## CLEAN WATER, CLEAN BEACHES MADE POSSIBLE BY CLEAN STORMWATER



## **ISSUES OF CONCERN:**

STORMWATER FLOWS UNTREATED INTO OUR LOCAL BAYS & COASTAL WATERS

## STORMWATER PICKS UP POLLUTANTS FROM URBAN AREAS



As rainfall falls in developed areas, impermeable areas such as roofs, paved spaces, and roadways increase runoff and contribute urban pollutants (e.g. trash, dirt, and toxics like metals and pesticides) to storm flows.



## POLLUTANTS REACH OUR WATERWAYS AND BEACHES

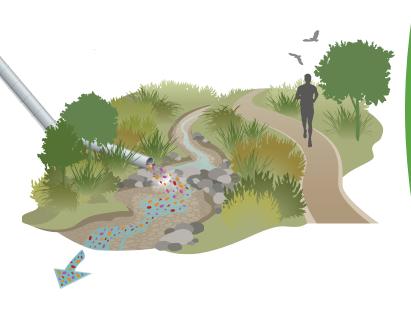


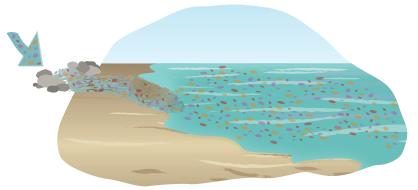
Stormwater pollutants are carried untreated into San Diego's interconnected network of creeks, channels, and rivers. Eventually, these flows enter local bays, lagoons and coastal ocean waters.

## POLLUTED WATERS THREATEN WILDLIFE AND IMPACT OUR SAFE USE OF BEACHES AND WATERWAYS

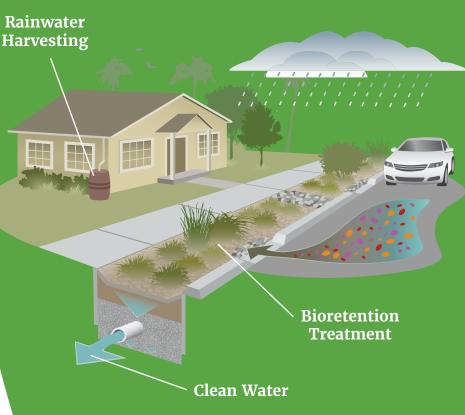


Polluted waters affect public health and safety, threaten wildlife and at times render our beaches unusable. This impacts our quality of life, economy and exposes the City to significant fines and/or lawsuits.





## IMPROVING WATER QUALITY: GREEN INFRASTRUCTURE CAN TREAT STORMWATER FLOWS TO SUPPORT CLEAN WATER





## **ENVIRONMENTAL WATER QUALITY STATUS**





## **WATER QUALITY IN WATERWAYS** IS FALLING SHORT OF STANDARDS

San Diego's diverse neighborhoods, local wildlife and habitats, and worldclass recreation areas all rely on safe, clean water. The City owns and operates a storm drain system subject to federal, state and local water quality protection regulatory requirements. Numerous watershed- and waterbodyspecific requirements have strict pending and future pollutant control limits that present significant logistical and financial challenges to the City.



## **WATER QUALITY PROGRESS & CHALLENGES**

The City conducts a multi-faceted urban runoff program to efficiently and cost-effectively implement water quality improvement activities. The program includes Think Blue education and outreach activities; cleanups; inspection and enforcement; and planning and implementation of best management practices (BMPs) designed to reduce pollutant sources and treat urban runoff.

The City performs street sweeping, catch basin cleaning, storm drain maintenance, and monitoring to assess progress and improve programs.

Even with these programs, the City needs to do more to meet water quality requirements. Inadequate funding has limited program implementation and effectiveness. This ongoing pollution challenge impacts San Diego's economic vitality and quality of life.

outreach events. with 3,177 volunteers, removing 71,610 pounds of trash and debris

Over pipe cleaned, removing 1,309 tons of trash and debris

Over miles swept, removing 712,808 cubic

# Mission Bay Watershed

**D** 

CD6

**ED3** 

CD7

CD9

beach closures & 586 beach advisories per year on average

of the City drains to an impaired waterbody

new impairments expected in San Diego waters by 2022

## **LEGEND**

San Dieguito

River Watershed

San Diego River

Watershed

San Diego Bay

Watershed

Los Penasquitos

Watershed

1.5 3 Miles 

Impermeable Area

**Permeable Area** 

**Watershed Boundary Impaired Waterbodies** 

Impaired waters based on proposed 2022 303(d) list

## **BENEFICIAL USES IMPAIRED**

**Water Supply** 

**Water Recreation** 



**Aquatic Habitat** 



**Shellfish Harvesting** 



Rare, Threatened, or **Endangered Species** 



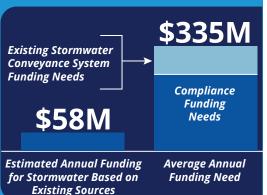
**Preservation of Biological Habitats of Special Significance** 





## **MOUNTING CHALLENGES**

Inadequate and deferred funding for water quality improvements inreases the City's risk of costly penalties. Estimated annual stormwater regulation compliance costs are nearly \$246 million for the next 20 years. Additional costs are associated with habitat and species impacts, tourist revenue losses, and depressed climate resiliency. Water quality challenges adversely affect San Diego's unique environment, health and welfare of residents and visitors, and expose the City to costly third-party litigation.









