USIBWC San Diego Field Office Projects Overview

Steve Smullen, Area Operations Manager

March 17, 2016

1944 Water Treaty

- Authorized Commission to give “preferential attention to the solution of all border sanitation problems”
- 3 international wastewater treatment plants were subsequently constructed:
  - South Bay International Wastewater Treatment Plant -Located in San Diego; treats sewage from Tijuana – Minute 283 (1990)
  - Nuevo Laredo International Wastewater Treatment plant - Located in Nuevo Laredo, Mexico; treats Mexican sewage
  - Nogales International Wastewater Treatment Plant (NIWTP) - Located in Rio Rico, AZ; treats sewage from the U.S. and Mexico

Tijuana Sanitation
Minute No. 283 (1990)

- To address flow of sewage into the U.S. via the Tijuana River
- Mexico to help fund a wastewater treatment plant in San Diego in lieu of a planned plant in Tijuana
- Secondary treatment level in accordance with more stringent U.S. standards
- Construction of an ocean outfall by the U.S.

South Bay International Wastewater Treatment Plant

- Plant capacity of 25 mgd – advanced primary plant completed 1997
- Secondary plant completed April 2011.
- Mexico contributes to O & M, approx $1.8M/ year + all solids disposal. O&M cost share is based on treated flow.
- Treated effluent discharged 3.5 miles offshore via South Bay Ocean Outfall

