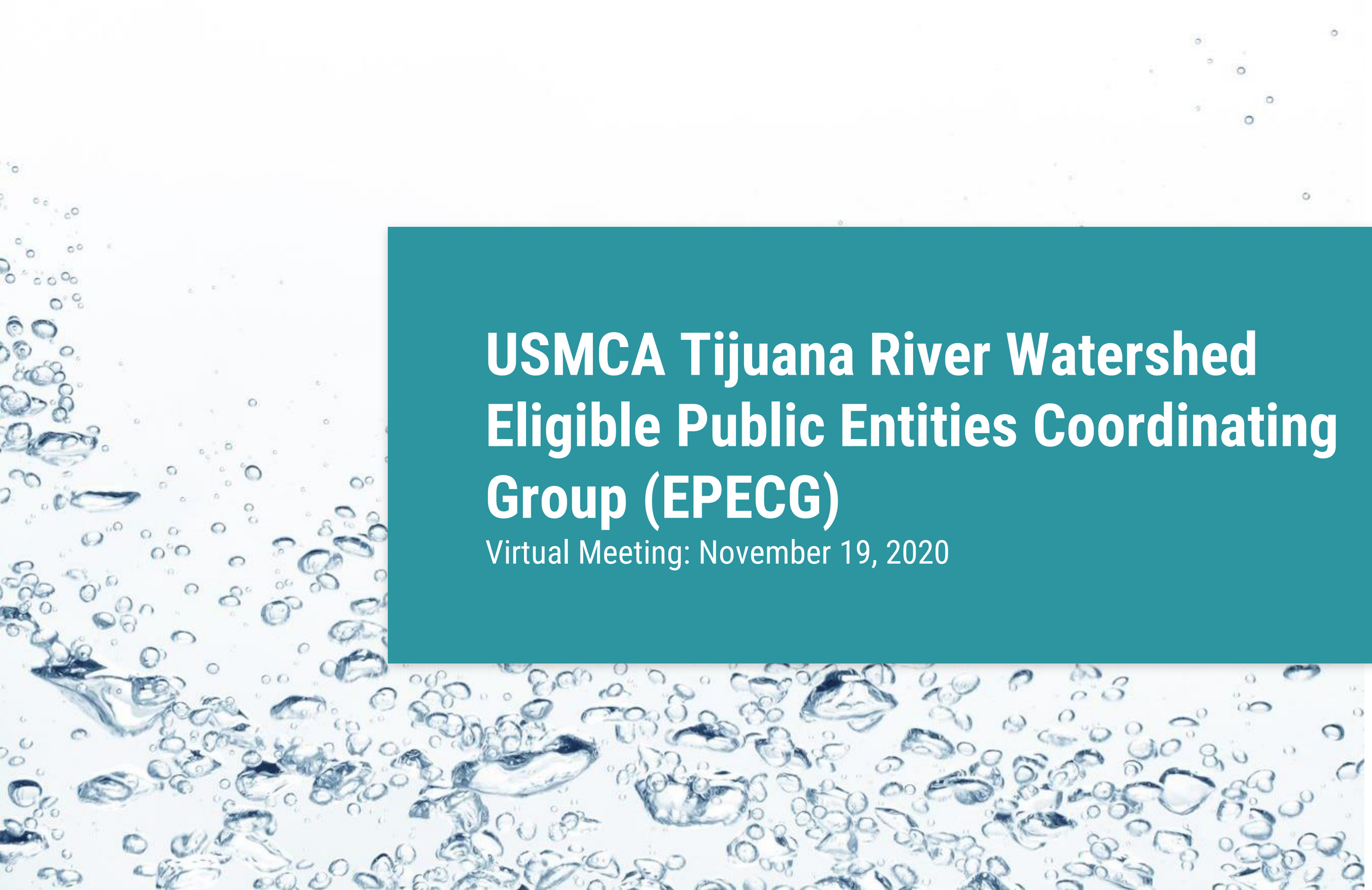
USMCA Tijuana River Watershed

Eligible Public Entities Coordinating Group (EPECG)

November 19, 2020
10:00 a.m. – 12:00 p.m. Pacific
(1:00 p.m. – 3:00 p.m. Eastern)

Agenda Topics

10:00 am PT	**Welcome and Overview – EPECG Co-Chairs; John Busterud (EPA Region 9 Administrator); Chad McIntosh (Assistant Administrator of EPA's OITA)**
10:05 am PT	**Update on Short-Term Impact Projects - Dave Smith, EPA Region 9**
10:15 am PT	**Final List of Long-Term Projects – Co-Chairs** • Review of Long-Term Project Feedback from EPECG (Andrew Sawyers, Co-Chair) • Long-Term Projects for Feasibility Analysis (Doug Liden, EPA Region 9) • Overview of the Scripps Institution of Oceanography Study (Dr. Falk Feddersen, Scripps Institution of Oceanography, University of California San Diego)
11:40 am PT	**Next Steps and Upcoming Milestones – Co-Chairs**
12:00 pm PT	**Closing Remarks & Adjourn**



USMCA Tijuana River Watershed Eligible Public Entities Coordinating Group (EPECG)

Virtual Meeting: November 19, 2020

Eligible Public Entities Coordinating Group (EPECG) - Principals and Delegates

- CalEPA
- California Natural Resource Agency
- City of Chula Vista
- City of Coronado
- City of Imperial Beach
- City of San Diego
- North American Development Bank
- Port of San Diego
- San Diego County
- San Diego Regional Board
- US Army Corps of Engineers
- US Customs & Border Protection
- US Department of Commerce
- US Department of State
- US Fish and Wildlife
- US International Boundary and Water Commission
- US Navy

Agenda

- Welcome and Overview
- Update on Short-Term Impact Projects
- Final List of Long-Term Projects
  - Review of Long-Term Project Feedback from EPECG
  - Long-Term Projects for Feasibility Analysis
  - Overview of the Scripps Institution of Oceanography Study
- Next Steps and Upcoming Milestones
- Closing Remarks & Adjourn

Update on Short-Term Impact Projects

David Smith, Water Division Assistant Director, EPA Region 9

Short Term Options Being Pursued

- **Temporary river diversion** to International Treatment Plant (ITP).
- **Sediment/Trash Control Basin** in Smugglers Gulch.