## **WATERWAYS**

Council District 1 encompasses northern coastal City communities and spans portions of the San Dieguito, Los Peñasquitos, and Mission Bay watersheds. Numerous tributaries within these systems flow to iconic San Diego waterways including the San Dieguito River and Lagoon, Los Peñasquitos Creek and Lagoon, Rose Creek, and the Pacific Ocean.



## **ISSUES OF CONCERN**

Water quality monitoring and area assessments are used to identify waterway-specific highest priority water quality conditions. The highest priority conditions in each watershed address regulatory requirements, drive selected management strategies to improve the quality of discharges from the City's storm drain system, and help protect, preserve, enhance, and restore our waterways (Water Quality Improvement Plans [WQIPs] in the San Diego Region, https://projectcleanwater.org/watersheds/).

### **Highest Priority Water Quality Conditions**

San Dieguito
Watershed

Bacteria, nutrients

Los Peñasquitos
Watershed

Bacteria, freshwater discharges
during dry weather, sediment
transport from upstream sources

Mission Bay
Watershed

Bacteria, sediment



Pollutant Types
Causing Impairments





## **IMPROVING WATER QUALITY**

The Stormwater Department works to safeguard these waters and protect water quality by conducting education and outreach, implementing best management practices (BMPs) to prevent and control sources of pollution, and manage new and existing development. Green Infrastructure (GI), structural treatment controls and stream/habitat/lagoon restoration are also used to treat pollutants and improve water quality conditions in Council District 1.



29,799 acres
(100%) of Council District 1
drains to an impaired waterbody

## **BENEFICIAL USES IMPAIRED**



**Water Supply** 



**Water Recreation** 



**Aquatic Habitat** 



**Shellfish Harvesting** 



Preservation of Biological Habitats of Special Significance

## **LEGEND**



0 0.5 1 Miles



Impermeable Area
Permeable Area



**Watershed Boundary** 



Impaired Waterbodies







## **WATERWAYS**

Council District 2 encompasses the southern coastal communities within the City and includes many iconic waterways like the San Diego Bay, San Diego River, Mission Bay, and the Pacific Ocean. Council District 2 includes portions of three watersheds: Mission Bay Watershed, San Diego River Watershed, and San Diego Bay Watershed, all discharging to the Pacific Ocean.



## **ISSUES OF CONCERN**

Water quality monitoring and area assessments are used to identify waterway-specific highest priority water quality conditions. The highest priority conditions in each watershed address regulatory requirements, drive selected management strategies to improve the quality of discharges from the City's storm drain system, and help protect, preserve, enhance, and restore our waterways (Water Quality Improvement Plans [WQIPs] in the San Diego Region, https://projectcleanwater.org/watersheds/).

### **Highest Priority Water Quality Conditions**

San Diego River Watershed	Bacteria
San Diego Bay Watershed	Bacteria, dissolved copper, lead, zinc
Mission Bay Watershed	Bacteria, sediment