South Bay International WWTP

South Bay Ocean Outfall

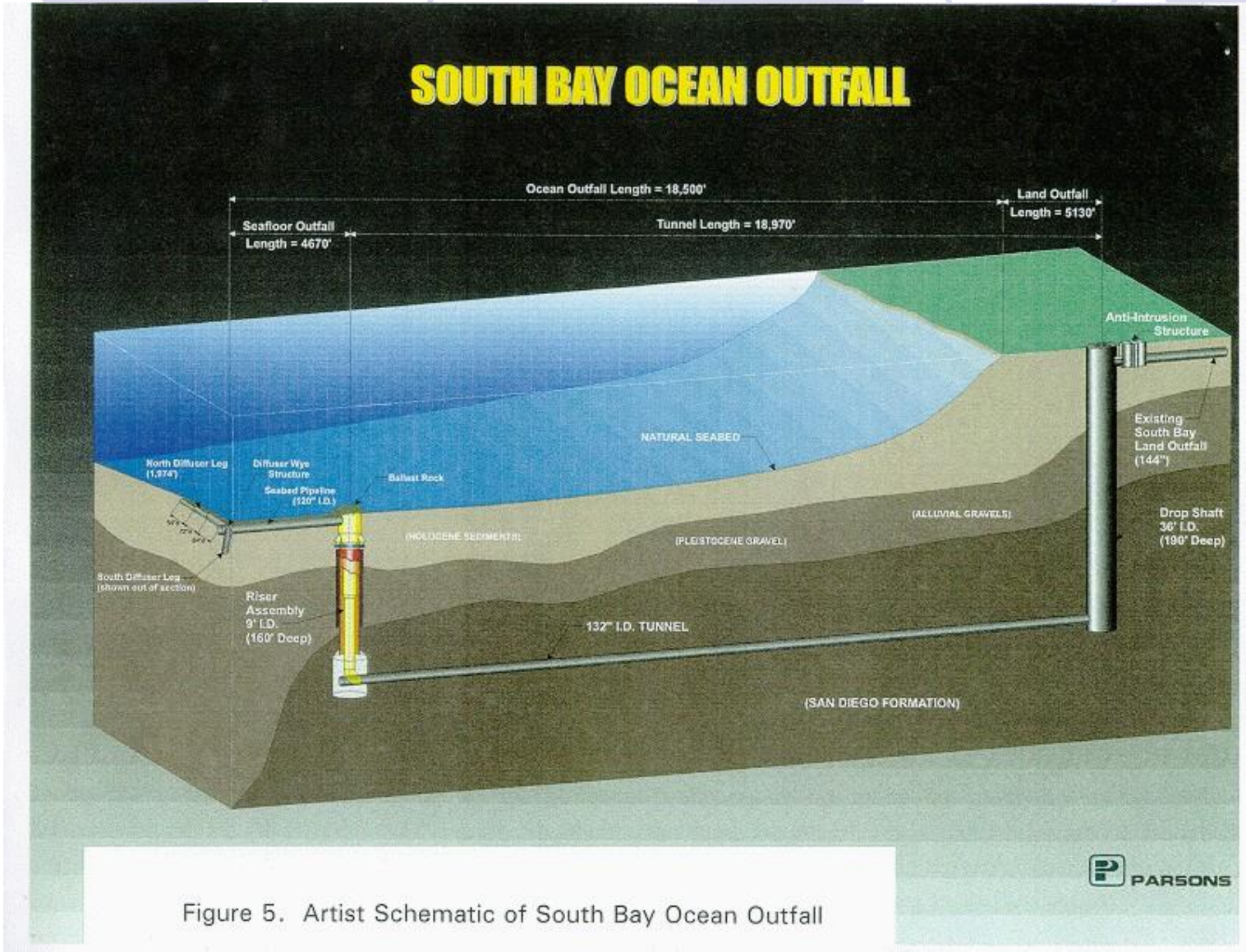


Figure 5. Artist Schematic of South Bay Ocean Outfall

Canyon Collection Facilities

- Diversions to capture cross border canyon flows and convey to SBIWTP- located @ Smugglers Gulch, Goat Canyon, Canon del Sol, Silva Drain and Stewart's Drain

Water Quality

- Effluent quality has been consistent since 2012.
- SBIWTP and SBOO subject to NPDES Permit issued by CA Regional Water Quality Control Board.
- Ocean monitoring compliance done by City of San Diego for IBWC.
- Additional secondary clarifiers and a flow equalization basin are planned to accommodate greater peak flows and prevent solids washout.
- Contract has been awarded and construction will begin in April or May 2016

SBIWTP Water Quality

		Influent	Effluent	Influent	Effluent
		CBOD	CBOD	TSS	TSS
		mg/l	mg/l	mg/l	mg/l
January	2015	338	11	420	12
February	2015	344	10	426	12
March	2015	357	9	424	11
April	2015	360	9	405	11
May	2015	355	8	413	9
June	2015	337	8	385	9
July	2015	348	13	398	15
August	2015	319	9	358	10
September	2015	329	9	405	11
October	2015	348	8	417	9
November	2015	367	8	464	10
December	2015	364	8	529	10
January	2016	347	13	416	16
Average		347	9	420	11

Border Wastewater Infrastructure

- IBWC, CESPT (Tijuana Utility)
- Diversions - Pump Station CILA (CESPT), Canyon Collection Facilities (IBWC)
- Four WWTPs
  - SBIWTP (25 mgd) - IBWC, Arturo Herrera (10 mgd) -CESPT, La Morita (6 mgd)-CESPT, San Antonio de los Buenos (25 mgd) -CESPT

Pump Station CILA

- Pump Station CILA diverts Tijuana River into the Tijuana reclaimed water system just upstream of US/Mexico border
- TJ River flows are combination of 14 mgd of secondary effluent, storm runoff and wastewater discharges
- Operates when river flows < 1000 lps
- Eliminates dry weather flow into the US, wet weather flows continue to plague US beaches

