

**STAFF REPORT  
INFORMATIONAL  
102**

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**INFORMATIONAL UPDATE ON THE TIJUANA RIVER VALLEY  
POLLUTION ISSUES**

**INTRODUCTION:**

The Tijuana River watershed experiences repeated pollution events from untreated wastewater flows, contaminated sediment loads, and influxes of trash. During dry weather, treated wastewater, and occasionally untreated sewage, is supposed to be diverted before entering the Tijuana River Valley in California and discharged 5 miles south of the border into the Pacific Ocean. During wet weather, however, the water diversion infrastructure in Mexico can become overwhelmed, and frequent overflows of untreated wastewater enter the Tijuana River Valley, the Tijuana River Estuary, and exit through the mouth of the river into the Pacific Ocean directly south of the city of Imperial Beach. Winter storms also carry sediment and debris, including plastic bottles and tires, down the steep canyon walls that line the upper river valley and watershed. The problem directly affects Public Trust lands located within the watershed concentrated in the lower Tijuana Estuary, and impacts Public Trust resources, uses, and values throughout the Tijuana River watershed and the southern San Diego County coastline. In November 2017, staff updated the Commission on the pollution problems and impacts to the Public Trust. This staff report updates the Commission on the status of the pollution and actions taken over the last 2 years to make progress on remediating the problem.

**BACKGROUND AND DISCUSSION:**

The Commission has jurisdiction over sovereign land in and near the Tijuana Estuary and leases some of those lands to the U.S. Fish and Wildlife Service for the Tijuana River National Estuarine Research Reserve, to the California State Parks for Border Field State Park, and to the International Border and Water Commission (IBWC) and City of San Diego for the South Bay Ocean Outfall associated with the South Bay International Wastewater Treatment Plant. The Tijuana River flows through an approximately 1,750-square-mile watershed on both sides of the United States – Mexico international border between California and Mexico. Nearly three-quarters of the watershed is located in Mexico, before the river drains into the Pacific Ocean through the 8-square-mile Tijuana River Valley that lies north of the border in San Diego County. The Tijuana River Valley is a natural floodplain with tidally flushed wetland and riparian areas that supports

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threatened and endangered species and includes several federally listed historical and archaeological sites. The watershed includes a range of natural ecosystems, including a tidal saltwater estuary at the mouth of the river and sandy beaches along the Pacific shoreline in the west.

The Tijuana River Valley is located between two heavily populated urban centers, the City of Tijuana in Mexico and the cities of southern San Diego County, including Imperial Beach, Chula Vista, National City, San Diego, and Coronado. The Port of San Diego, one of the major ports in California and a designated Strategic Port for national defense, spans the tide and submerged lands of San Diego Bay near the Tijuana River Estuary. The U.S. Navy has significant installations throughout the area, as the official homeport for the Pacific Fleet, including operational bases and training centers north of the Estuary and along Silver Strand State Beach, up through Coronado. On the northern side of the border, the region surrounding the Tijuana River Valley is home to approximately 1.78 million people.<sup>1</sup> On the southern side of the border, the City of Tijuana's official population estimate is 1.64 million people;<sup>2</sup> however, it is believed to be much greater when factoring in the unincorporated metropolitan areas, semi-rural communities packed into the surrounding canyon lands, and transient migrant populations.

There are federal, state, and local agencies on both sides of the border which regulate water and environmental quality, operate and maintain infrastructure, and manage natural resources in the Tijuana River area. The IBWC is a federal binational agency with United States and Mexico sections that oversees border treaties, including treaties such as Minute 320 signed in 2015<sup>3</sup> concerning water quality issues. The IBWC funds and manages water infrastructure projects in the United States and Mexico pursuant to those treaties. The U.S. Environmental Protection Agency (U.S. EPA), and its counterpart, the Mexican Secretariat of Environment and Natural Resources (SEMARNAT), work closely with the IBWC to develop international water quality and management agreements, and identify and fund priority water infrastructure projects. The U.S. EPA and the San Diego Regional Water Quality Control Board administer water quality laws, including the Clean Water Act, which regulates pollutants discharged into federal waters and establishes water quality standards for surface waters. [The California-Mexico Border Relations Council](#), created in 2006 by AB 3021 and chaired by the Secretary of the California Environmental Protection Agency coordinates state agency activities related to cross-border programs. One program directly related

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<sup>1</sup> Source: United States Census Bureau, 2017.

<sup>2</sup> Source: Mexican National Institute of Statistics and Geography (INEGI), 2015.

<sup>3</sup> [Minute 320 of the 1944 treaty](#) recognizes that in the Tijuana River Basin there are transboundary issues that require binational coordination. The IBWC established working groups on water quality, solid waste, and sediment in response to Minute 320 that include United States and Mexican stakeholders. Source: IBWC, 2018.