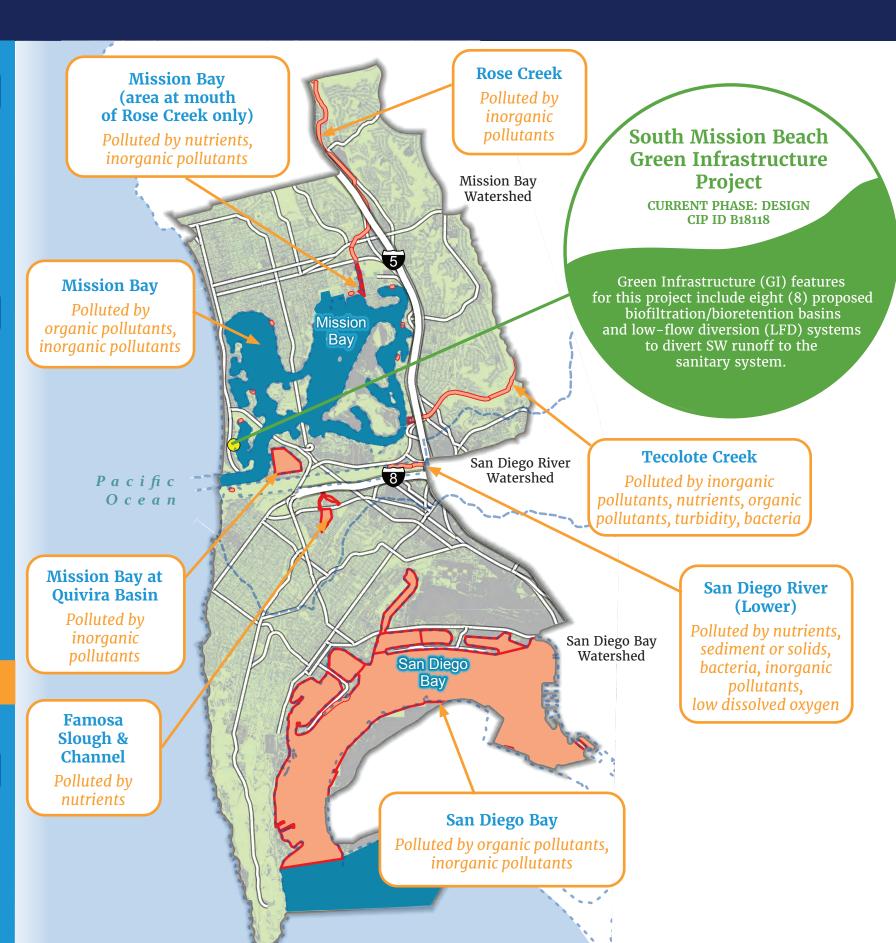
Pollutant Types
Causing Impairments





## **IMPROVING WATER QUALITY**

The Stormwater Department works to safeguard these waters and protect water quality in San Diego by engaging in activities like stormwater best management practice (BMP) development and enforcement, public education, and water quality monitoring. Low Impact Development, Green Infrastructure, and stream restoration sites help address the priority water quality conditions in Council District 2.



24,522 acres (100%) of Council District 2

(100%) of Council District 2 drains to an impaired waterbody

## **BENEFICIAL USES IMPAIRED**



**Water Supply** 



**Water Recreation** 



**Aquatic Habitat** 



**Shellfish Harvesting** 

## **LEGEND**





Impermeable Area
Permeable Area



**Watershed Boundary** 

Impaired Waterbodies







## **WATERWAYS**

Council District 3 encompasses some of the more urban neighborhoods within the City and runs along many iconic waterways like the San Diego Bay and the Pacific Ocean. Council District 3 includes portions of two watersheds: San Diego River Watershed and San Diego Bay Watershed, both discharging to the Pacific Ocean



## **ISSUES OF CONCERN**

Water quality monitoring and area assessments are used to identify waterway-specific highest priority water quality conditions. The highest priority conditions in each watershed address regulatory requirements, drive selected management strategies to improve the quality of discharges from the City's storm drain system, and help protect, preserve, enhance, and restore our waterways (Water Quality Improvement Plans [WQIPs] in the San Diego Region, https://projectcleanwater.org/watersheds/).

### **Highest Priority Water Quality Conditions**

San Diego River Watershed	Bacteria
San Diego Bay	Bacteria, dissolved copper,
Watershed	lead, zinc

Pollutant Types
Causing Impairments

2 Impaired Waterbodies



## **IMPROVING WATER QUALITY**

The Stormwater Department works to safeguard these waters and protect water quality in San Diego by engaging in activities like stormwater best management practice (BMP) development and enforcement, public education, and water quality monitoring. Low Impact Development, Green Infrastructure, and stream restoration sites help address the priority water quality conditions in Council District 3.



9,559 acres
(100%) of Council District 3
drains to an impaired waterbody

## **BENEFICIAL USES IMPAIRED**



Water Recreation



**Aquatic Habitat** 



**Shellfish Harvesting** 

**LEGEND** 

N

0.5

Impermeable Area

Permeable Area

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**Watershed Boundary** 

Impaired Waterbodies







## **WATERWAYS**

Council District 4 encompasses some of the more urban neighborhoods within the City and contains portions of Chollas Creek. Council District 4 is part of the San Diego Bay Watershed, ultimately discharging to San Diego Bay and the Pacific Ocean.



## **ISSUES OF CONCERN**

Water quality monitoring and area assessments are used to identify waterway–specific highest priority water quality conditions. The highest priority conditions in each watershed address regulatory requirements, drive selected management strategies to improve the quality of discharges from the City's storm drain system, and help protect, preserve, enhance, and restore our waterways (Water Quality Improvement Plans [WQIPs] in the San Diego Region, https://projectcleanwater.org/watersheds/).