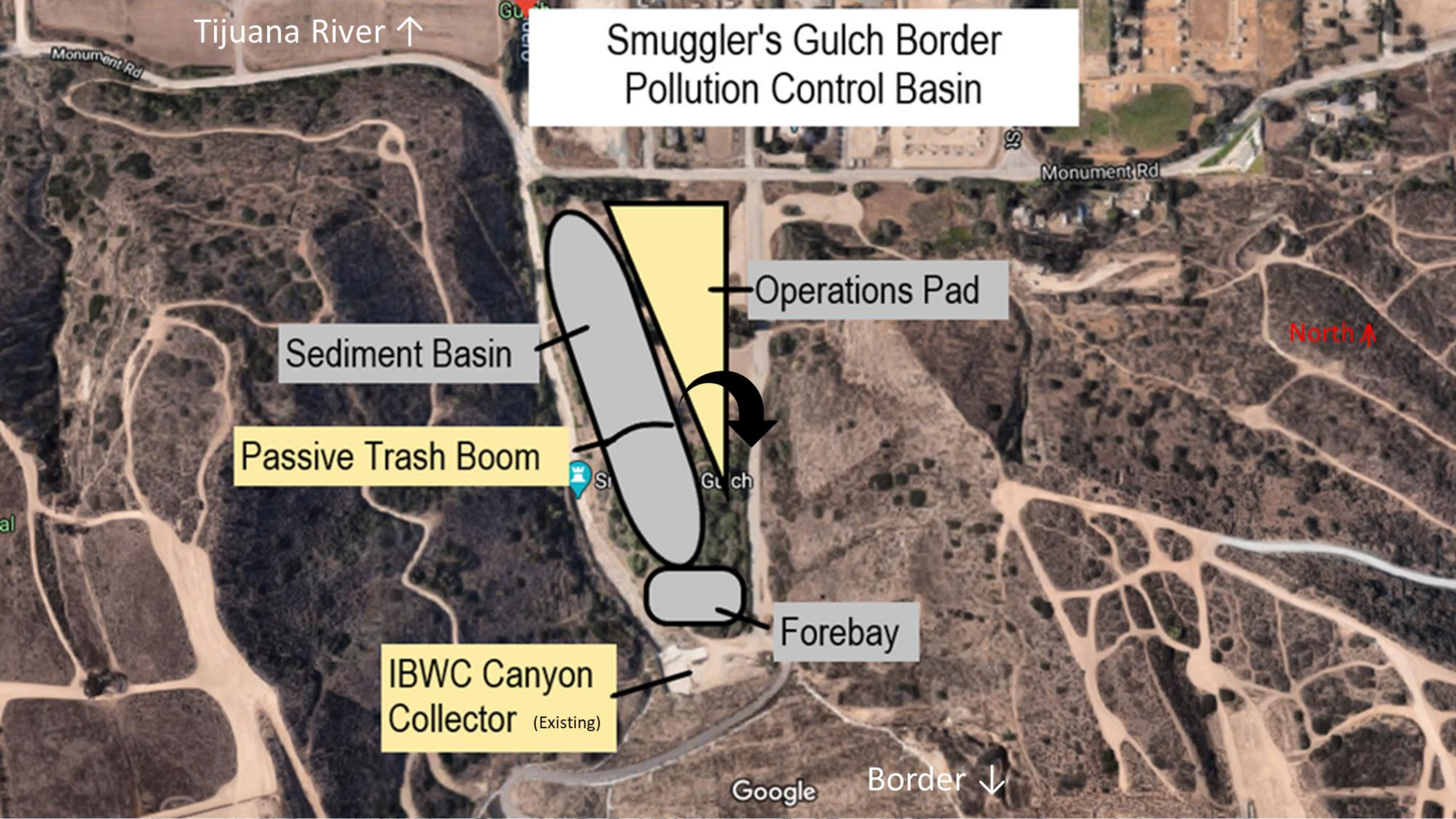
Short-Term Project #1:
Temporary River Diversion To ITP

- Divert up to 10 mgd of dry weather river flows to ITP.
- ITP would treat flows and discharge through ocean outfall.
- San Diego County tentatively agreed to construct, to be reimbursed by Water Board with state funds.
- Still discussing how to obtain resources needed for IBWC to operate/maintain.
- Dry weather transboundary flows ceased in August.
- ITP now treating up to 10 mgd extra flows from MX.
- Several collection system repairs completed in Tijuana in mid 2020.
- If needed, construction could occur late winter/early spring 2021.

River Diversion to ITP: Conceptual Rendering

Short-Term Project #2:
Smugglers Gulch Trash and Sediment Basin

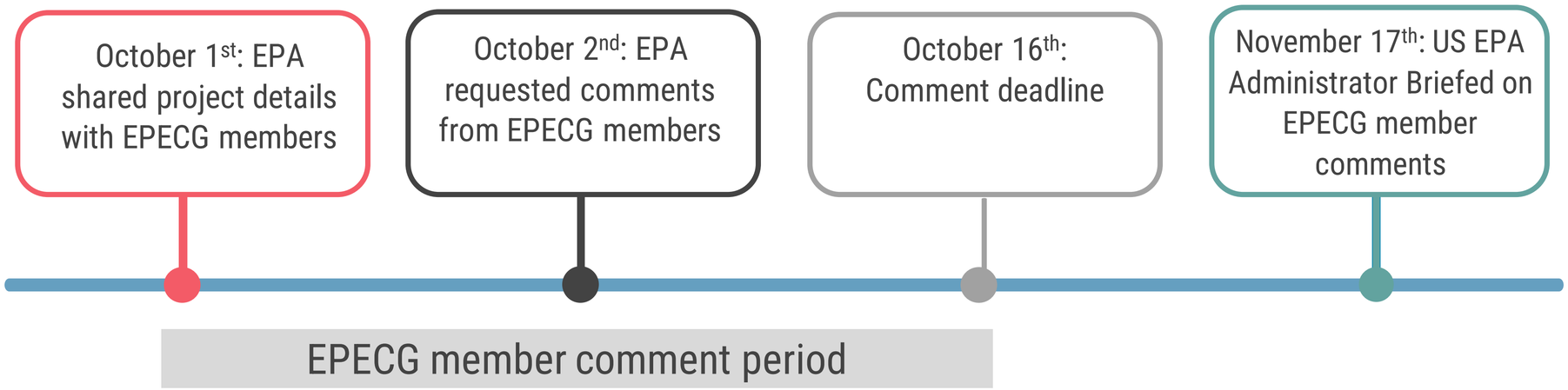
- Sediment capture basin and trash boom in Smugglers Gulch.
- Partnership with San Diego County, City of San Diego, Regional Water Board.
- Applied for design/construction funding from CA Coastal Conservancy.
- If successful, to be funded by CCC Spring 2021.
- EPA sharing contractor technical analysis for Smugglers Gulch in US.
- Coordinating with Border Patrol.
- Would be designed/built in late ~2021-2022.


