

# Tijuana River Watershed Management Area

## FY 2017 Water Quality Improvement Plan Annual Report

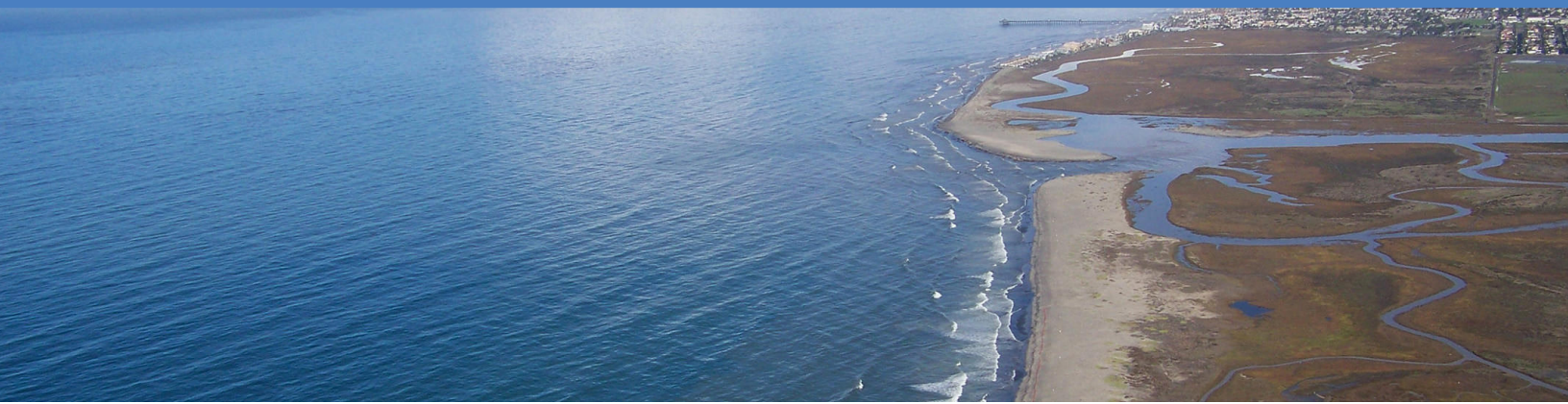


Photo credit: [NOAA](#)

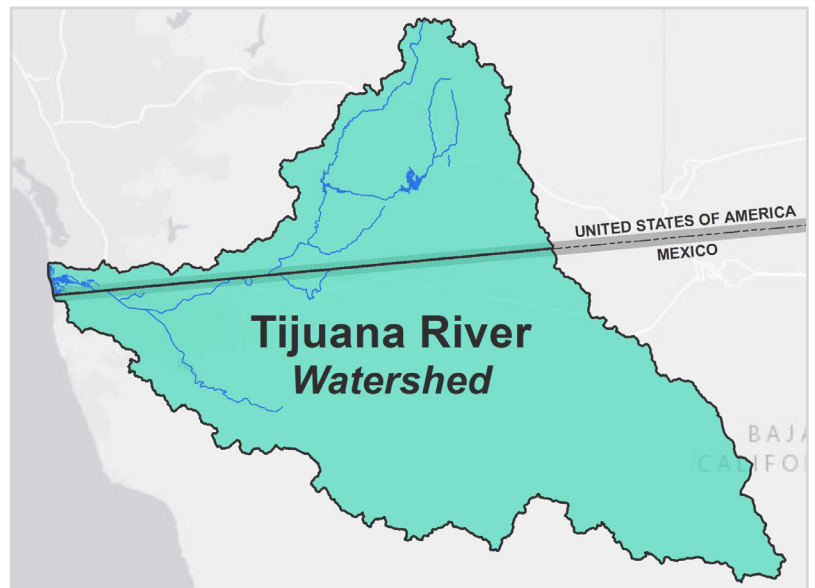
### WATERSHED MANAGEMENT AREA

The Tijuana River watershed is the southernmost watershed in the San Diego region. Three quarters of the Tijuana River Watershed is in Mexico. The portion located in the United States comprises the Tijuana River Watershed Management Area (WMA).

### WATER QUALITY IMPROVEMENT PLAN

In 2016, the Responsible Agencies developed a Water Quality Improvement Plan (Plan) in accordance with the regional municipal storm drain system discharge permit (Permit). The Plan focuses on reducing pollutants from the Responsible Agencies' storm drain systems within the WMA, with sediment identified as the Highest Priority Condition.

The Plan also recognizes the water quality impacts of cross border discharges and other Federal and State programs designed to address them.