### **Highest Priority Water Quality Conditions**

San Diego Bay Watershed Bacteria, dissolved copper,

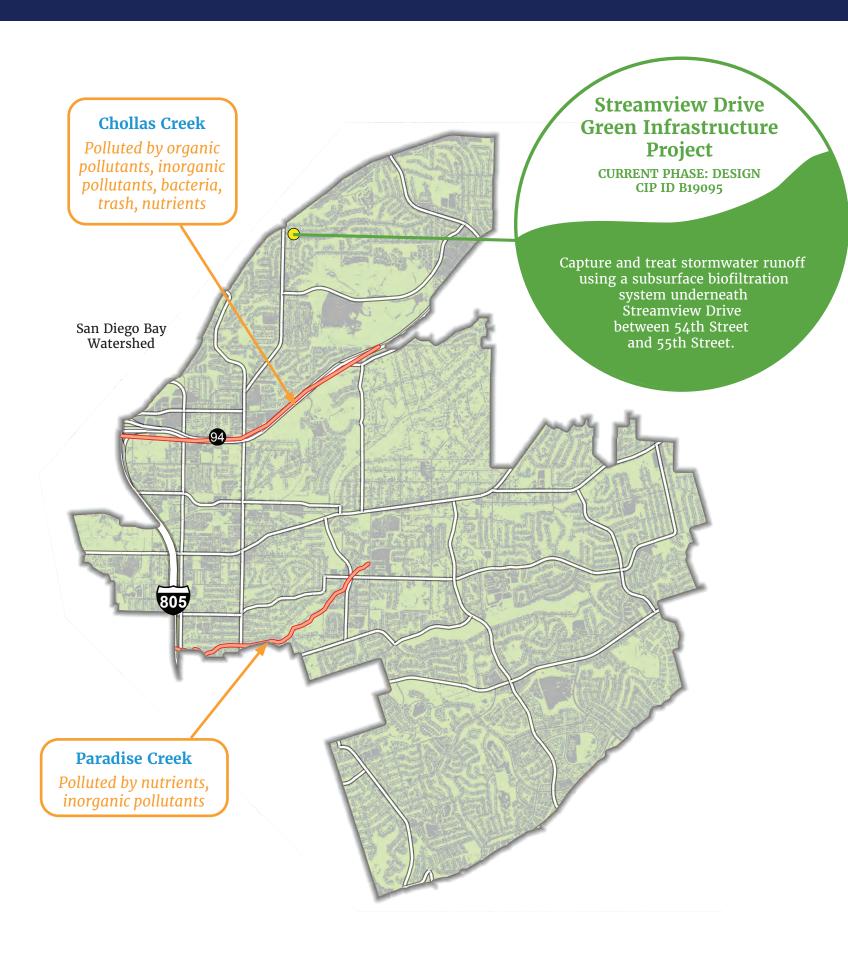
atershed lead, zinc

Pollutant Types
Causing Impairments



## **IMPROVING WATER QUALITY**

The Stormwater Department works to safeguard these waters and protect water quality in San Diego by engaging in activities like stormwater best management practice (BMP) development and enforcement, public education, and water quality monitoring. Low Impact Development, Green Infrastructure, and stream restoration sites help address the priority water quality conditions in Council District 4.

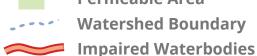


11,131 acres
(100%) of Council District 4
drains to an impaired waterbody

## **BENEFICIAL USES IMPAIRED**













## **WATERWAYS**

Council District 5 includes the communities in the northeast portion of the City and includes local waterbodies like Lake Hodges, Los Peñasquitos Creek, and Santa Ysabel Creek that ultimately drain to Los Peñasquitos Lagoon, Mission Bay, the San Diego River, and the Pacific Ocean.



## **ISSUES OF CONCERN**

Water quality monitoring and area assessments are used to identify waterway–specific highest priority water quality conditions. The highest priority conditions in each watershed address regulatory requirements, drive selected management strategies to improve the quality of discharges from the City's storm drain system, and help protect, preserve, enhance, and restore our waterways (Water Quality Improvement Plans [WQIPs] in the San Diego Region, https://projectcleanwater.org/watersheds/).

### **Highest Priority Water Quality Conditions**

San Dieguito Watershed Bacteria, nutrients

San Diego River Watershed Bacteria

Los Peñasquitos Watershed Bacteria, freshwater discharges during dry weather, sediment transport from upstream sources

