

**STAFF REPORT
INFORMATIONAL**

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**INFORMATIONAL UPDATE ON THE POLLUTION ISSUES
WITHIN THE TIJUANA RIVER WATERSHED**

INTRODUCTION:

At the Commission's August 2017 meeting, the Mayor of the City of Imperial Beach raised the issue of beach closures in Imperial Beach caused by sewage from Mexico flowing into the Tijuana River Estuary. The Mayor stated that Imperial Beach is the lowest income coastal city in San Diego County and has the highest poverty rate. Over the last decade, the Mayor explained, the beach has been closed a total of 3 years. The Mayor asked the Commission to evaluate whether there are options that the Commission and the California Attorney's General's Office can take to help protect the beaches in San Diego County. The Commission directed staff to provide additional information about the issue and recommendations. This staff report summarizes staff's activities and efforts to become more educated about the pollution issues within the Tijuana River watershed.

BACKGROUND AND DISCUSSION:

The Commission has jurisdiction over sovereign land located in and near the Tijuana River Watershed. The Commission leases sovereign land in the Tijuana River Estuary to the California Department of Parks and Recreation for the Border Field State Park, and to the U.S. Fish and Wildlife Service for the Tijuana River National Estuarine Research Reserve. The City of San Diego and the U.S. section of the International Boundary and Water Commission lease sovereign land in the Pacific Ocean for an outfall associated with the South Bay International Wastewater Treatment Plant.

The Tijuana River Watershed has for years experienced water quality issues and pollution, including sediment, trash, contaminated wastewater, and untreated sewage flowing into it. It is 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, but it drains to the Pacific Ocean through the 8-square-mile Tijuana River Valley that is north of the border. The Tijuana River Valley is a natural floodplain with tidally flushed wetland and riparian areas that supports threatened and endangered

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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 Tijuana River and sandy beaches along the Pacific shoreline in the west.

The Tijuana River Watershed is subject to a tapestry of regulation. There is the U.S. International Boundary and Water Commission, a binational agency that oversees water treaties between the United States and Mexico, and the San Diego Regional Water Quality Control Board that administers water quality laws, including the Clean Water Act. There is also the U.S. Environmental Protection Agency, which has a border office focused on issues related to the Tijuana River Valley; and the City of Imperial Beach, County of San Diego, and the City of San Diego because they operate the treatment plant and do most of the monitoring associated with it. And then there is the Clean Water Act, which establishes the basic structure for regulating pollutants discharged into federal waters and regulates water quality standards for surface waters. There are also several international agreements that regulate environmental issues along the United States – Mexico border.

Nearly three million people reside in the City of Tijuana, and the land in the surrounding canyons is developing rapidly to support a growing population and economy. Infrastructure, however, has not kept pace. The communities in the canyons often lack basic public services, such as paved roads, clean water, sewer pipes, and trash collection. The degraded water quality, health impacts, and decreased public access affect beach communities on both sides of the border. This is especially true in the City of Imperial Beach, where the impaired water pollution level disproportionately burdens this coastal community. According to CalEnviroScreen, the pioneering statewide environmental justice scoring system developed by the California Office of Environmental Health Hazard Assessment, Imperial Beach has one of the highest levels of water pollution in California. While there is a range of sources affecting water quality, the pollution is primarily connected to the sewage and other contaminants that flow into the Tijuana River Valley from Mexico.

In February 2017, at least 143 million gallons (some estimates are higher) of untreated wastewater was discharged into the Tijuana River. This resulted in beach closures in the City of Imperial Beach, an area that already has alarmingly high beach closure rates. In April 2017, a San Diego Union Tribune analysis of beach-closure data from the past decade illustrated the impact the pollution has had on coastal communities in the area. The San Diego Union Tribune reported that the City of Imperial Beach had portions of its shoreline 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,

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and Encinitas, with each of those cities having fewer than a dozen days when its beaches were closed during the entire decade.