### FISCAL YEAR 2017 ANNUAL REPORT

The Fiscal Year (FY) 2017 Annual Report describes the progress of the Plan's second year of implementation. This Executive Summary is a snapshot view of the outcomes and achievements, strategy implementation, and monitoring results of the Responsible Agencies for FY 2017. Appendix 1 of the Annual Report provides a crosswalk that details how each of the applicable Permit requirements has been met.

### RESPONSIBLE AGENCIES



# HIGHEST PRIORITY WATER QUALITY CONDITION

The Responsible Agencies identified sediment from storm drain systems' wet weather discharges in the lower watershed (see map below) as the Highest Priority Condition. Sediment was identified based on analysis of water quality data and public input during development of the Plan.

The Plan describes the strategies that will be used to target sediment. Although addressing sediment is the focus of the Plan, many of the strategies also provide added benefits by addressing other pollutants and water quality conditions.

## WHAT IS SEDIMENT?

Sediment in the Plan refers to sedimentation, siltation and turbidity. Sediment is a natural part of a healthy watershed, but increased erosion from human disturbance can lead to excess sediment washing into storm drains, streams, and estuaries. Sediment can block storm drains and streams, causing flooding. Increased sediment input to wetlands and estuaries can also upset these ecosystems, destroying habitat.

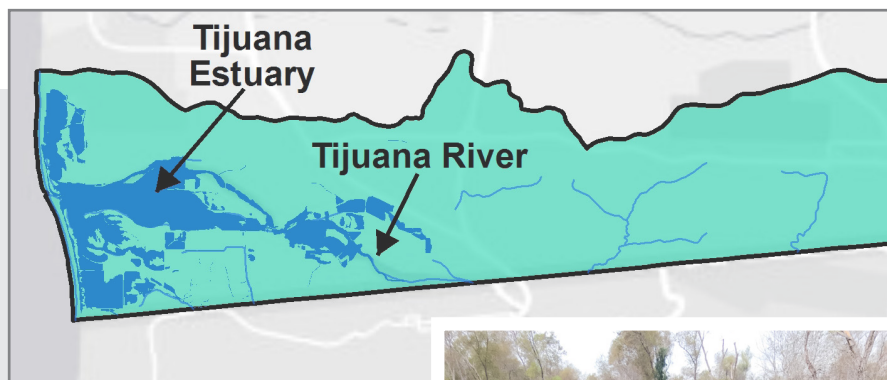
## GOALS & SCHEDULES

As shown in the table above, goals are based on sediment load reduction. Progress toward achieving the goals is evaluated by calculating the average sediment load from outfalls in the lower watershed monitored during storms each year.

The City of San Diego also established an alternate goal for 2018 of constructing green infrastructure to remove the sediment in rain runoff from over three acres of land before it enters a waterbody.

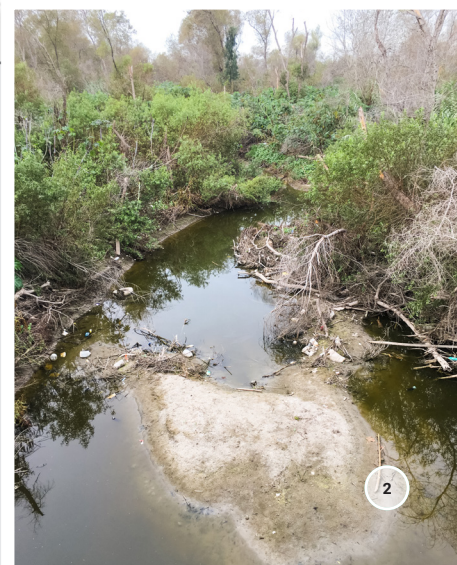
Goal Type & Schedule	Goal (Sediment Load)
<b>Baseline - FY 2013</b>	- (546 tons/yr)
<b>Interim - FY 2018</b>	<b>6% load reduction</b> (514 tons/yr)
	Treat over 3 acres of drainage area City of San Diego through green infrastructure BMPs*
<b>Interim- FY 2023</b>	<b>33% load reduction</b> (365 tons/yr)
<b>Final - FY 2028</b>	<b>38% load reduction</b> (340 tons/yr)

\* Alternate FY18 Interim Goal applies only to City of San Diego



Above: The Tijuana River Lower Watershed

Right: Sediment Accumulation in the Tijuana River at Hollister Street



# PROGRESS TOWARD GOALS

## SEDIMENT REDUCTION OUTCOMES

The average sediment load from outfalls recorded during the first two years of implementing the Plan (251 tons/year) is lower than the 2018 interim goal (340 tons/year). Because the goal is to reduce the sediment load, loads below the interim goal threshold mean the goal is being met.