Mission Bay Watershed

Bacteria, sediment

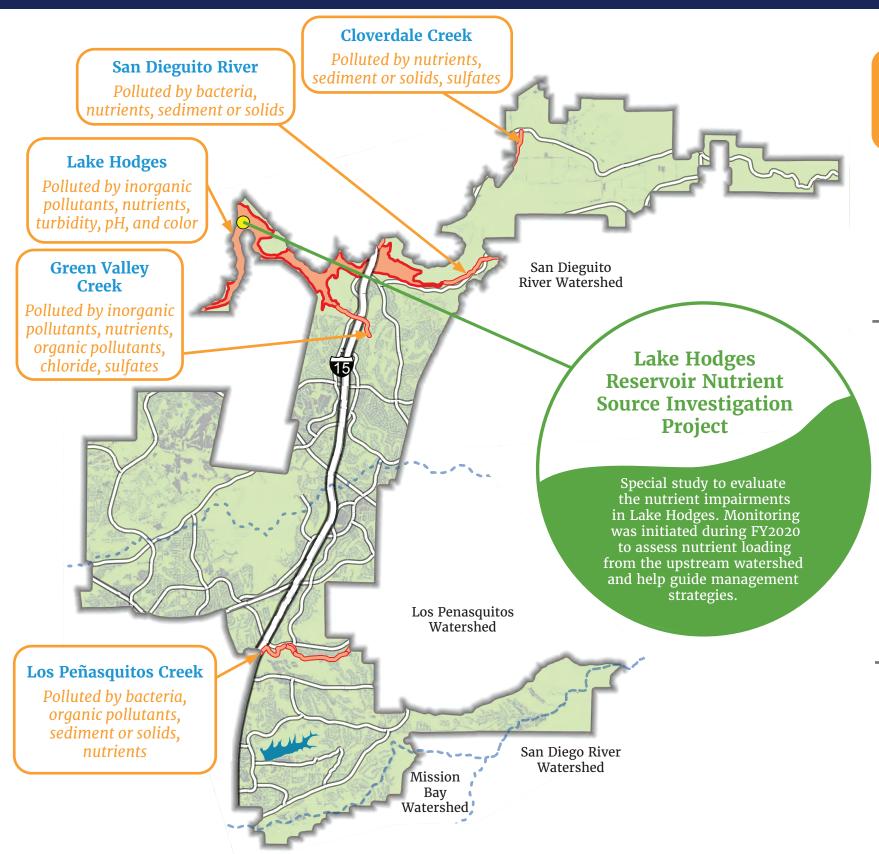
Pollutant Types
Causing Impairments





## **IMPROVING WATER QUALITY**

The Stormwater Department works to safeguard these waters and protect water quality in San Diego by engaging in activities like stormwater best management practice (BMP) development and enforcement, public education, and water quality monitoring. Low Impact Development, Green Infrastructure, and stream restoration sites help address the priority water quality conditions in Council District 5.



(99%) of Council District 5 drains to an impaired waterbody

## **BENEFICIAL USES IMPAIRED**



**Water Supply** 



**Water Recreation** 



**Aquatic Habitat** 

**LEGEND** 

M

0 0.5 1 Miles



Impermeable Area





**Impaired Waterbodies** 







## **WATERWAYS**

Council District 6 encompasses the Mira Mesa, Miramar, and Clairemont Mesa neighborhoods within the City and ultimately drains to three different downstream waterbodies: Los Peñasquitos Lagoon, Mission Bay, and San Diego River.



## **ISSUES OF CONCERN**

Water quality monitoring and area assessments are used to identify waterway-specific highest priority water quality conditions. The highest priority conditions in each watershed address regulatory requirements, drive selected management strategies to improve the quality of discharges from the City's storm drain system, and help protect, preserve, enhance, and restore our waterways (Water Quality Improvement Plans [WQIPs] in the San Diego Region, https://projectcleanwater.org/watersheds/).

## **Highest Priority Water Quality Conditions**

San Diego River Watershed	Bacteria
Los Peñasquitos Watershed	Bacteria, freshwater discharges during dry weather, sediment transport from upstream sources
Mission Bay Watershed	Bacteria, sediment