SISTEMA PB-CILA – PB1-A

Agua proyecto morado

Agua proyecto morado mezclada

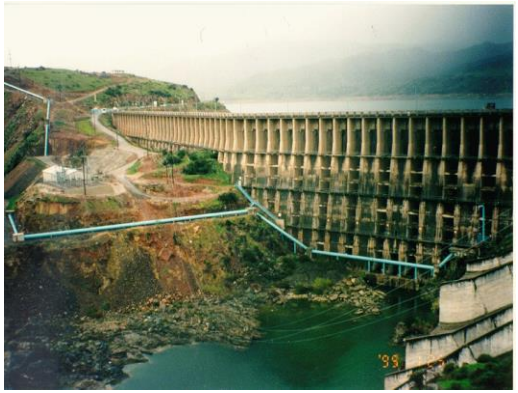
Agua tratada

Agua negra

Tijuana River Watershed

- 1,725 square miles, 2/3 in Mexico
- River flows north into ocean at Imperial Beach
- Morena and Barrett Dams in the U.S. operated by City of San Diego for water conservation
- Carrizo and Rodriguez Dams in Mexico operated by National Water Commission for water conservation and flood control

Tijuana River Watershed



Rodriguez Dam
Tijuana, Mexico

Barrett Dam
San Diego, California

Tijuana River Flood Control Project

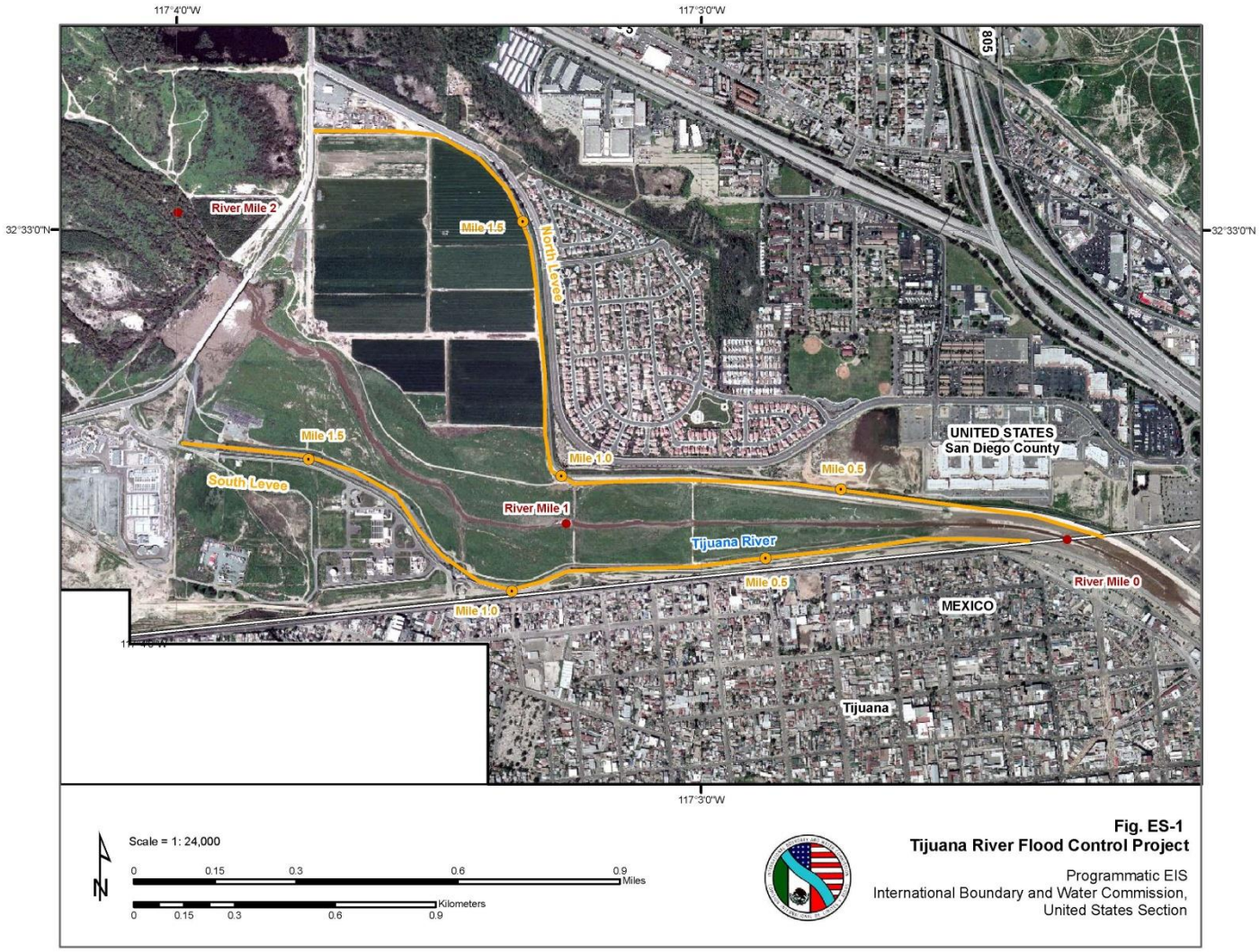


Fig. ES-1
Tijuana River Flood Control Project

Programmatic EIS
International Boundary and Water Commission,
United States Section

Tijuana River Flood Control Project

- International flood control project; constructed in 1970s per Minutes 225, 236, and 258
- Design flood of 135,000 cfs, “the maximum flood that can reasonably be expected”
- Mexico has a 2.7-mile concrete-lined channel
- Original plan for 5.3 mile concrete-lined channel in U.S. scaled back at request of City of San Diego
- U.S. constructed a 1200-ft. concrete-lined channel connected to 3700-ft. long velocity reduction structure; levees extend to Dairy Mart Road
- U.S. levee height of 12-23 feet
- USIBWC responsible for maintenance of U.S. portion

Tijuana River
Flood Control Project

Channel at international boundary

During Dec. 2008 storm. Flooding occurred downstream from IBWC project.

Tijuana River Valley Recovery Team

- Group of 30 member agencies led by RWQCB
- Ultimate goal is to implement TMDLs for trash and sediment control in the Tijuana River.
- Recovery Strategy (2011):
  - a) Partner with Mexico