Tijuana River ↑
Smuggler's Gulch Border Pollution Control Basin
Monument Rd
Monument Rd
Operations Pad
Sediment Basin
Passive Trash Boom
Forebay
IBWC Canyon Collector (Existing)
North
Border ↓
Google

Final List of Long-Term Projects

Andrew Sawyers, Director, EPA Office of Wastewater Management

Long-Term Project Feedback Timeline & Overview



Comments received from these organizations:

- California Environmental Protection Agency
- California State Parks
- US Customs and Border Protection
- US Fish and Wildlife Service
- City of San Diego
- City of Imperial Beach (jointly with the San Diego Regional Water Quality Control Board, San Diego Unified Port District, County of San Diego, and City of Chula Vista)

Comments Received from EPECG Members

- Comments expressed preference for one or more of the initial list of 7 projects.
- Additional projects proposed:
  - San Diego South Bay Reclamation Plant (City of San Diego)
  - Capture and treatment of trash, sediment, sewage, etc. in the main channel, Smuggler's Gulch and Goat Canyon on Mexico-side (USCBP)
  - Yogurt Canyon Flows (CA Natural Resource Agency (State Parks))
  - Salt Marsh Restoration Project (USFWS)

Long-Term Projects for Feasibility Analysis

Doug Liden, Environmental Engineer, EPA Region 9

Projects for Feasibility Analysis

- **Project 1:** Divert, treat, and discharge TR in U.S. to reduce wet-weather TR flows
- **Project 2:** Divert TR in Mexico; treat and discharge in U.S. to eliminate dry-weather TR flows
- **Project 3:** Shift more wastewater treatment to U.S. (via ITP) to reduce flows in TR and SAB
- **Project 4:** Shift wastewater treatment of canyon flows to U.S. (via expanded ITP) to reduce flows in TR and SAB (complements Project 3)
- **Project 5:** Enhance Mexico wastewater collection system to reduce flows into TR
- **Project 6:** Divert or reuse treated wastewater from existing WWTPs in Mexico to reduce flows into TR
- **Project 7**: Construct new infrastructure to address trash and sediment in U.S. during wet-weather flows

New Projects

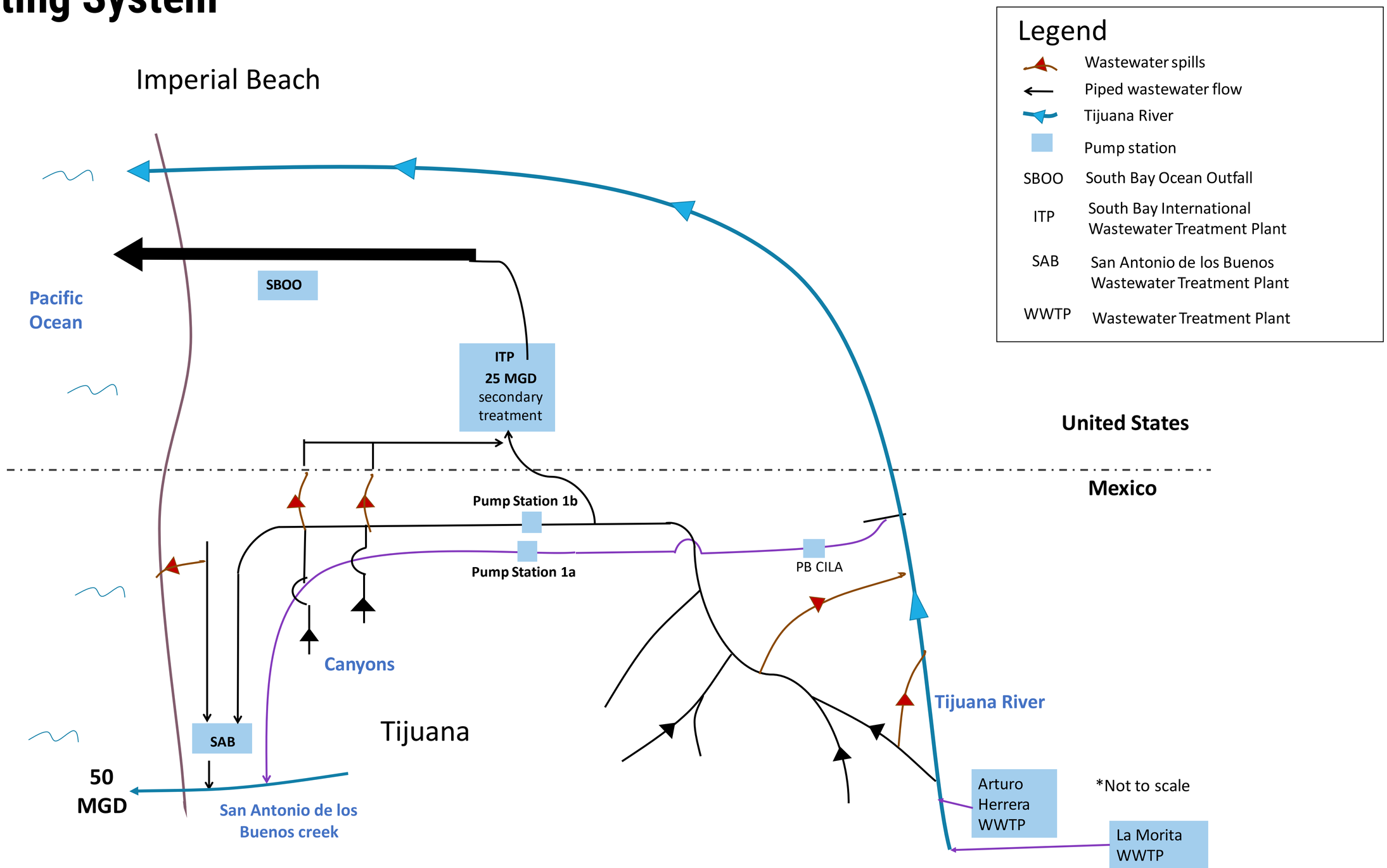
- **Project 8:** Upgrade SAB to reduce untreated wastewater to coast
- **Project 9:** Shift more wastewater treatment to U.S. (via SBWRP) to reduce flows in TR and SAB
- **Project 10**: Reduce trash and sediment in TR and Goat Canyon via source control projects in Mexico