The sewage spill is representative of the perennial issues surrounding sewage management and wastewater treatment in the watershed. The endemic pollution is incredibly complex and difficult to resolve. The spill occurred because the public utility provider for the City of Tijuana, Comisión Estatal de Servicios Públicos de Tijuana, bypassed wastewater flows into the Tijuana River when repairing a wastewater line in Tijuana. Much of the sewage collection and wastewater treatment infrastructure in the City of Tijuana is antiquated and requires repair or replacement. Earlier this year, there were 39 collectors and subcollectors needing critical repairs, at an estimated cost of \$28 million. There is also a lack of monitoring sensors and emergency equipment, such as bypass pumps, which help avert wider-scale impacts from the collapse of a singular section of collection pipe. Normally when a pipe section collapses, a sensor alerts the utility company of the failure, and then bypass pumps are deployed to divert the water to a secondary collector while the section is repaired, shielding the rest of the system from the untreated flows. The existing pump systems, however, often fail owing to frequent power outages during storms. The collection system becomes overwhelmed during the wet season, resulting in high rates of untreated flows directly into the River and Estuary. Efforts are underway to fund repairs and install additional flow meters and collection monitors, and to provide personnel with training, but the funding shortfall is an impediment.

The South Bay International Wastewater Treatment Plant is a 25 million gallon-per-day secondary treatment plant in San Diego County that the U.S. EPA constructed in 1997 at a cost of \$240 million. The plant, operated by the U.S. International Boundary and Water Commission, treats sewage originating in Tijuana, Mexico and discharges it to the Pacific Ocean through the South Bay Ocean Outfall, a 4.5-mile-long, 11-foot-diameter pipe. During storms, the river overflows the diversion system and untreated sewage is discharged into the United States. The wastewater treatment plants on the Mexican side are overloaded past capacity, and regularly fail to perform adequate primary or secondary treatment of liquid wastewater and solids. According to a 2012 report by Weston Solutions, nearly 99 percent of indicator bacteria loads entering the Tijuana River Estuary and adjacent beaches during wet weather originate from undiverted flows from the Tijuana River main and tributary channels in Mexico.

High volumes of sediment and trash are major problems in the Tijuana River Valley and Estuary. The sediment flows are primarily the result of land use development patterns within the canyons that serve as tributaries to the river, and the geomorphology of the canyons themselves and their soft, fine-grained sediment types that are highly susceptible to landslides and water-borne mobility.

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High sediment loads regularly contribute to closure of the Tijuana River Estuary mouth, requiring emergency actions by the U.S. Fish and Wildlife Service to open the channel so it can resume the flushing function vital to the Estuary's health. Sediment collection basins on both sides of the border are overflowing. It is difficult to make room in these basins by disposing of collected sediments or beneficially re-using them because they are contaminated by bacteria, agricultural chemicals, and physical debris and trash. It is expensive to clean and transport the sediment. The U.S. International Boundary and Water Commission is working with the City of San Diego to identify a location for a new sediment basin and hopes to complete the requisite feasibility and environmental studies by 2020. The sediment disposal conundrum, however, remains largely unaddressed.

The wet season river flows and collection systems contend with heaps of trash every winter, which can further exacerbate or cause blockages throughout the pipes and channels. Mexico's National Institute of Statistics and Geography estimates that 15 percent of the 2,000 tons of trash produced per day in Tijuana is uncollected. Trash collection services are not available in all parts of the city, particularly in the recently developed unregulated settlements in the steep canyons. Trash is left in illegal dumps on highly erodible hillsides and within the canyons themselves. Tires are commonly used to re-enforce the canyon walls. In heavy rains, the tires and dumps wash into the Tijuana River tributaries, and eventually through the lower canyons and main channel, depositing throughout the Estuary, beaches, and the Pacific Ocean. A City of San Diego study estimated that there are over 10 million plastic bottles in the river valley on the United States side of the border alone.