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to the Tijuana River is the Border Solid Waste Working Group that develops and coordinates long-term solutions to address and remediate problems associated with waste tires, solid waste, and excessive sedimentation along the border. The Comisión Estatal de Servicios Públicos de Tijuana is the public utility provider for the City of Tijuana. The agency operates and maintains the water collection and treatment system, including the CILA Pump Station and the San Antonio Los Buenos Wastewater Treatment Plant, approximately 5 miles south of the border on the coast. The Los Buenos Plant has a capacity of 25 million gallons-per-day (mgd). This system is connected across the border through a series of pipes, pumps, diversion channels, and the main channel of the Tijuana River to the South Bay International Wastewater Treatment Plant, built by the U.S. EPA in 1997 and operated by the IBWC. The South Bay Plant is a 25 mgd secondary treatment plant. Treated wastewater is discharged from the South Bay Plant through the South Bay Ocean Outfall, located approximately 3 nautical miles offshore Imperial Beach, and is under lease with the Commission.

In and around the city of Tijuana, public services and utilities, such as trash collection, paved roads, electrical lines, sewer lines, and storm drain systems, have not kept pace with the growing population. Many services and utilities are poorly maintained and outdated within the city and are not sufficiently widespread outside the municipal boundaries to meet the growing demand. The lack of adequate infrastructure is a major contributor to the pollution problem in the Tijuana River. There has been some progress, though, in expanding these services and infrastructure elements over the last several decades. Treatment facility projects have reduced flows of untreated wastewater in the Tijuana River in the United States compared to the 1980s and early 1990s. Dry weather flows have been partially controlled by a river diversion and pump station (CILA Pump Station) constructed in 1991 and located just upstream of the international border in Mexico.<sup>4</sup> Within Tijuana city limits, wastewater connections increased from 170,916 in 1997 to 569,211 in 2017, improving service coverage from 61.8 percent to 89.6 percent.<sup>5</sup> This year, California congressional representatives secured \$15 million for the U.S. EPA's Border Water Infrastructure Program.

But the conveyance, diversion, and treatment systems in the Tijuana area lag behind urban growth, resulting in more frequent pump failures, overflows, and spills due to greater inputs and capacity stressors. Service interruptions to the power grid, mechanical failures, and insufficient emergency management resources often co-occur, compounding the water system issues that lead to transboundary pollution. The United States' infrastructure meant to provide a backstop against this pollution has not operated adequately.

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<sup>4</sup> Source: IBWC. [Report of Transboundary Bypass Flows Into the Tijuana River](#), 2017.

<sup>5</sup> Source: U.S. EPA. Tijuana River Diversion Study, 60%, 2019.

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In April 2017, the San Diego Union-Tribune reported that portions of the Imperial Beach shoreline were closed to swimmers for more than a third of each year on average, with nearly 1,600 beach-closure days in the preceding decade. This is significantly higher than La Jolla, Del Mar, and Encinitas, with each of those cities having fewer than a dozen days when its beaches were closed during the entire decade. In 2019, portions of beaches near Imperial Beach have been closed for over 160 days.

### February 2017 Spill

A 2017 spill provides a powerful example of the harm that transboundary pollution causes. In February 2017 the collapse of a collector at the confluence of the Alamar River and Tijuana River during a winter storm caused a major wastewater spill. At least 143 million gallons (some estimates are higher) of untreated wastewater were discharged into the Tijuana River, closing beaches in the city of Imperial Beach, severely damaging the Tijuana River Estuary, and impairing water and beach quality as far north as the city of Coronado. The spill was made worse by equipment and management failures, as well as a breakdown of local and international emergency response communication protocols. Heavy flows of sediment and debris accompanied the spill, clogging trash collectors, increasing contamination loads, and hampering cleanup efforts. The impacts were especially acute in the city of Imperial Beach, the California coastal community closest to the border which is repeatedly hit hard by pollution from the Tijuana River.

In the aftermath of the spill, the IBWC's Minute 320 Binational Technical Team investigated and produced a report that provided details of the event and made recommendations to improve the water management system and prevent future catastrophic events.<sup>6</sup> Members of the IBWC Water Quality Working Group have begun implementing some of the recommendations. There was an urgent need to overhaul and strengthen emergency communication protocols. New spill notification requirements were prepared and are used by the network of agencies operating on both sides of the border. Some new infrastructure investments by the IBWC and the Comisión Estatal de Servicios Públicos de Tijuana have been made to deal with both dry- and wet-weather flows. The Comisión Estatal de Servicios Públicos de Tijuana acquired additional construction and maintenance equipment, including a mobile pump unit to use during repairs to prevent bypass wastewater flows. To better monitor and manage the CILA Pump Station, new flow meters and variable speed pumps have been installed. Temporary earthen berms were constructed across the Tijuana River channel on the Mexican side to impede wastewater crossing over into the United States, and some sediment was removed in the concrete-lined section of the channel. Additional water

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<sup>6</sup> Source: IBWC. [Report of Transboundary Bypass Flows Into the Tijuana River](#), 2017.

