
- Heavy metals
- Phosphorus
- Nitrogen
- Pesticides
- Oil and grease
- Industrial chemicals
- Debris
- Solvents
- Wastes

Industrial Stormwater Program: General Requirements

Permits require the development of Stormwater Pollution Prevention Plans and must:

- Identify and inventory significant materials, and sources and activities for exposure of those materials
- Implement measures to eliminate or minimize exposure of those materials to stormwater



Stormwater Update



Tetrattech



JUN 4 2012
Tetrattech

Two photos showing an industrial facility before and after it followed good housekeeping practices.

- 2010 EPA vs Fowler
 - Deferred action on rulemaking
- Updating Stormwater Strategy
 - Support Communities
 - Leverage existing requirements
 - Promote Green Infrastructure
 - Urban Waters

For more information:

www.epa.gov/npdes/stormwater/indust



David F Garcia
Deputy Director, Water Quality Protection
Division
EPA Region 6, Dallas, TX
214-665-7593
garcia.david@epa.gov

U.S./Mexico Border Program



BORDER REGION FACTS

■ 10 States:

- California
- Baja California
- Arizona
- Sonora
- New Mexico
- Chihuahua
- Texas
- Coahuila
- Nuevo Leon
- Tamaulipas

■ 15 pairs of Sister Cities:

- San Diego–Tijuana
- Calexico–Mexicali
- Yuma–San Luis Colorado
- Nogales–Nogales
- Naco–Naco
- Douglas–Agua Prieta
- Columbus–Las Palomas
- El Paso–Sunland Park– Ciudad Juarez
- Presidio–Ojinaga
- Del Rio–Ciudad Acuña
- Eagle Pass–Piedras Negras
- Laredo–Nuevo Laredo
- McAllen–Reynosa
- Westlaco–Rio Bravo
- Brownsville–Matamoros

■ 25 U.S. Counties

- 35 Mexican Municipalities
- 26 U.S. Federally recognized Tribes



U.S. Environmental Protection Agency

U.S./Mexico Border Program Highlights

- Purpose
 - Assist economically distressed communities
 - Provide safe drinking water and sanitation facilities
 - Assist communities within 62.1 miles (100 Km) on either side of US/Mexico Border and must provide a US-side benefit
- Program Highlights – Texas Lower Rio Grande Area
EPA U.S./Mexico Border Investment -- \$192 M (Texas and Mexico)
 - Of the 14.6 million border residents, 235,000 people in the area will benefit
 - 19 Texas projects approved for construction (18 completed)
 - 2 Water, 5 Wastewater, 11 both Water and Wastewater
 - 8 projects in the Mexican side directly benefit Texas communities through improved wastewater collection and treatment.

Success Stories

San Benito, TX

Comprehensive drinking water and wastewater project

- Benefitted 28,000 residents
- Total project cost: \$32.4 million
- EPA investment approx. \$18 million
- New drinking water treatment plant, elevated storage tank and wastewater treatment plant



Pharr, TX

Comprehensive wastewater collection project

- Benefitted 54,000 residents
- Total project cost: \$44 million
- EPA investment approx. \$18 million
- New lift stations and comprehensive wastewater collection system improvements