The higher sediment load in FY 2017 compared to FY 2016 is due mainly to a much larger amount of rainfall in FY 2017 compared to FY 2016. The sediment load from outfalls in both years was below the 2018 interim goal.

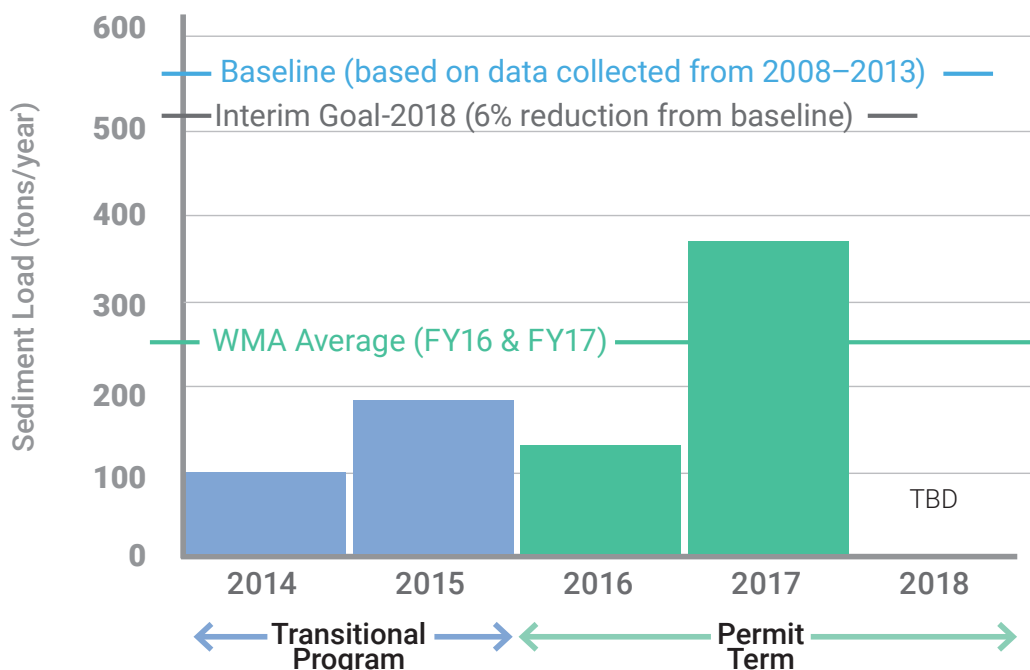
## GREEN INFRASTRUCTURE OUTCOME

The City San Diego has also accomplished its alternative 2018 interim goal of installing green infrastructure to reduce sediment and other pollutants from runoff.



*The City of San Diego constructed green infrastructure at the Cesar Chavez Community Center to treat runoff from 3.31 acres and meet the 2018 alternate interim goal.*

## PROGRESS TOWARD SEDIMENT REDUCTION GOAL



# MONITORING

Water quality monitoring and assessment provide data used to determine whether the interim and final numeric goals for sediment are being achieved.

In addition to sediment, monitoring programs also collect data for a broad range of other water quality indicators. An overall assessment of collected data is prepared once every five years. The most recent of these assessments is included in the Regional Monitoring and Assessment Report submitted in December 2018.

## TYPES OF MONITORING

- **Receiving Water** – includes water quality monitoring in dry and wet weather, trash assessments, monitoring stream erosion, and assessing the health of biological habitat.
- **Outfall Discharge Monitoring** – includes observations and water quality testing in dry and wet weather, trash assessments, and dry weather flow source investigations. A map of outfall monitoring locations is below.
- **Special Studies** – includes a regional study of reference conditions and a sediment study specific to the Tijuana River Watershed.

## RECEIVING WATER OUTCOME

- The two biological assessment stations assessed received scores better than or equivalent to reference conditions.