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quality monitoring efforts are underway that incorporate soil and water sampling in the canyons and the river on both sides of the border.

### Infrastructure Updates and Priorities

There are still major infrastructure improvements needed to address pollution issues throughout the Tijuana River Valley, Estuary, and affected Public Trust lands and resources and coastal communities. The North American Development Bank is overseeing a study that will include a transboundary flow analysis, diversion system infrastructure and operation assessment, and evaluation of technical alternatives for potential investments in the region. The Tijuana River Diversion Study is mostly limited in scope to provide reliable, cost-effective solutions to divert dry-weather transboundary flows in the Tijuana River from reaching the Tijuana Estuary, and is not intended to analyze measures needed to manage wet-weather events like the one that caused the February 2017 spill. A 60 percent progress report was recently released for the study, with a more complete update expected later this summer, and a final report before the end of the year. At a recent stakeholder meeting in San Diego to address border pollution issues, the U.S. EPA emphasized that none of the alternatives studied will completely eliminate transboundary flows, and repairs and expansion of the wastewater collection system in Mexico are still needed.

The federal investments made in the 2 years since the 2017 major spill have only been enough to complete minor infrastructure projects to improve water quality and continue existing operations and maintenance. In 2018, the United States spent \$7 million, and Mexico spent \$11 million on new water system upgrades and repairs. This year, of the \$15 million appropriated for the U.S. EPA's Border Water Infrastructure Program, \$7 million will be dedicated to water quality projects for the Tijuana River.<sup>7</sup> Yet these amounts are insufficient to address the many solutions that are needed. The North American Development Bank states that the preferred alternatives identified in the Tijuana River Diversion Study range in capital cost from \$16 million to \$108 million (per project), with annual operation and maintenance costs from \$4.7 million to \$7 million.<sup>8</sup> It should be noted that one of the alternatives proposed is to install a new lift station that would discharge up to 30 mgd of untreated overflow wastewater out of the South Bay Ocean Outfall three miles offshore, under lease with the Commission, at a capital cost of \$27.5 million and an annual operations and maintenance cost of \$5 million. Again, these are projects to address dry-weather transboundary flows, and not major wet-weather events.

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<sup>7</sup> Source: San Diego Union-Tribune. [Trump EPA Releases Blueprint For Stemming Tijuana River Pollution That Routinely Fouls San Diego Beaches](#). 2019.

<sup>8</sup> Source: U.S. EPA. Meeting Summary: Tijuana River and New River Transboundary Sewage Stakeholder Meeting. 2019.

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The federal government and California may partner on a new effort called the Tijuana River Border Pollution Control Project to address discharge of raw sewage and other waste through the Tijuana River Valley. The project would be a waste capture or runoff interception and diversion structure. The project is in the current State Assembly Budget Act Bill, AB 74 (Ting, 2019) and includes \$15 million for the State Coastal Conservancy to administer as part of a matching cost share with the federal government for the capital costs of construction. The federal government would take responsibility for the subsequent ownership, operations, and maintenance costs. The project and cost sharing agreement are the subject of SB 690 (Hueso, 2019) which is currently making its way through the legislative process.

The County of San Diego, with funding from SB 507 (Hueso, 2017), has initiated a comprehensive study of short-, mid-, and long-term solutions needed to address transboundary flow pollution. The first phase, which included data collection and analysis and stakeholder outreach, identified 16 potential projects to implement on the United States side of the border. These projects are related to preventing dry-weather and wet-weather contaminated transboundary flows and spills. The most significant potential project is a new treatment and diversion facility installed adjacent to the existing SBIWTP with a capacity to treat 100 mgd of wet-weather flows. Other ideas include constructing more canyon collectors and expanding the capacity of the SBIWTP. The next step will be to develop ranking criteria, hold public meetings, and estimate preliminary costs of all potential projects.

The Surfrider Foundation has also developed a plan to address pollution in the river, called the Tijuana River Valley Solution. The plan outlines needed infrastructure improvements, programs to study pollution sources and funding options, and policies to increase binational coordination and communication. The proposals related to infrastructure are similar to some other projects under review by the U.S. EPA, IBWC, and Regional Water Quality Control Board. The priority projects are additional trash collectors, improved transboundary diversion systems, and a new sediment basin.