  - b) Understand how water, sediment and trash flow
  - c) Reduce trash and sediment at source
  - d) Implement sediment and trash capture devices
  - e) Fund ongoing and future O&M
  - f) Involve and inform communities on both sides
  - g) Protect and enhance natural resources

Watershed Issues- Sediment


12/31/2003
N
Image © 2011 DigitalGlobe
©2010 Google
BORDER 2012
FRONTERA 2012
Fecha de las imágenes: 11/6/2002
2000
32° 29.550' N 117° 4.912' O elev. 661 pies
Alt. ojo 2067 pies

Solid Waste and Sediment Removal – U.S. Side

- Goat Canyon Sediment Basins – CA State Parks – approx. 50,000 CY annually
- Main Channel and Lower Smugglers Gulch – City of San Diego
- Upper Smugglers Gulch – County of San Diego
- Tijuana River Flood Control Project – USIBWC
- Solid Waste and Tire Removal - Wildcoast, Surfrider, County and City of San Diego

Sediment Basin Construction
Los Laureles Canyon - Mexico

Expansion of Tanque Azteca Sediment Basins
In Los Laureles Canyon, Nov, 2013

Sediment Removal, Concrete Lined Channel - Mexico

Tijuana River Main Channel
October-November, 2013

Watershed Issues- Trash

Minute 320 -Tijuana Watershed Sediment, Solid Waste and Water Quality

- June 2012– IBWC commitment to new Minute
- April 2013- Sept 2015 – Minute development
- October 5, 2015 – signing of Minute 320 in Tijuana.
- November 18, 2015 -Kickoff meeting of Binational Core Group
- February 18, 2015 -Kickoff meeting for Binational Work Groups for:
  - Sediment Management
  - Trash Control
  - Water Quality Improvement

Elements of Minute 320

1 Legal Context

- 1944 Water Treaty
  - Article 16 – addresses water uses in Tijuana Basin
  - Article 3 – preferential treatment for water quality issues
  - Article 24 - implementation and execution of projects

