

Lower Tijuana River Indicator Bacteria and Trash Advance Restoration Plan

San Diego Regional Water Quality Control Board

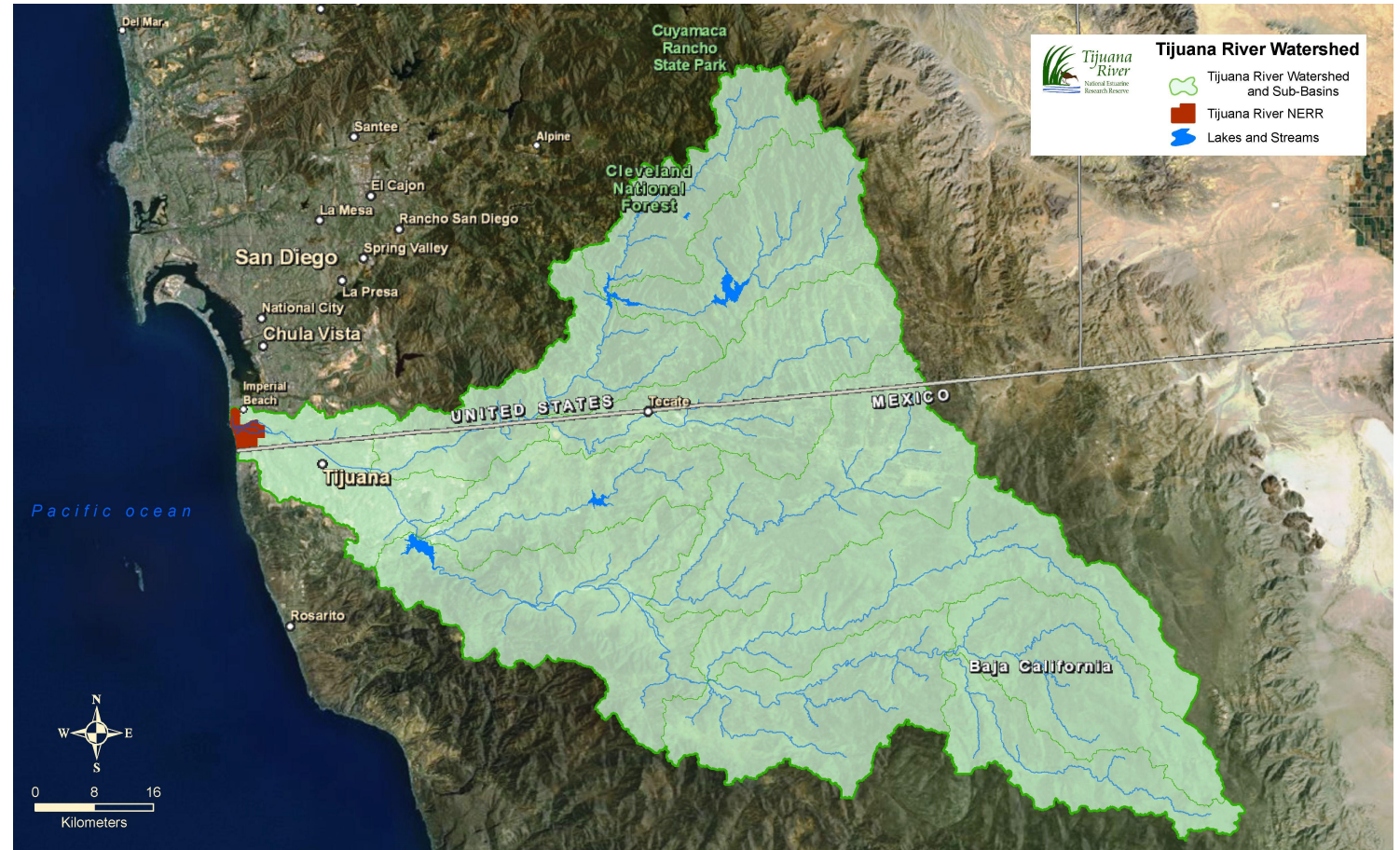
Riley Nolan, WRCE

Agenda Item 6



Background – Tijuana River Watershed

- Straddles the international border
- Flows through highly urbanized areas in Mexico before crossing into U.S.
- SDWB has no control over discharges in Mexico