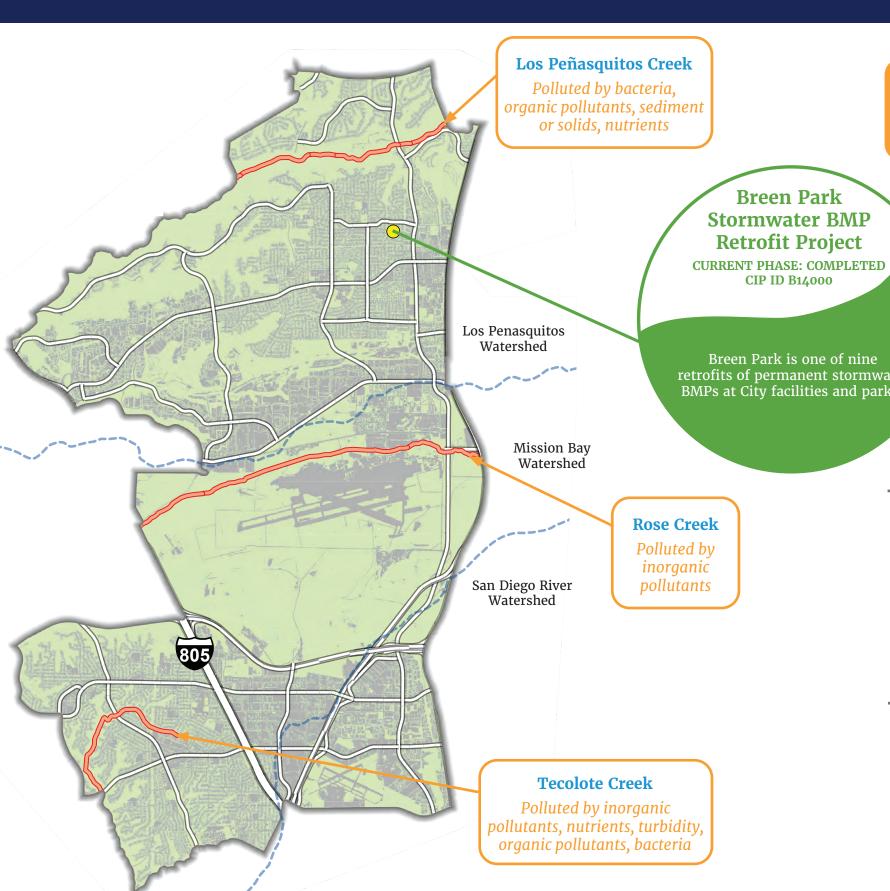
**Pollutant Types Causing Impairments** 





## **IMPROVING WATER QUALITY**

The Stormwater Department works to safeguard these waters and protect water quality in San Diego by engaging in activities like stormwater best management practice (BMP) development and enforcement, public education, and water quality monitoring. Low Impact Development, Green Infrastructure, and stream restoration sites help address the priority water quality conditions in Council District 6.



drains to an impaired waterbody

Breen Park is one of nine retrofits of permanent stormwater BMPs at City facilities and parks.

**Water Supply** 

**BENEFICIAL USES IMPAIRED** 



**Water Recreation** 

## **LEGEND**









**Watershed Boundary Impaired Waterbodies** 







## **WATERWAYS**

Council District 7 is located central to the City's boundaries to the west where many of the neighborhoods are directly along the San Diego River. Council District 1 includes portions of three watersheds: Los Peñasquitos Watershed, Mission Bay Watershed, and San Diego River



## **ISSUES OF CONCERN**

Water quality monitoring and area assessments are used to identify waterway-specific highest priority water quality conditions. The highest priority conditions in each watershed address regulatory requirements, drive selected management strategies to improve the quality of discharges from the City's storm drain system, and help protect, preserve, enhance, and restore our waterways (Water Quality Improvement Plans [WQIPs] in the San Diego Region, https://projectcleanwater.org/ watersheds/).

### **Highest Priority Water Quality Conditions**

San Diego River Watershed	Bacteria
Los Peñasquitos Watershed	Bacteria, freshwater discharges during dry weather, sediment transport from upstream sources
Mission Bay Watershed	Bacteria, sediment