2 Organization and Operation

- Inclusive Process
- Binational Core Group (BCG) coordinated by IBWC with representatives from both countries:
  - ✓ Federal government,
  - ✓ State government
  - ✓ Local government
  - ✓ Non governmental organizations
- Binational Work Groups

ELEMENTS OF MINUTE 320

3 **Condition Set**

- **Transboundary Issues**:
  - ✓ Flood control,
  - ✓ Surface wáter -capture and utilization,
  - ✓ Sediment and solid waste,
  - ✓ Water quality,
  - ✓ Wastewater discharges,
  - ✓ Protection and environmental restoration,
  - ✓ Integrated and sustainable management,
  - ✓ Climate change,
  - ✓ Public participation
- **Priority Topics**:
  - ✓ Sediment
  - ✓ Solid Waste
  - ✓ Water Quality

ELEMENTS OF MINUTE 320. BINATIONAL CORE GROUP(BCG)

4 BCG Activities

1. Cooperative measures.
2. Participants and responsible institutions.
3. Studies, investigations, inventories, maps, models.
4. Short and long term priorities.
5. Operations and maintenance.
6. Implementation process.
7. Costs, funding sources and cost distribution
8. Community information.
9. Monitoring programs.

Minute 320
BWG Feb 18 Meeting – Table of Ideas

- In general, share data/information on all topics
- For water quality
  - Joint Monitoring Programs for coastal waters – Playas and IB
  - Operation and maintenance of PB CILA
  - Control of runoff in the Tijuana River
  - Integral water reuse program
- Sediment
  - Source identification & control
  - Control of construction and land development practices
  - Binational program for removal of sediment from river
  - Study on lands available for sediment disposal
- Solid Waste
  - Surveillance and inspection program
  - Better solid waste removal from canyons, streams
  - Environmental education
  - Integral solid waste program -Tecate and Tijuana
  - Proper disposal of tires