TR: Tijuana River
SAB: San Antonio de Los Buenos Wastewater Treatment Plant
ITP: South Bay International Wastewater Treatment Plant
WWTP: Wastewater Treatment Plant
SBWRP: San Diego's South Bay Water Reclamation Plant

Background

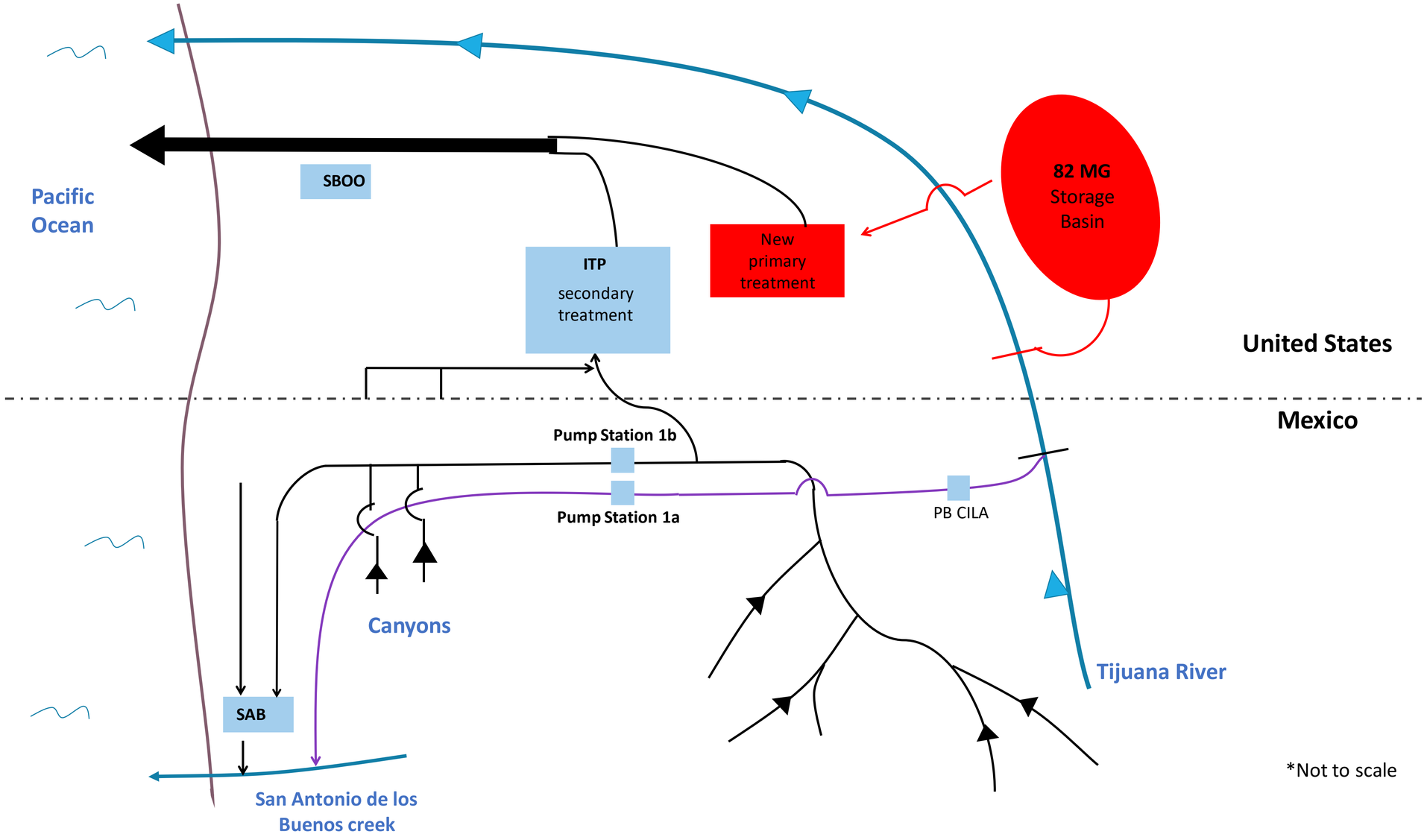
- Three types of pollution: sewage, trash (marine debris), and sediment.
- #1 priority is to reduce impacts of sewage on beaches.
- Multiple entry points of pollution into U.S.: Tijuana River (TR), 3 canyons, and coast (when currents move northward).
- TR flows are a combination of treated wastewater, untreated wastewater, groundwater, and stormwater
- Suite of 10 projects cover range of pollution types and entry points into U.S.
- Multiple projects may be combined to form the “preferred alternative.”