The sediment, trash, and other pollutants flowing into the Pacific Ocean threaten Public Trust lands and resources in the area and reduce recreational opportunities and public access to San Diego County's coastline. Although the pollution and beach closures are considered significant, figuring out ways to address the sources of the water pollution, and shoring up wastewater treatment infrastructure, is vexing. Many programs and projects, however, are in motion, and more are on the horizon. Community groups, such as the Proyecto Fronterizo de Educación Ambiental, are working to raise awareness among city and canyon residents about secure trash disposal, the importance of reducing the use of plastics, and the connection between water quality and health. The U.S. EPA and other agencies collaborate on similar education campaigns to reduce the sewage sources and trash pollution. Antiquated infrastructure in the city of Tijuana is gradually being replaced and new collectors are being installed throughout new developments in the canyons. Research is also underway to better understand the sources of pollution, particularly the origins of untreated wastewater and sewage, as well as the ecological and public health impacts from

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exposure to each type of pollutant. Agencies on both sides of the border are prioritizing water quality monitoring and testing, aided by four new flow meters and trainings for technicians to perform the work. Feasibility studies and design plans are underway for the construction of at least one new sediment basin. And a new communication protocol is being developed to ensure that when catastrophic failures occur, the proper agencies are notified quickly and with accurate information so that a response is swift and effective.

Tijuana River Valley Recovery Team

The Tijuana River Valley Recovery Team, a collaboration of about 30 federal, state and local agencies and other stakeholders from both sides of the border, was established in 2008 to protect the Tijuana River Valley from future trash and sediment, dispose of existing trash and sediment, and restore the Tijuana River floodplain to a balanced wetland ecosystem. In 2012, the Recovery Team developed a strategy called Living with the Water that summarized efforts to reduce sediment and trash in the Valley and pressed the concept of working together to build and enhance cross-border communication and relationships. In 2014, the California Legislature adopted Senate Concurrent Resolution 90 (Hueso), which memorialized the Legislature's resolve to work with the Recovery Team to protect and preserve the Tijuana River Valley and to encourage collaboration.

Tijuana River Valley Comprehensive Protection and Rehabilitation Act of 2017

H.R. 3795, the Tijuana River Valley Comprehensive Protection and Rehabilitation Act of 2017, is a bipartisan bill that was introduced in the 115th Congress on September 14, 2017, where it has been referred to the Subcommittee on Water Resources and Environment. This bill would require the Secretary of the Army to establish and implement a Tijuana River protection and rehabilitation program. The Secretary would consult with the Secretary of the Interior, the Secretary of Homeland Security, the Administrator of General Services, the Administrator of the Environmental Protection Agency, the Secretary of State, the Commissioner of U.S. Customs and Border Protection and the Director of the U.S. Fish and Wildlife Service. The Secretary would also consult with the U.S. Commissioner of the International Boundary and Water Commission for the United States and Mexico, the Border Environment Cooperation Commission, the North American Development Bank, the Governor of California, the California Environmental Protection Agency, the City of Imperial Beach, the City of San Diego, the County of San Diego, the San Diego Regional Water Quality Control Board, the Tijuana River National Estuarine Research Reserve, Mexican governments, and other public agencies and organizations in the United States and Mexico with authority for the planning and implementation of conservation strategies relative to the Tijuana River Valley.

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The purpose of the bill is to coordinate restoration and protection work among Mexican, federal, state, local and regional entities and conservation partners and to implement coordinated restoration and protection work and provide technical assistance. The Secretary, within a year of enactment, would be required to develop a feasibility and technical assistance plan for updated wastewater infrastructure and flood preparedness in the Tijuana River Valley. The Secretary would provide grants and technical assistance to state and local governments, nonprofit organizations, and higher education institutions in the United States and Mexico. The Secretary may enter into an agreement with the North American Development Bank, the Border Environment Cooperation Commission, or a similar grant management organization to implement the grants and technical assistance.

Grants require cost sharing, with the federal share limited to 55 percent. The Secretary would be required to prioritize projects with matching funds from state and local governments, or Mexican governments. The bill authorizes appropriations for each fiscal year, but the sums are unspecified.