Tijuana River National Estuarine Research Reserve

Impairments in the Lower Tijuana River

- Lower river is severely impaired by transboundary flows
- Human health and aquatic resources beneficial uses impaired
- Odor and prolonged beach closures in South County



Los Angeles Times

Impairments in the Lower Tijuana River

- Baseline *E. Coli* concentration several orders of magnitude higher than established objectives
 - Dairy Mart Bridge: 100,000 CFU/100mL
 - Stewart's Drain: 1.3 million CFU/100mL
 - Goat Canyon: 1.7 million CFU/100mL
 - Objective: 100 CFU/100mL
- Baseline trash loading is estimated at ~4,000 tons/year



San Diego Union Tribune

Impaired Waters – Clean Water Act

- Clean Water Act Section 303(d)
List of Impaired waters
- Total Maximum Daily Loads
(TMDLs) required for all
pollutant/water body
combinations on 303(d) list



Tijuana River National Estuarine Research Reserve

Background – Advance Restoration Plans (ARPs)

What is an Advance Restoration Plan (ARP)?

- Near term plan with a schedule or milestones
- More immediately beneficial or practicable than TMDLs
- Not a substitute for TMDLs

Why is the Board pursuing an ARP for the Lower Tijuana River?

- Unique binational circumstances
- Obvious significant source of pollution
- Well-developed project proposals
- Time sensitivity to secure federal funding
- Adaptive management

Project History

- Initially drafted as TMDLs
- Tribal and DAC outreach May – June 2023
- TMDL analyses subject to external scientific peer review in Summer 2023
- TMDL analyses converted to ARP in Fall 2023
 - Underlying analyses unchanged
- ARP subject to public review and comment January – March 2024
 - Responses to written comments provided in September 2024
 - Public comments were supportive of the ARP's analysis and findings
 - Some commenters opposed the use of an ARP over TMDLs
- Two staff workshops in February 2024

Components of Lower Tijuana River ARP

- Pollutants of concern
- Numeric target selection
- Source assessment
- Allowable loads and allocations
- Implementation Plan
- Monitoring and assessment



Pollutants of Concern

- **Indicator Bacteria**
 - *E. coli*
 - Enterococci
- **Trash**
- **Others comingled**
 - Sediment, cadmium, selenium, surfactants, synthetic organics, pesticides, etc.



Ariana Drehsler, Voice of San Diego



City of Imperial Beach

Numeric Target Selection – Bacteria

Statewide Rec-1 water quality objectives (WQOs) based on 32 illnesses per 1,000 exposed individuals