### New Regulatory Actions

The Regional Water Quality Control Board is developing a new set of Total Daily Maximum Loads (TDMLs) for pollutants in the Tijuana River watershed that will further limit the allowable levels of both bacteria and physical trash found in the lower Tijuana River. The Board has the authority to regulate surface water quality under the Clean Water Act and uses TDMLs to achieve objectives for basin water quality plans. The Board held a CEQA scoping meeting in May 2019 and will conclude the process of developing the new regulations in 2021.

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### **COMMISSION AND STAFF ACTIVITIES:**

The Commission has title to sovereign land within the Tijuana River Valley and Estuary, and offshore that are impacted by the river pollution. These lands are held in trust for the public of California, and the pollution interferes with public's right to use its lands. Multiple beach closures per year affect uses such as recreation, public access, fishing, and tourism. The wildlife die-offs and ecological damage that occur in the Tijuana River Estuary from polluted flows impair the use of land for ecosystem and open space preservation. The pollution also directly degrades public health and safety, causing physical harm to coastal communities on both sides of the border that come into contact with the contaminated water and soil. Coastal residents and workers, including U.S. Customs and Border Protection agents and U.S. Navy personnel, have suffered health consequences including skin and respiratory bacterial infections and hospitalization. The pollution impacts the accessibility and availability of safe drinking water. Some of the most vulnerable people affected by the pollution are the residents that live in unplanned communities lining the Tijuana River watershed canyons and migrants, including many young children, who attempt to cross the border. Asylum seekers are now forced to wait in border cities like Tijuana while their cases are adjudicated in the United States. Reports describe many living in makeshift shelters, increasing the number of people around the Tijuana River Valley without access to critical public services and water infrastructure.<sup>9</sup> This situation potentially further stresses the dysfunctional drinking water and wastewater treatment systems.

The Commission and its staff seek opportunities to engage with other affected stakeholders, including communities, agencies, and non-governmental organizations, to address these pollution issues and work on proactive solutions. Staff has attended public meetings in the San Diego region such as the Tijuana River National Estuarine Research Reserve Advisory Council and the Senate Select Committee on California-Mexico Cooperation, as well as sought input and information from the Regional Water Quality Control Board, U.S. EPA, the City of Imperial Beach, the Surfrider Foundation, and others. Staff toured the Tijuana River Valley in 2017 with the Tijuana River National Estuarine Research Reserve and again in 2019 with the Regional Water Quality Control Board and U.S. Customs and Border Protection. When staff conducted stakeholder outreach, along with the Port of San Diego, as part of the San Diego Ocean Planning Partnership (2017-2018), it received specific feedback that the Tijuana River pollution problems should be a priority for data collection and future ocean planning efforts. The Partnership's data team incorporated data related to water quality, ecological conditions, and beach recreation into its public Web Mapping Application, and will continue to add more data related to the Tijuana River and

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<sup>9</sup> Source: [The New York Times. Waiting For Asylum in the United States, Migrants Live in Fear in Mexico.](#) 2019.

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Estuary periodically. In addition, staff is exploring working closely with the Ocean Protection Council and other state agencies, including the California Environmental Protection Agency on state strategies that could support and compliment the work of the U.S. EPA and the Regional Water Quality Control Board.

On September 4, 2018, the Regional Water Quality Control Board, San Diego Section filed a lawsuit against the United States Section of the IBWC (USIBWC) for violation of the Clean Water Act related to pollution in the Tijuana River. The Commission joined the Regional Water Board's lawsuit as a plaintiff on December 13, 2018. The City of San Diego also joined the lawsuit as a plaintiff.

There are two other lawsuits related to Tijuana River pollution, one brought by the Surfrider Foundation and another brought by the Cities of Imperial Beach and Chula Vista and the San Diego Unified Port District. These lawsuits also allege that the USIBWC violated the Clean Water Act, and the Cities' and Port's lawsuit adds that USIBWC violated the Resource Conservation and Recovery Act in connection with its handling of Tijuana River pollution. Commission staff is coordinating with the plaintiffs in all three lawsuits as the litigation progresses.

**OTHER PERTINENT INFORMATION:**

1. This informational update is consistent with Strategy 1.1 of the Commission's 2016-2020 Strategic Plan to deliver the highest levels of public health and safety in the protection, preservation, and responsible economic use of the lands and resources under the Commission's jurisdiction; with Strategy 1.3 to protect, expand, and enhance appropriate public use and access to and along the State's inland and coastal waterways; and with Strategy 1.4 to incorporate strategies to address climate change, adapt to sea-level rise, incentivize water conservation, and reduce greenhouse gas emissions and the generation of litter and marine debris into all the Commission's planning processes, project analyses and decisions.
2. The informational update is not a project as defined by the California Environmental Quality Act because it will not result in direct or indirect physical changes in the environment.

**CONCLUSION:**

Staff will continue to update the Commission and the public on progress made to coordinate and collaborate with others on resolving the pollution issues that impact Public Trust lands, uses, and resources.