The bill has monitoring and notification provisions. The Secretary of State would have to establish a new electronic system, called the Transboundary Waterway Alert System, to monitor, warn, and protect United States citizens from undue and avoidable harm from wastewater, sewage, trash, and sediment spills and flooding for waterways along the United States – Mexico border. The goal is to ensure updated and timely information on water testing results, wastewater, sewage, trash, sediment spills, and flood warnings, and to ensure the information is accessible and available. The Secretary of State may enter into cooperative agreements with higher education institutions and Mexican governments to establish and manage the notification system. When a spill is discovered, the Secretary of State would submit a diplomatic note to his or her Mexican counterpart providing information about the spill. The Secretary of State would also, acting through the U.S. Commissioner, International Boundary and Water Commission, United States and Mexico, notify the City of San Diego, the City of Imperial Beach, and the County of San Diego when a wastewater, sewage trash, or sediment spill in the Tijuana River Valley is discovered.

Staff Activities

Staff has reached out to many federal, state, and local agencies, various nonprofit organizations, and individuals that have been working, some for decades, to ameliorate the pollution. Recently, staff met with the City of Imperial Beach, the Regional Water Quality Control Board, the Tijuana River National Estuarine Research Reserve, the U.S. EPA, the Ocean Protection Council, the Environmental Center of San Diego, and Wildcoast. Staff also met with researchers from the Southern California Coastal Wetlands Research Project,

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the Scripps Institute of Oceanography, and the U.C. San Diego Center for U.S.-Mexican Studies. Staff attended an information hearing convened by the Senate Select Committee on California-Mexico Cooperation that focused on water quality and reliability in the Tijuana River Valley. Staff also visited the Tijuana River Valley.

On September 27, 2017, the City of Imperial Beach, the San Diego Unified Port District and the City of Chula Vista notified the U.S. Section of the International Boundary and Water Commission and the Veolia Water North America—West LLC of imminent and ongoing federal Clean Water Act violations and of their intent to sue based on the unpermitted discharges and discharges from wastewater collection facilities in violation of the National Pollution Discharge Elimination System permit. They also notified the International Boundary and Water Commission and Veolia that their contribution to the handling, transport, and disposal of solid and hazardous wastes in the Tijuana River Valley constitutes an imminent and substantial endangerment to human health and the environment under the Resource Conservation and Recovery Act. On September 28, 2017, the Commission sent a letter to the San Diego Unified Port District, the City of Chula Vista, and the City of Imperial Beach supporting these actions.

STAFF PLANNED FUTURE EFFORTS:

While many local jurisdictions, agencies and communities are trying to address the endemic pollution issues at the Tijuana River watershed, they often lack funding, and struggle to overcome coordination and communication hurdles, and occasional uncertainties related to the information and data necessary to effectively prioritize different management actions. There is a recognition that the sewage and wastewater treatment facilities need to be upgraded and expanded to be commensurate with the growing communities within the watershed.

Although there is no one solution to pursue, it is evident that improved communication and collaboration is beneficial. Staff plans to collaborate with the Ocean Protection Council, California Coastal Commission, the State Water Resources Control Board, the State Department of Parks and Recreation, the Department of Fish and Wildlife, and CalEPA to share information, brainstorm, and prioritize collaborative endeavors, and discuss funding and staff resource needs. This group could also help connect local and federal partners to grant opportunities within existing state bond programs, such as Proposition 1, the Ecosystem Restoration and Water Quality Grant Program. External collaboration should not be limited to identifying funding—it can also involve frequent coordination to actively monitor and evaluate progress and help implement promising projects.

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Commission staff also plans to work with these agencies and the California Legislature to support funding proposals to improve wastewater treatment and reduce sediment and trash, and fashion new legislation to address other problems. The Commission can also support federal and local measures, such as the Tijuana River Valley Comprehensive Protection and Rehabilitation Act of 2017.

Staff will continue providing the Commission updates during the approaching winter storm season, to monitor the situation through the highest risk months, and continue to raise awareness and support the generation of new and innovative approaches that will improve the environmental quality of the Tijuana River Valley and the lives of those affected by it. And finally, staff will continue to monitor the City of Imperial Beach, the San Diego Unified Port District and the City of Chula Vista efforts to resolve alleged violations under the federal Clean Water Act and the Resource Conservation and Recovery Act.