***E. coli*, Fresh Receiving Waters**

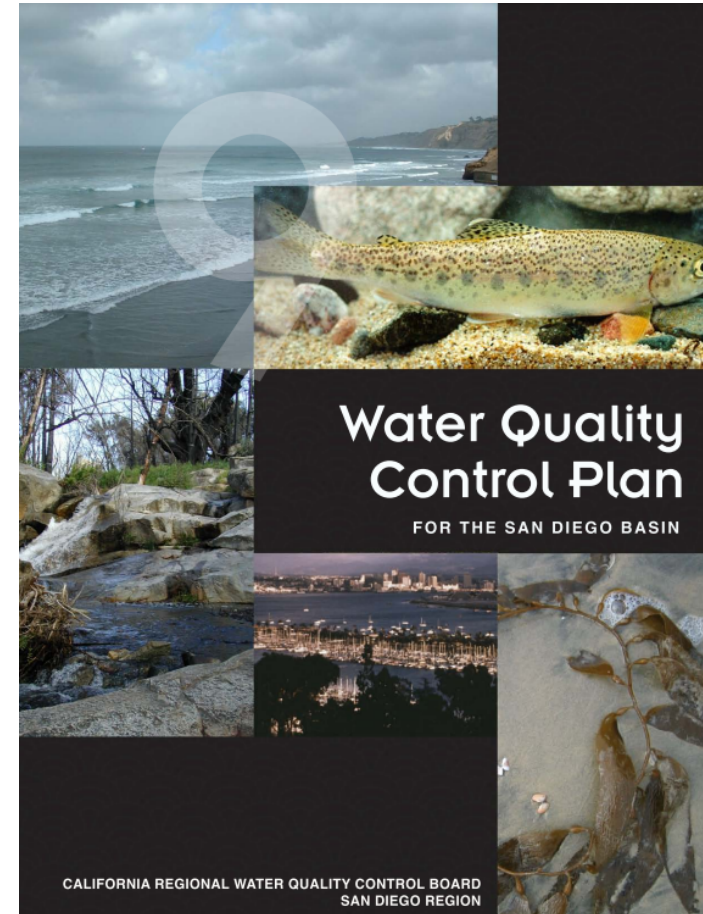
- 6-week rolling geometric mean \leq **100 CFU/100mL**
- Statistical threshold value of **320 CFU/100mL** not to be exceeded in 10% of samples per month

Enterococci, Saline Receiving Waters

- 6-week rolling geometric mean \leq **30 CFU/100mL**
- Statistical threshold value of **110 CFU/100mL** not to be exceeded in 10% of samples per month

Numeric Target Selection – Trash

- Narrative WQO from Basin Plan:
 - ***No floating materials or suspended/settleable solids in amounts/concentrations that adversely impact beneficial uses or cause nuisance***
- Consistent with State Water Board Trash Amendments to Ocean and ISWEBE Plans



Source Assessment

Transboundary Flows

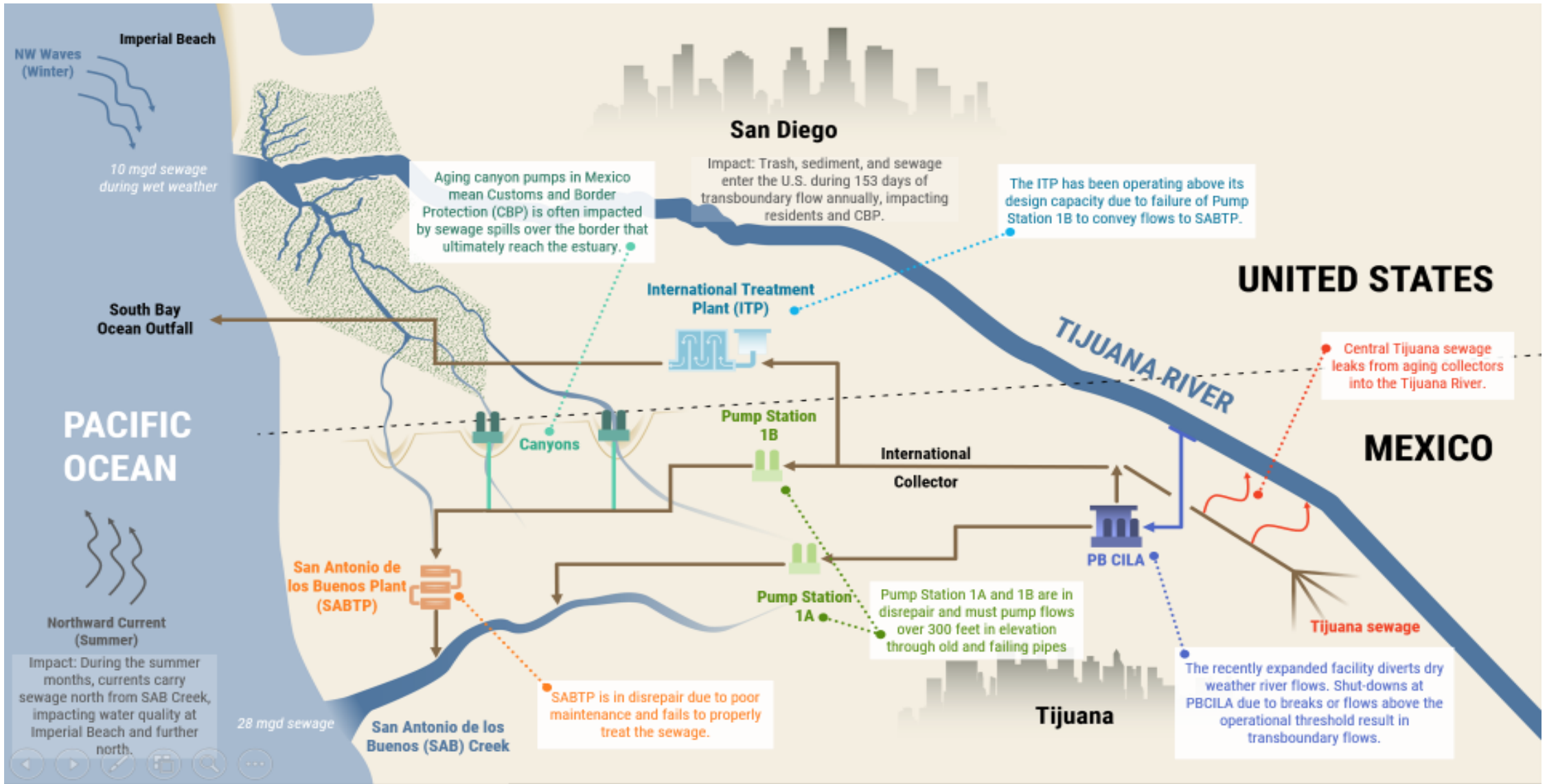
Constitute the vast majority of indicator bacteria and trash loading