Existing System



Project 1: Divert, treat, and discharge TR in U.S. to reduce wet-weather TR flows

Location	U.S.
Pollutant addressed	Sewage
Benefited area in U.S.	Tijuana River/ocean



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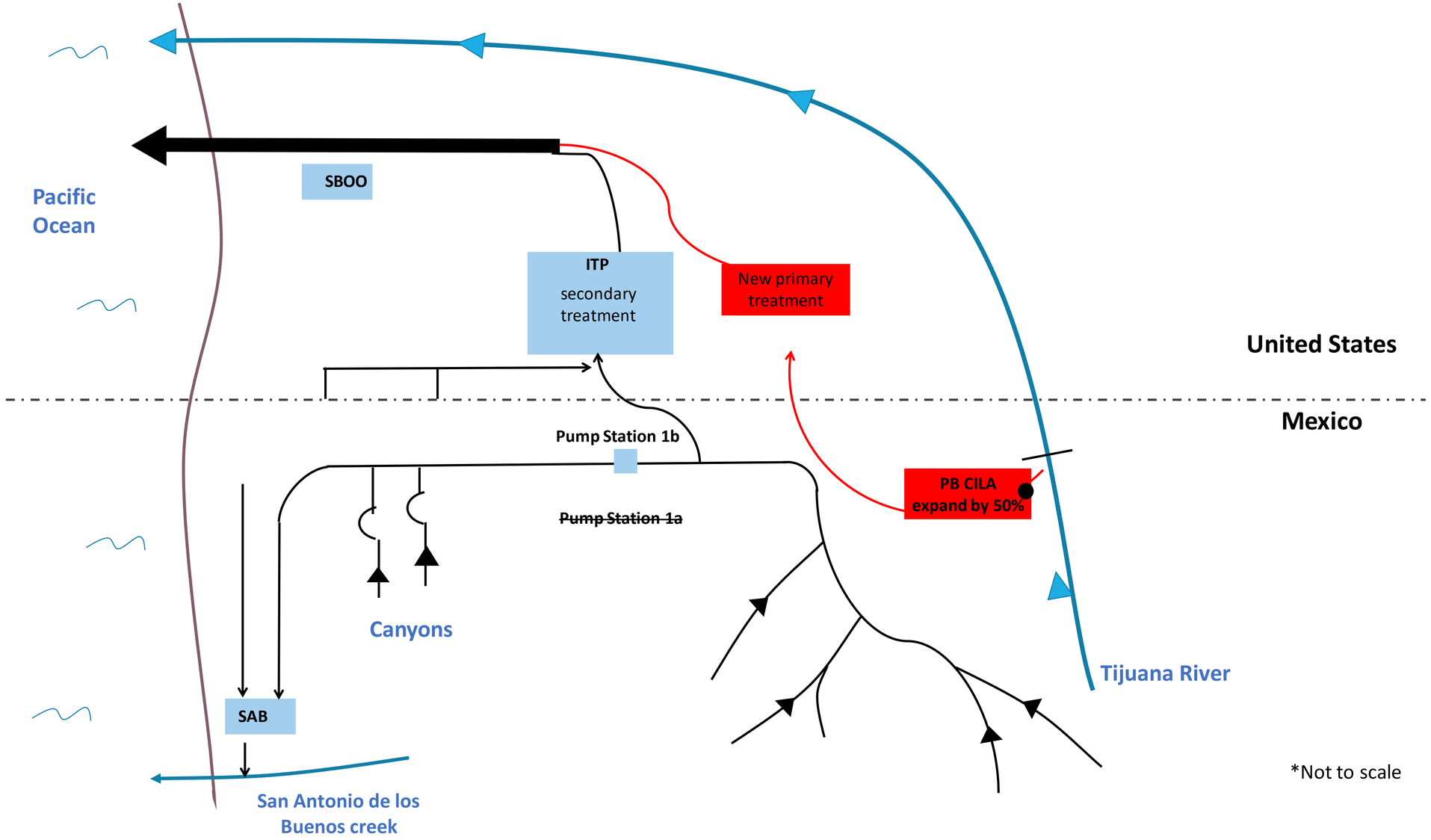
Project 2: Divert TR in Mexico; treat and discharge in U.S. to eliminate dry-weather TR flows

Location	Mostly U.S.
Pollutant addressed	Sewage
Benefited area in U.S.	Tijuana River/ocean



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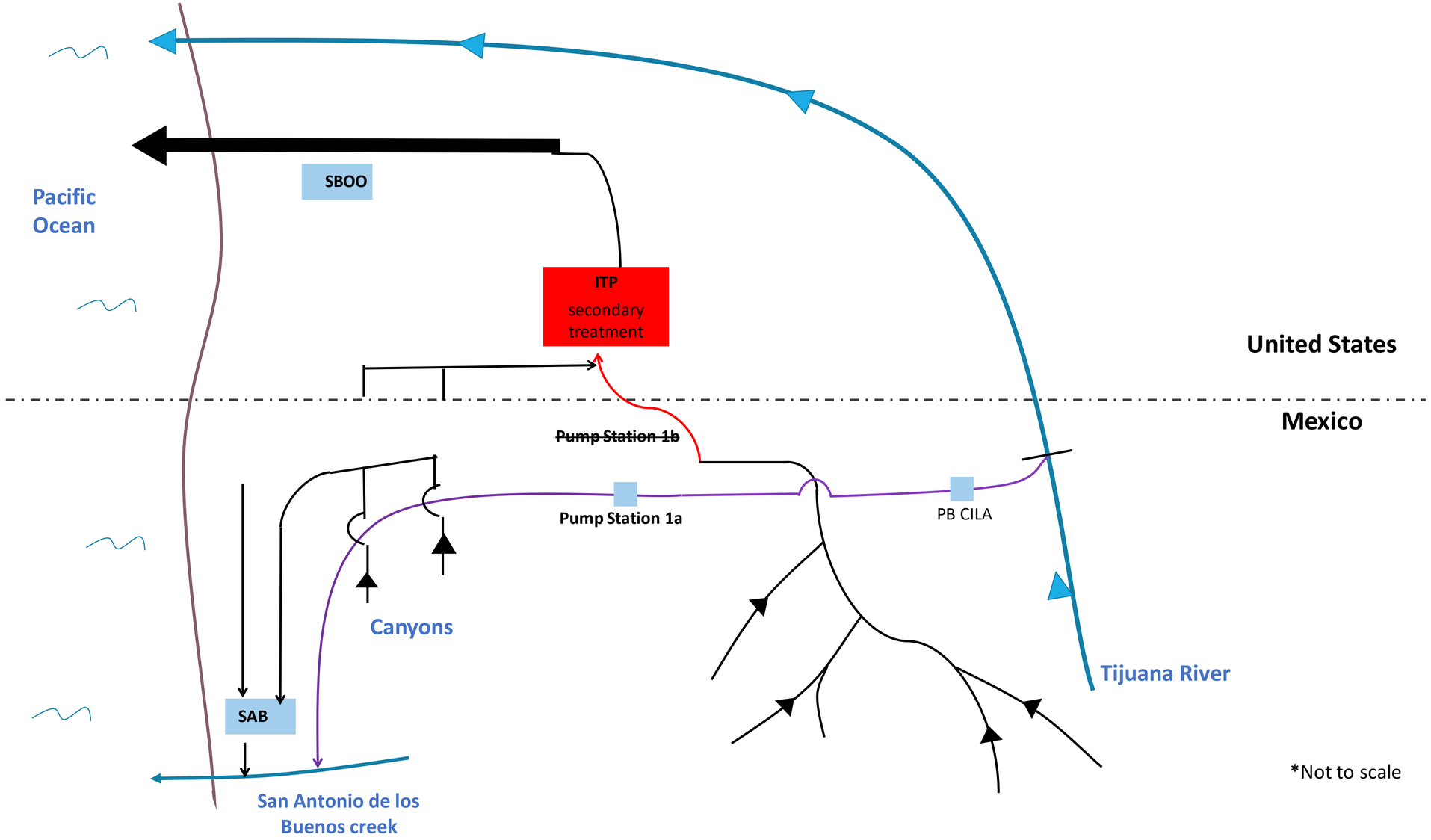
Project 3: Shift more wastewater treatment to U.S. (via ITP) to reduce flows in TR and SAB