**Pollutant Types Causing Impairments** 

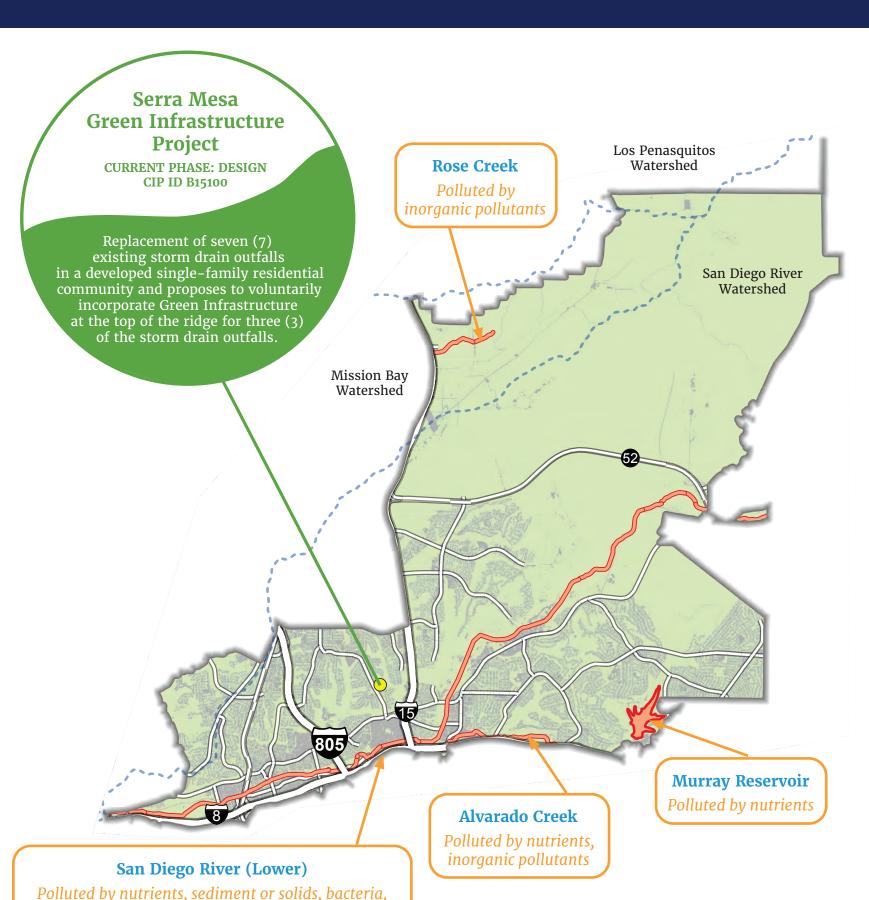


**Impaired** Waterbodies



## **IMPROVING WATER QUALITY**

The Stormwater Department works to safeguard these waters and protect water quality in San Diego by engaging in activities like stormwater best management practice (BMP) development and enforcement, public education, and water quality monitoring. Low Impact Development, Green Infrastructure, and stream restoration sites help address the priority water quality conditions in Council District 7.



inorganic pollutants, low dissolved oxygen

41,614 acres (100%) of Council District 7 drains to an impaired waterbody

## **BENEFICIAL USES IMPAIRED**



**Water Supply** 



**Vater Recreation** 



**Aguatic Habitat** 

## **LEGEND**



0 0.5 1 Miles 



**Impermeable Area Permeable Area** 



**Watershed Boundary** 

**Impaired Waterbodies** 



## **ENVIRONMENTAL WATER QUALITY STATUS**

**COUNCIL DISTRICT 8** 





## **WATERWAYS**

Council District 8 includes two geographically separate parts of the City that (1) run along San Diego Bay or (2) are along the United States and Mexico Border and ultimately drain to Tijuana River. Council District 8 has parts in the San Diego Bay Watershed and the Tijuana River Watershed.



## **ISSUES OF CONCERN**

Water quality monitoring and area assessments are used to identify waterway-specific highest priority water quality conditions. The highest priority conditions in each watershed address regulatory requirements, drive selected management strategies to improve the quality of discharges from the City's storm drain system, and help protect, preserve, enhance, and restore our waterways (Water Quality Improvement Plans [WQIPs] in the San Diego Region, https://projectcleanwater.org/watersheds/).