## DRY WEATHER OUTFALL OUTCOMES

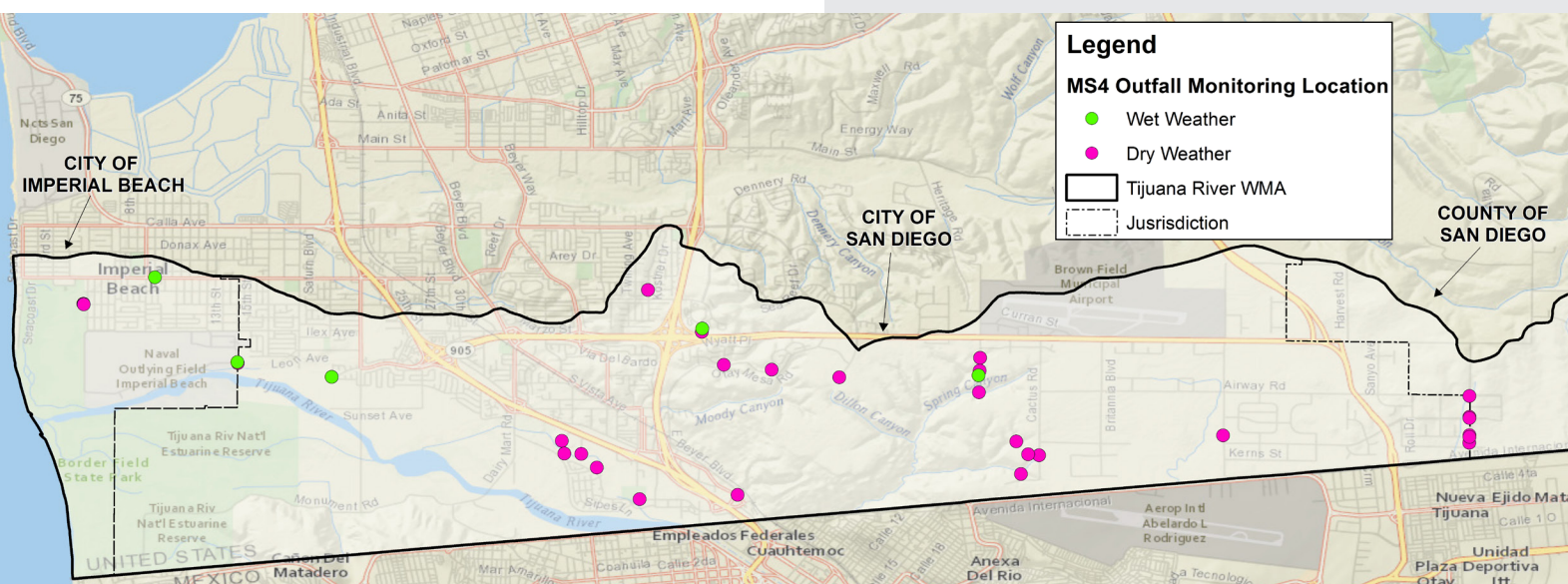
- 64% of outfalls were dry during visual observation visits.
- 104 of 118 (95%) identified discharges were eliminated.

## WET WEATHER OUTFALL OUTCOMES

- Watershed-average sediment load (251 tons/year) was less than the 2018 Interim Goal (314 tons/year).
- 83% of storm water action levels were met.

## SPECIAL STUDY OUTCOME

- The Sediment Special Study identified potential sediment sources in the watershed, such as unpaved roads, and recommended strategies to address these sources.



# STRATEGIES

The Responsible Agencies implement strategies to meet water quality goals. Strategies can be structural facilities that treat runoff, or they can be practices, such as street sweeping and public outreach. Most strategies address sediment and reduce other pollutants such as bacteria, metals, and trash.

## GREEN INFRASTRUCTURE

Responsible Agencies utilize low-impact development (LID) projects and green street designs (i.e., Elm Avenue Street Improvements and development of Green Street Standards) that effectively reduce flows during storm events and reduce pollutant concentrations by retrofitting impervious areas.

## CLEANUP EVENTS

During FY 2017 community cleanups removed trash, debris, and over 52 tons of waste tires from waterways and sensitive habitat areas. Volunteer hours were credited to these programs, improving approximately 22.5 miles of trails and 30 acres of park lands. Combined, these programs provide valuable targeted outreach and education opportunities.



*Outreach, such as this educational turnout at Tijuana River Valley Regional Park, educates the public about valuable habitat and wildlife in the Tijuana River Valley.*



*Responsible Agencies partner for regularly scheduled cleanup events in target areas to engage the public and enhance the community.*



*Green infrastructure projects, such as green alleys, have water quality benefits including retention and infiltration of storm water and removal of trash, sediment, and nutrients*



*The Elm Avenue Street Improvement project reduces storm water runoff while providing significant pedestrian, biking, and traffic calming improvements.*



*Responsible Agencies require storm water protection and structural treatment devices be implemented on new and re-development priority projects to protect local waterbodies.*



*Trail maintenance prevents sediment from reaching water bodies and provides better recreational opportunities for the community.*

# BINATIONAL & REGIONAL EFFORTS

The Responsible Agencies are active in binational efforts to coordinate action to mitigate discharges from Mexico, which are significant contributors to receiving water beneficial use impairments within the watershed. These efforts include the Regional Board-led Tijuana River Valley Recovery Team (Recovery Team) and the U.S. International Boundary and Water Commission (IBWC)-led Minute 320 efforts.