Location	U.S.
Pollutant addressed	Sewage
Benefited area in U.S.	Tijuana River/ocean



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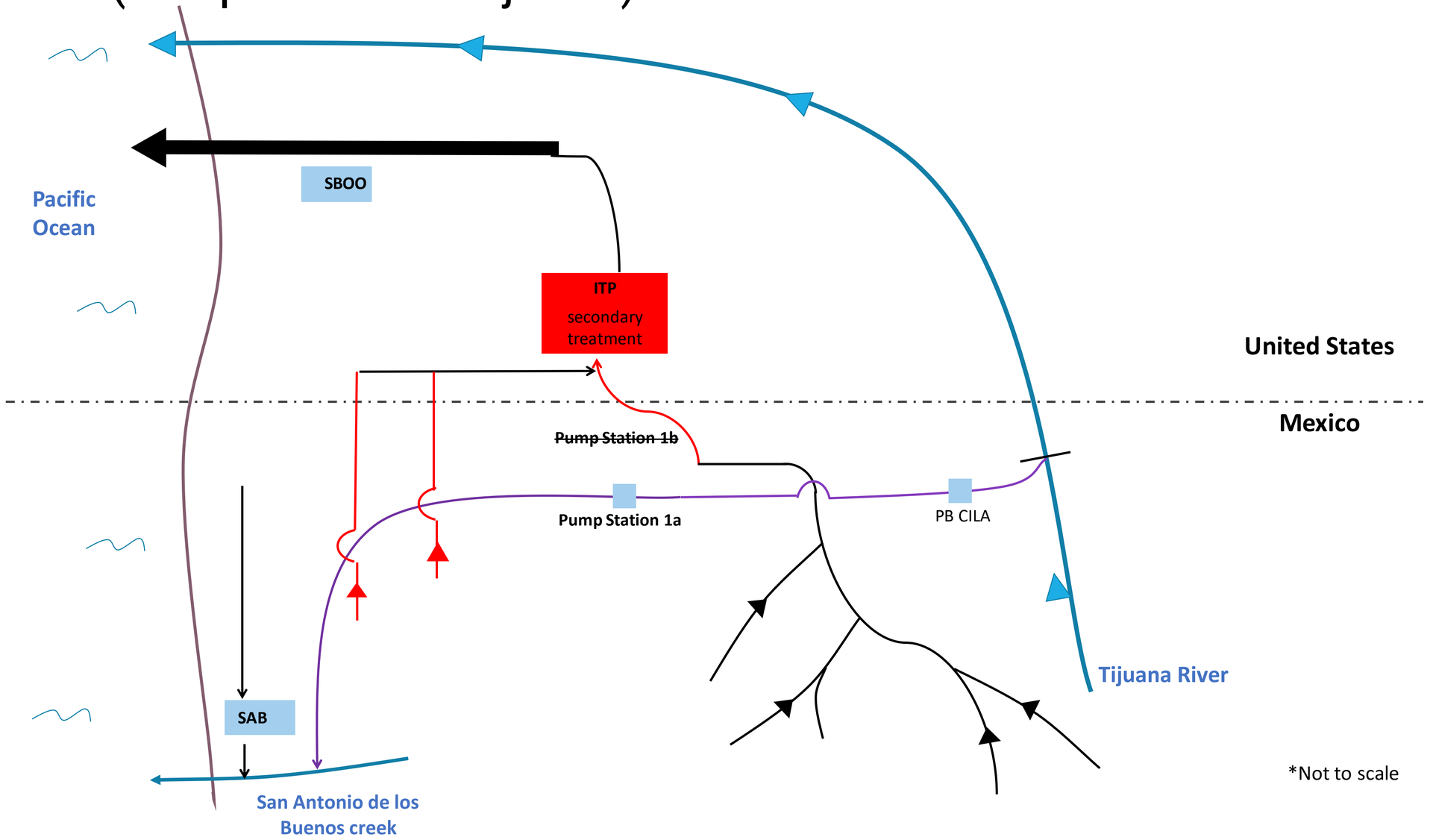
Project 4: Shift wastewater treatment of canyon flows to U.S. (via expanded ITP) to reduce flows in TR and SAB (complements Project 3)

Location	Mexico and U.S.
Pollutant addressed	Sewage
Benefited area in U.S.	Tijuana River/ocean