Discharges of waste in Mexico are outside of the Board's jurisdiction

US-side Sources

Minor compared to transboundary flows

Largely controlled through existing permits and BMPs



United States Environmental Protection Agency

Source Assessment – U.S. Sources

- Insignificant compared to transboundary flows
- Minor sources include:
 - Stormwater discharges
 - Agricultural operations
 - Open space & public land
- Largely controlled through existing permits and BMPs



Source Assessment – Summary

Source	<i>E. coli</i>	Enterococci	Trash
Transboundary Flows	97%	99%	96-99%
Sources Generated in the U.S.	3%	1%	<1-4%

Loads and Allocations

- **Indicator Bacteria**
 - Equivalent to concentration-based WQOs for *E. coli* and enterococci
- **Trash**
 - Equivalent to narrative WQOs



United States section International Boundary and Water Commission

Implementation Plan – U.S. Sources

- U.S. sources largely controlled through existing permits/BMPs
 - Commercial agricultural operations
 - Phase I Municipal Separate Storm Sewer Systems (MS4s)
 - Phase II MS4s
 - Naval Outlying Landing Field, Imperial Beach
 - Industrial facilities
 - Construction facilities
 - Caltrans facilities
 - Groundwater extraction

Implementation Plan – Transboundary Flows

1. Memorandum of Understanding (MOU)
 - San Diego Water Board
 - United States section International Boundary & Water Commission (USIBWC)
 - United States Environmental Protection Agency (USEPA)
 - Department of Homeland Security (DHS), if needed
2. Minimum Frequency of Assessment and Collection (MFAC) trash program
3. Identification of projects eligible for Prop 4 funding