## TIJUANA RIVER VALLEY RECOVERY TEAM

The Responsible Agencies are entering the ninth year of participation in the Recovery Team. The Recovery Team is a collaboration of more than 30 government agencies, property owners, academic and research institutions, non-governmental organizations, and other interested parties from both sides of the U.S.–Mexico border. The Recovery Team uses a stakeholder-led approach to reduce impacts of sediment and trash to the Tijuana River Valley, including the river and the estuary.

## REGIONAL EFFORTS

Copermittees in the San Diego Region worked together on a number of projects during FY 2017. Collaboration extended to Orange and Riverside Counties when feasible. Examples of these projects include:

- Stormwater Capture and Use Feasibility Study
- Project Clean Water Website Update
- Watershed Stewardship Pilot Program
- Regional Events to Improve Public Participation
- Baseline Study of Trash Discharges to Storm Drains from Priority Land Uses
- Updates to Model Requirements for Development Projects

## BINATIONAL CORE GROUP

The Responsible Agencies also participated in the IBWC Minute 320 process to create a Binational Core Group. This group provides a framework for binational cooperation on transboundary issues in the watershed to develop environmental infrastructure and improve environmental conditions in the U.S.-Mexico border region. It includes workgroups focused on addressing sediment, water quality, and trash.

Heavy rains during the 2016–2017 wet season had significant impacts on infrastructure in Mexico that resulted in several large wastewater spills. The spills discharged millions of gallons of sewage from Mexico into the Tijuana River and ultimately beaches on the U.S. side of the border. Complaints of odors and significant water quality impacts generated substantial local and regional attention from the public, regulators, and elected officials. In response, the IBWC is preparing to initiate a feasibility study to evaluate sediment and trash capture BMPs in cross-border drainage areas.

Additional binational efforts that promote collaboration between the U.S. and Mexico to address environmental issues and waste management challenges are supported in the region through the following:

- **Border 2020**
- **North American Development Bank (NadBank) and Border Environment Cooperation Commission (BECC)**
- **San Diego Association of Governments (SANDAG) Borders Committee**
- **Tijuana River National Estuarine Research Reserve (TRNERR) Advisory Council**
- **California-Mexico Border Relations Council**
- **CalEPA Border Programs**
- **Surfrider “No Border Sewage” Program**

# ADAPTIVE MANAGEMENT & CONCLUSIONS



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The adaptive management process evaluates collected data to assess whether modifications to numeric goals, schedules, and/or strategies are necessary.

The Responsible Agencies are making significant progress toward achieving sediment load reduction goals, and no changes to pollutant sources, goals, strategies, schedules, or monitoring activities were identified as a result of the adaptive management process. Some recommendations for potential changes to the Permit, particularly the assessment and reporting requirements, are discussed in the Report of Waste Discharge, which was prepared collectively by all the municipal agencies in the region.

### Water Quality Improvement Plan Timeline for Final Goal

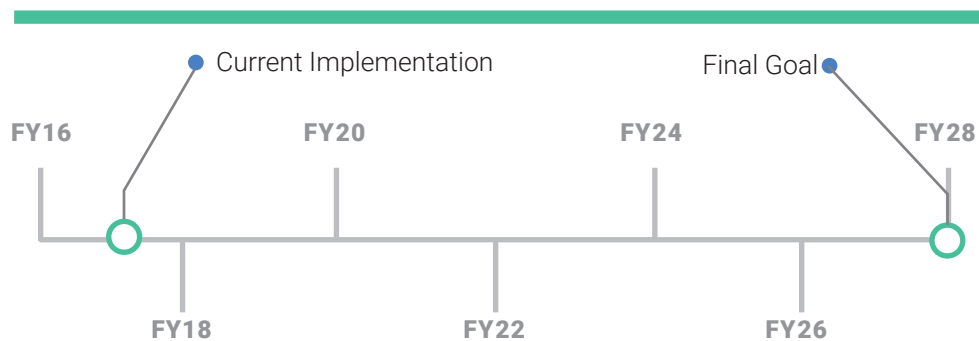


Photo credit: [walkinglab.org](http://walkinglab.org)