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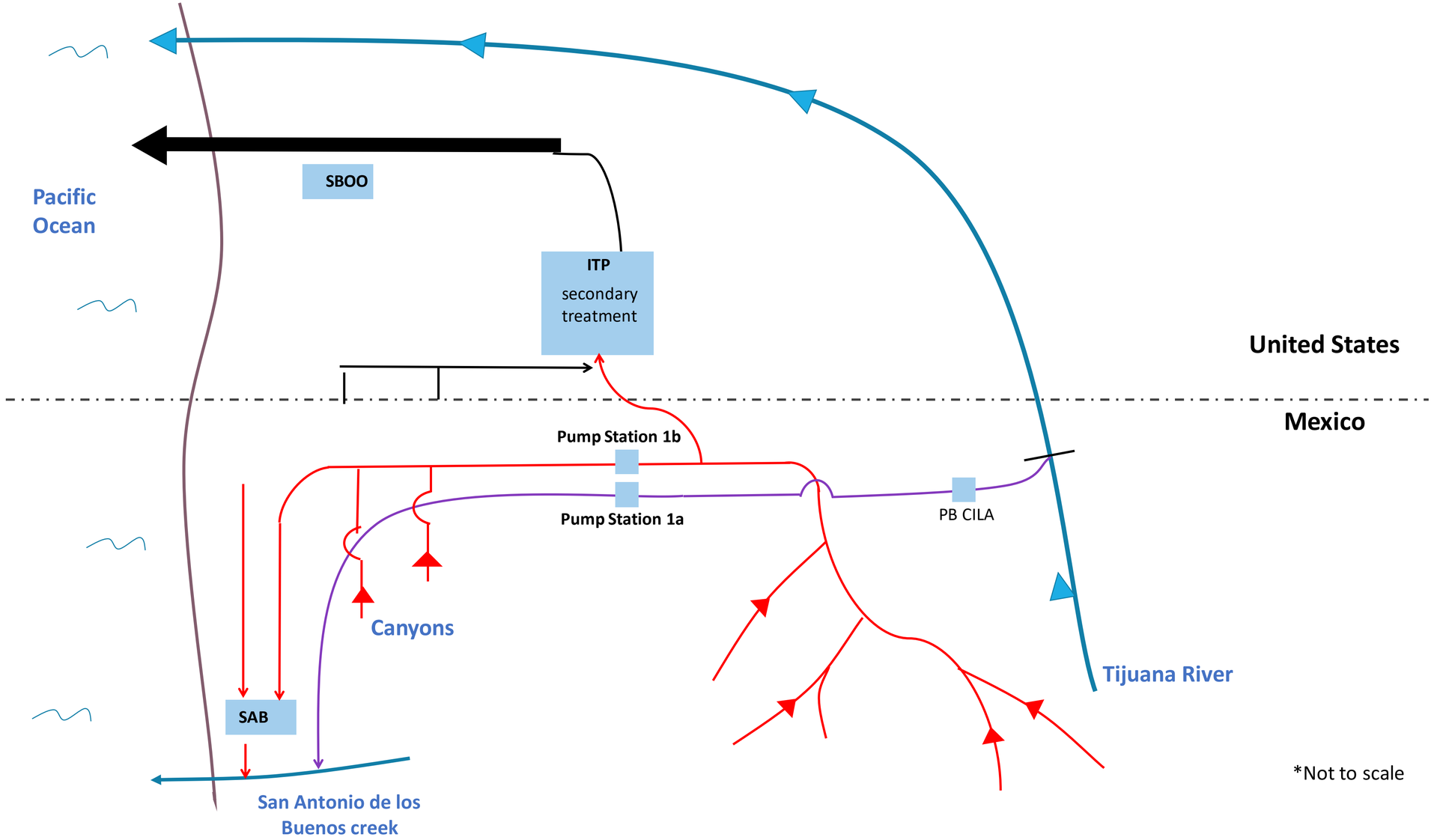
Project 5: Enhance Mexico wastewater collection system to reduce flows into TR

Location	Mexico
Pollutant addressed	Sewage
Benefited area in U.S.	Tijuana River/ocean