USMCA Comprehensive Infrastructure Solution – Record of Decision

Core Projects

A: SBIWTP Phased Expansion

- 25 → 50 → 60 MGD

B: Canyon Flows to SBIWTP

C: Tijuana Sewer Repairs

D: Advance Primary Treatment Plant (APTP) Phase 1

- 35 MGD primary treatment from existing river diversion in Mexico

Supplemental Projects

E: Advance Primary Treatment Plant Phase 2

- 35 → 60 MGD

F: U.S. River Diversion to APTP

H: Tijuana Treated Effluent Reuse

I: SBIWTP Treated Effluent Reuse

J: Trash Boom(s)

San Antonio de Los Buenos

- New 18 MGD plant

USMCA Comprehensive Infrastructure Solution – Record of Decision

Full Implementation of Core and Supplemental Projects:

- 76% reduction in frequency of transboundary flows
- 87% reduction in transboundary Biological Oxygen Demand loads in Tijuana River
- >99% reduction in dry-season beach impacts



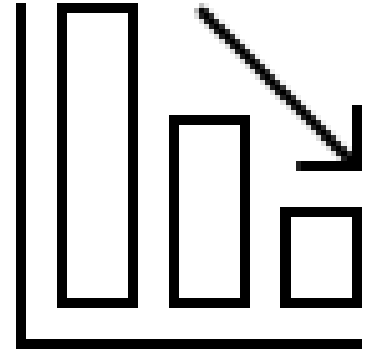
City of Imperial Beach

Implementation Plan – MFAC

Requesting IBWC to develop and lead MFAC program

1. Annual baseline loading of trash
2. Trash monitoring stations
3. Trash monitoring and removal frequency
4. Annual reporting of trash monitoring

Implementation Plan – MFAC



Progressive Trash Reduction Schedule

Year 5 - 50% reduction of the estimated baseline load

Year 6 - 60% reduction of the estimated baseline load

Year 7 - 70% reduction of the estimated baseline load

Year 8 - 80% reduction of the estimated baseline load

Year 9 - 90% reduction of the estimated baseline load (ongoing)

Implementation Plan – Prop 4

- \$50 million available for loans/grants for projects to address water quality in cross-border rivers and coastal waters
- Work with Tijuana River Valley Recovery Team to identify potential projects for Prop 4 funding
- Board to consider a future resolution endorsing identified projects

Implementation Schedule

Indicator Bacteria

- Attainment of WQOs for indicator bacteria in **seven years**

Trash

- Progressive reduction in trash loading in **five to nine years**

- Timelines are reasonable to achieve necessary reductions in bacteria and trash loading
 - US sources are largely controlled
 - RoD projects will result in significant control of transboundary flows
 - **Contingent on federal funding**

Monitoring and Assessment

- Monitoring is needed to assess effectiveness of ARP
- ARP proposes monitoring program for significant sources of pollution and receiving waters
- Reporting to 1) assess reductions in indicator bacteria and trash and 2) assess if WQOs in the lower Tijuana River are attained



Practical Vision

Lower Tijuana River ARP advances the Board's Practical Vision

- **Chapter 1: *Strategize for Healthy Waters***
 - Highest ranking priority based on Key Beneficial Uses and Key Areas Approach
- **Chapter 2: *Monitor and Assess***
 - ARP calls for additional monitoring in the lower Tijuana River
- **Chapter 4: *Implement Racial Equity and Environmental Justice Measures***
 - Residents of nearby DACs (e.g., San Ysidro, Nestor, Imperial Beach) are disproportionately impacted by pollution in the lower Tijuana River
- **Chapter 8: *Provide Effective Community Engagement and Communication***
 - Board members and staff have conducted consistent public outreach and engagement

Staff Recommendation & Next Steps

- Adoption of Tentative Resolution R9-2024-0155
- Implementation of ARP
- Annual updates on MOU and progress towards WQOs
- Consideration of TMDLs in accordance with ARP implementation schedule
- Annual report from IBWC on MFAC and Monitoring



California State Parks

Guest Speakers

- Diane Fleck, TMDL Liaison, United States Environmental Protection Agency
- Sally Spener, U.S. Secretary/Foreign Affairs Officer, United States section, International Boundary and Water Commission