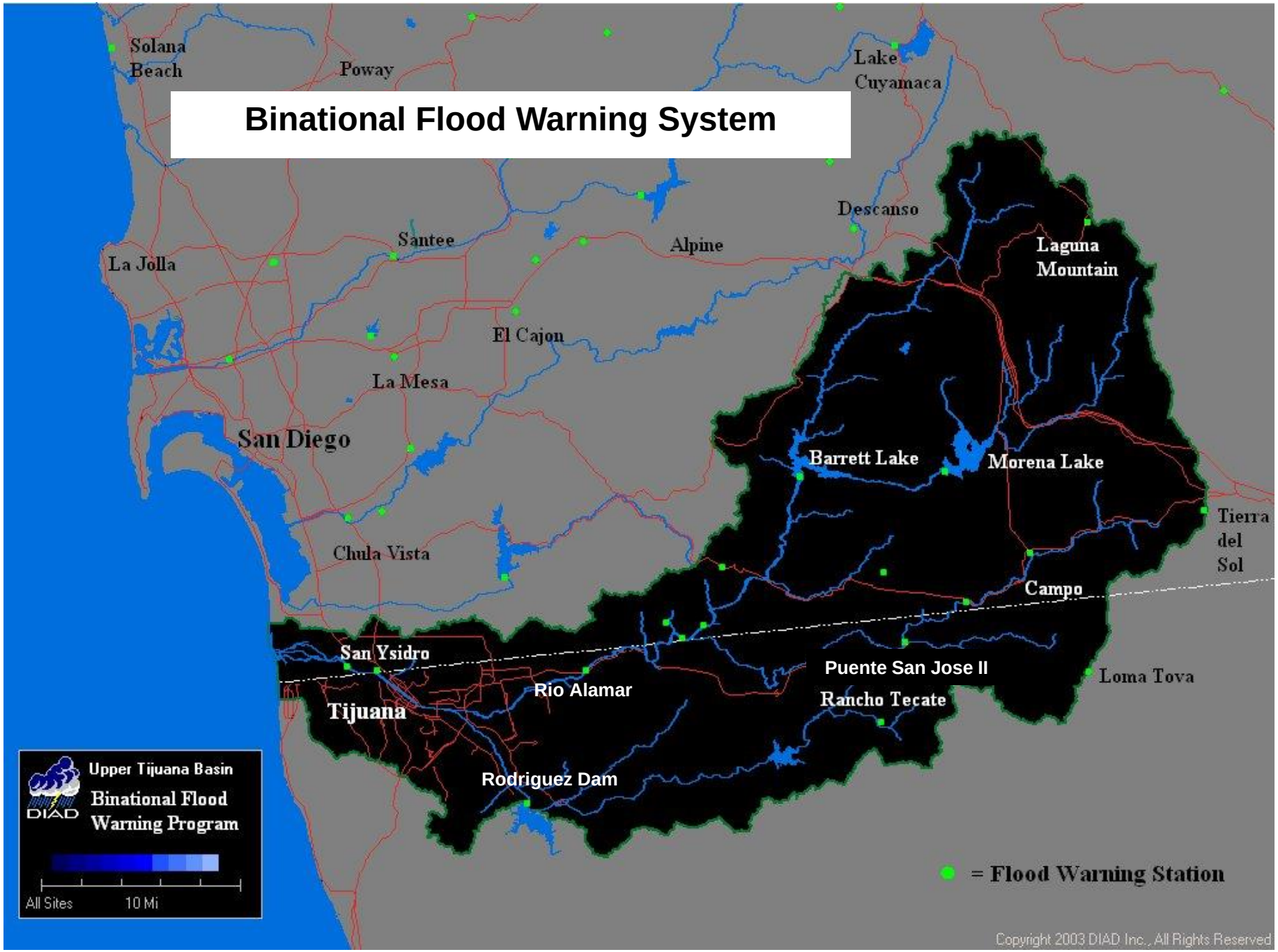
Port of Entry Boundary Line Delineation

- Completed Tecate and Otay Mesa in August 2012
- Minute 302 identifies responsibilities for each Section
- Trial at southbound lane using thermoplastic – solid line with “Mexico/USA” lettering on each side
- Fabricated bronze buttons with US /Mexico raised letters.
- Long term solution is to more permanent solution such as concrete (colored) strip with recessed lettering

POE Delineation

Flood Warning System

- Binational flood warning system for Tijuana River established per 2003 agreement
- System of rain gages and stream gages provides real-time data accessible to emergency managers in both countries
- Encompasses Morena Lake, points east to Tecate, and west to the coast
- Automatic Local Evaluation in Real Time (ALERT) system maintained by San Diego County in U.S. and IBWC in Mexico


Binational Flood Warning System
Solana Beach
Poway
Lake Cuyamaca
Descanso
Santee
Alpine
La Jolla
Laguna Mountain
El Cajon
La Mesa
San Diego
Barrett Lake
Morena Lake
Tierra del Sol
Chula Vista
Campo
San Ysidro
Puente San Jose II
Loma Tova
Rio Alamar
Tijuana
Rancho Tecate
Rodriguez Dam
Upper Tijuana Basin
Binational Flood Warning Program
DIAD
All Sites
10 Mi
= Flood Warning Station
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Rain and Stream Gages Locations in United States and Mexico

- **Raingages:** Campo, Loma Tova, Rancho Tecate, Marron Valley, Potrero County Park, Puente San Jose II, Rio Alamar at Toll Bridge, Rodriguez Dam
- **Streamgages:** Campo Creek, Cottonwood Creek, Marron Valley, Puente San Jose II, Tijuana River at US/Mexico border, Rio Alamar, Rodriguez Dam

Rancho Tecate

Puente San Jose II (Tecate)

Rodriguez Dam

INTERNATIONAL BOUNDARY AND WATER COMMISSION, UNITED STATES AND MEXICO
UNITED STATES SECTION

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