### **Highest Priority Water Quality Conditions**

Bacteria, dissolved copper, San Diego Bay Watershed lead, zinc

Tijuana River Watershed

Sedimentation/siltation, and turbidity



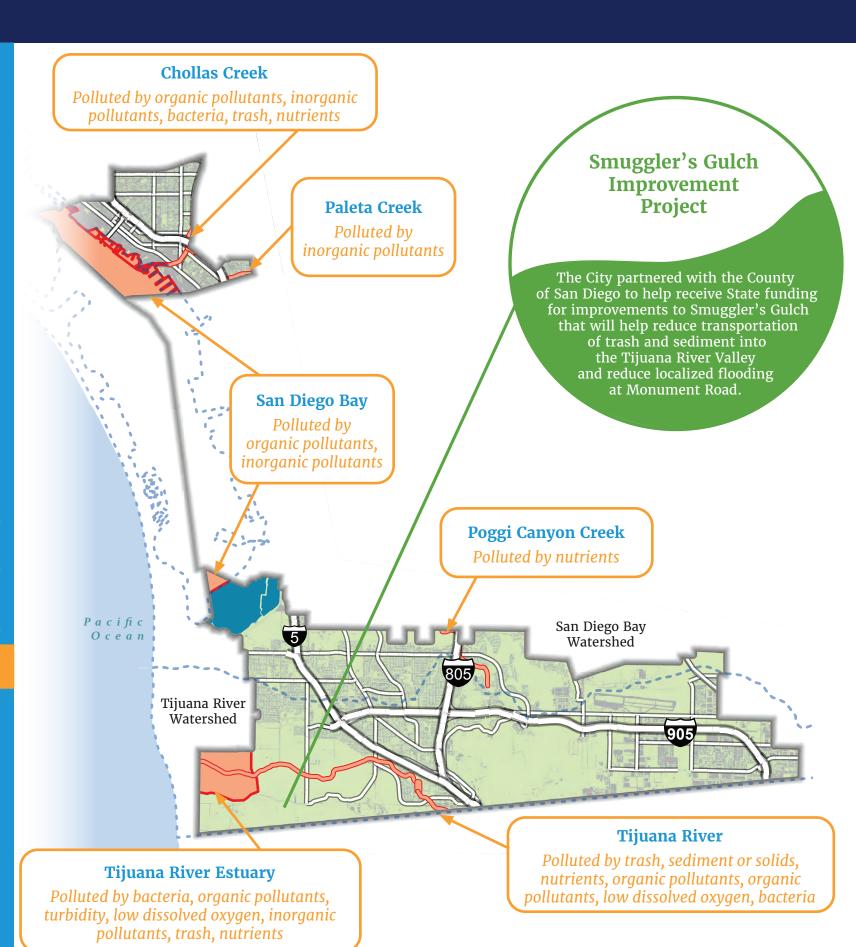
**Pollutant Types** Causing Impairments





## **IMPROVING WATER QUALITY**

The Stormwater Department works to safeguard these waters and protect water quality in San Diego by engaging in activities like stormwater best management practice (BMP) development and enforcement, public education, and water quality monitoring. Low Impact Development, Green Infrastructure, and stream restoration sites help address the priority water quality conditions in Council District 8.



(99%) of Council District 8 drains to an impaired waterbody

## **BENEFICIAL USES IMPAIRED**



**Water Supply** 



**Water Recreation** 



**Aquatic Habitat** 



**Shellfish Harvesting** 



Rare, Threatened, or **Endangered Species** 



**Preservation of Biological Habitats of Special Significance** 

## **LEGEND**



0 0.5 1 Miles 



Impermeable Area **Permeable Area** 



**Watershed Boundary** 



**Impaired Waterbodies** 







## **WATERWAYS**

Council District 9 encompasses some of the more urban neighborhoods within the City and contains an extensive, largely underground stormwater system that drains to the San Diego River and San Diego Bay.



## **ISSUES OF CONCERN**

Water quality monitoring and area assessments are used to identify waterway-specific highest priority water quality conditions. The highest priority conditions in each watershed address regulatory requirements, drive selected management strategies to improve the quality of discharges from the City's storm drain system, and help protect, preserve, enhance, and restore our waterways (Water Quality Improvement Plans [WQIPs] in the San Diego Region, https://projectcleanwater.org/ watersheds/).

## **Highest Priority Water Quality Conditions**

San Diego River Watershed	Bacteria
San Diego Bay	Bacteria, dissolved copper,
Watershed	lead, zinc

**Pollutant Types** Causing Impairments



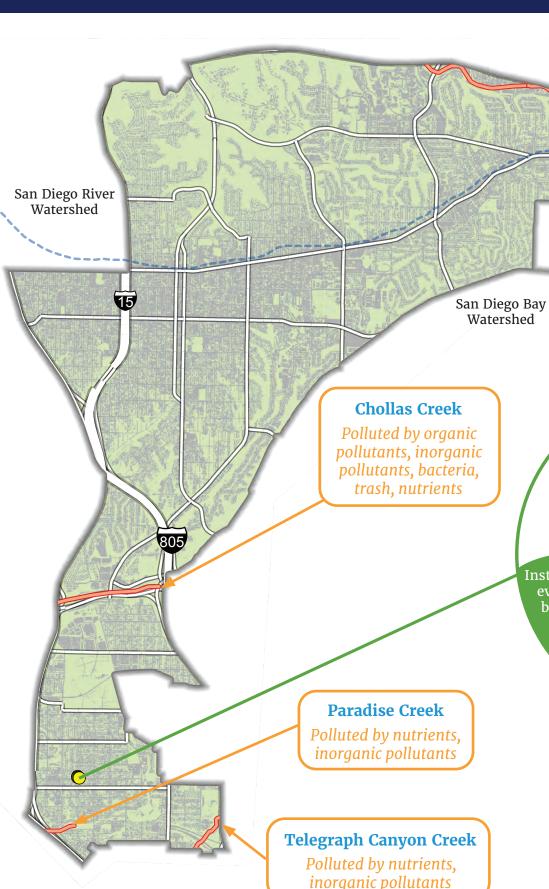


Waterbodies



## **IMPROVING WATER QUALITY**

The Stormwater Department works to safeguard these waters and protect water quality in San Diego by engaging in activities like stormwater best management practice (BMP) development and enforcement, public education, and water quality monitoring. Low Impact Development, Green Infrastructure, and stream restoration sites help address the priority water quality conditions in Council District 9.



**Alvarado Creek** 

Polluted by nutrients, inorganic pollutants

**Project CURRENT PHASE: DESIGN CIP ID B15214** 

**Cherokee Point** 

**Green Infrastructure** 

Install GI measures to treat the 0.5-inch storm event within the ~478,000 SF drainage area bound by 35th Street to the west, Cherokee Avenue to the east, Wightmant Street to the north, and a vegetated ravine (located between Landis and Dwight Streets) to the south. The project will also install three new headwalls.

drains to an impaired waterbody

## **BENEFICIAL USES IMPAIRED**



**Water Supply** 



**Water Recreation** 



**Aguatic Habitat** 

Impermeable Area **Permeable Area** 

**Watershed Boundary** 

**Impaired Waterbodies** 