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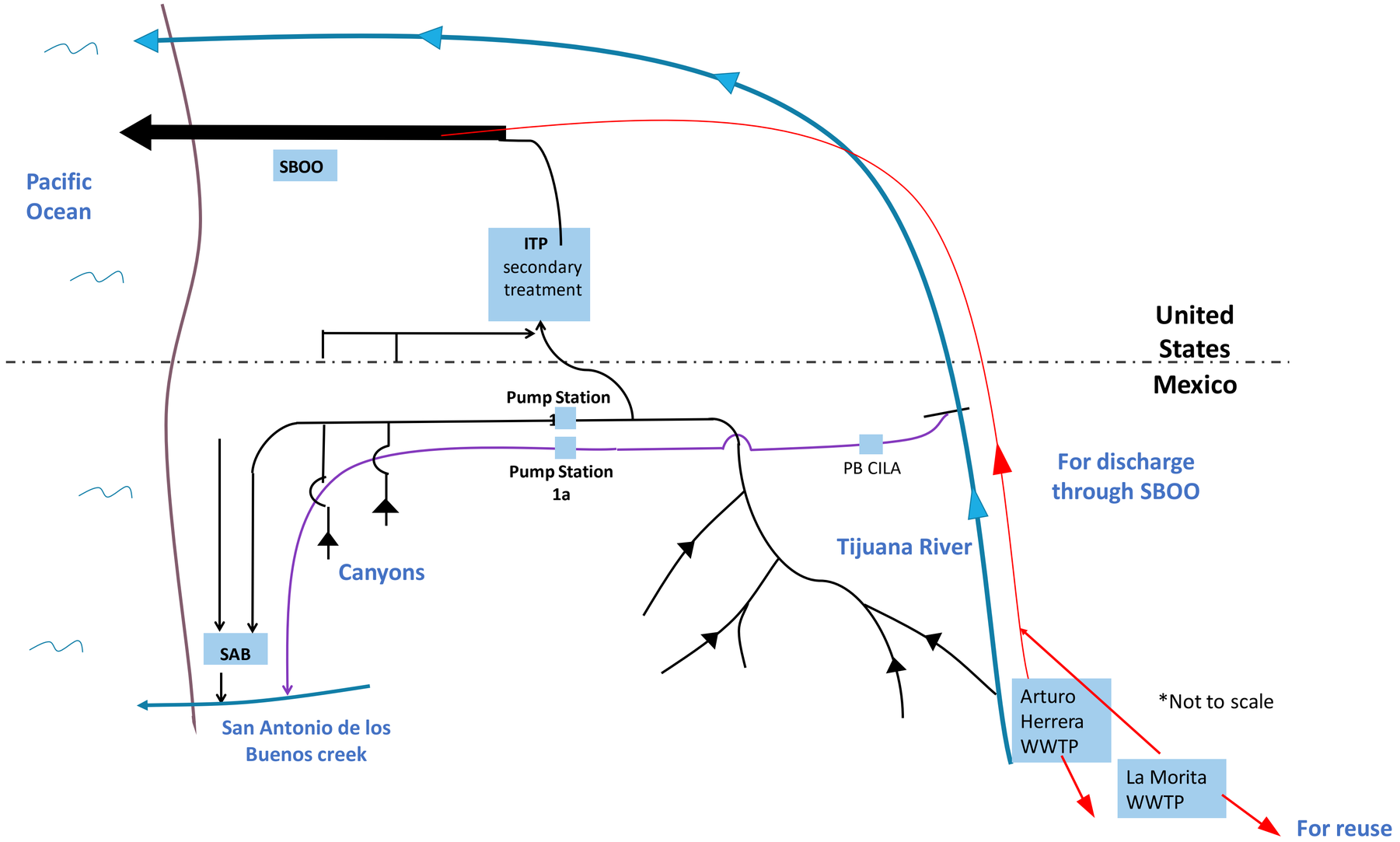
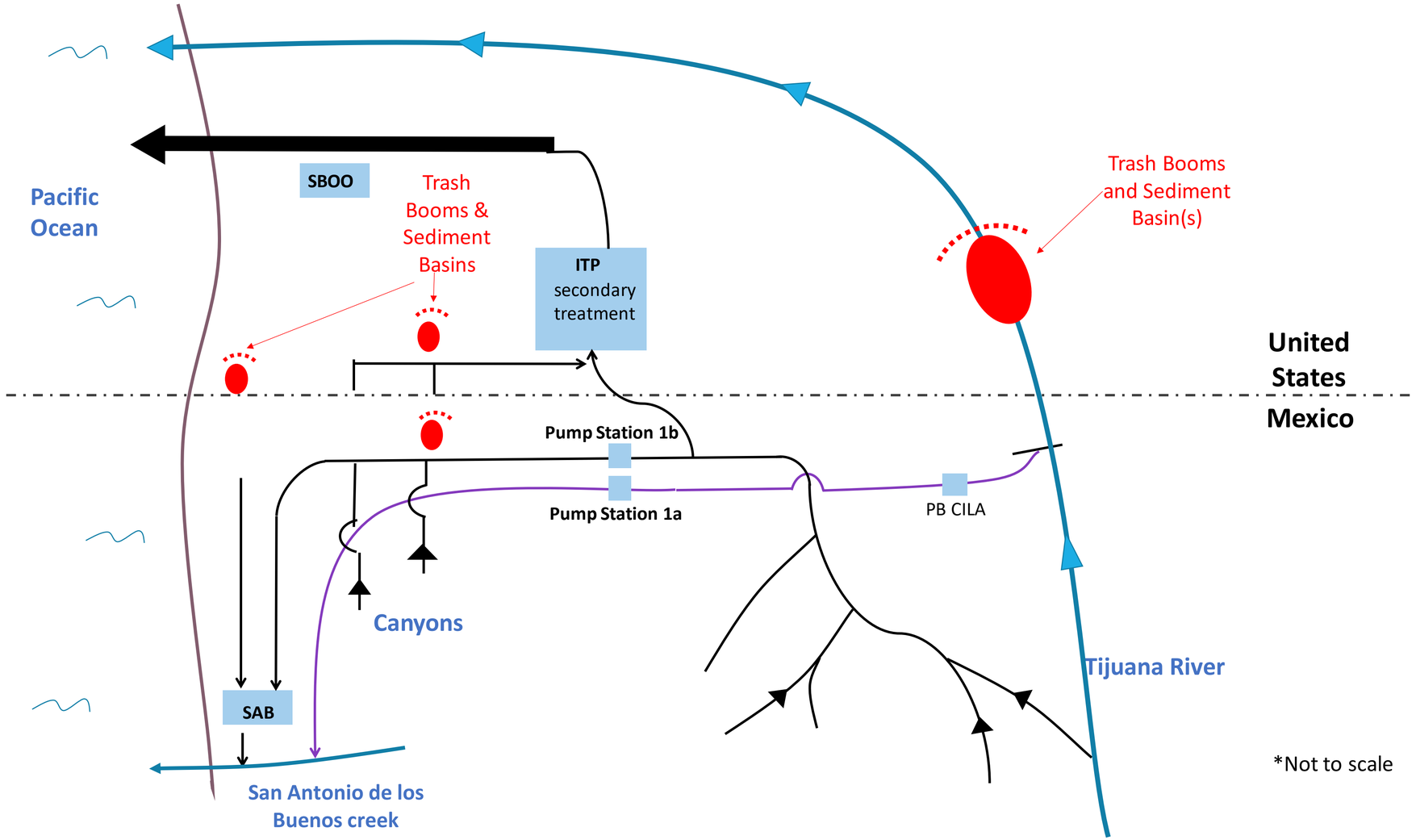
Project 6: Divert or reuse treated wastewater from existing WWTPs in Mexico to reduce flows into TR

Location	Mexico and possibly U.S.
Pollutant addressed	Sewage
Benefited area in U.S.	Tijuana River/ocean



Project 7: Construct new **i**nfrastructure to address trash and sediment in U.S. during wet-weather flows

Location	U.S. and possibly Mexico
Pollutant addressed	Trash, marine debris, sediment
Benefited area in U.S.	Tijuana River/ocean



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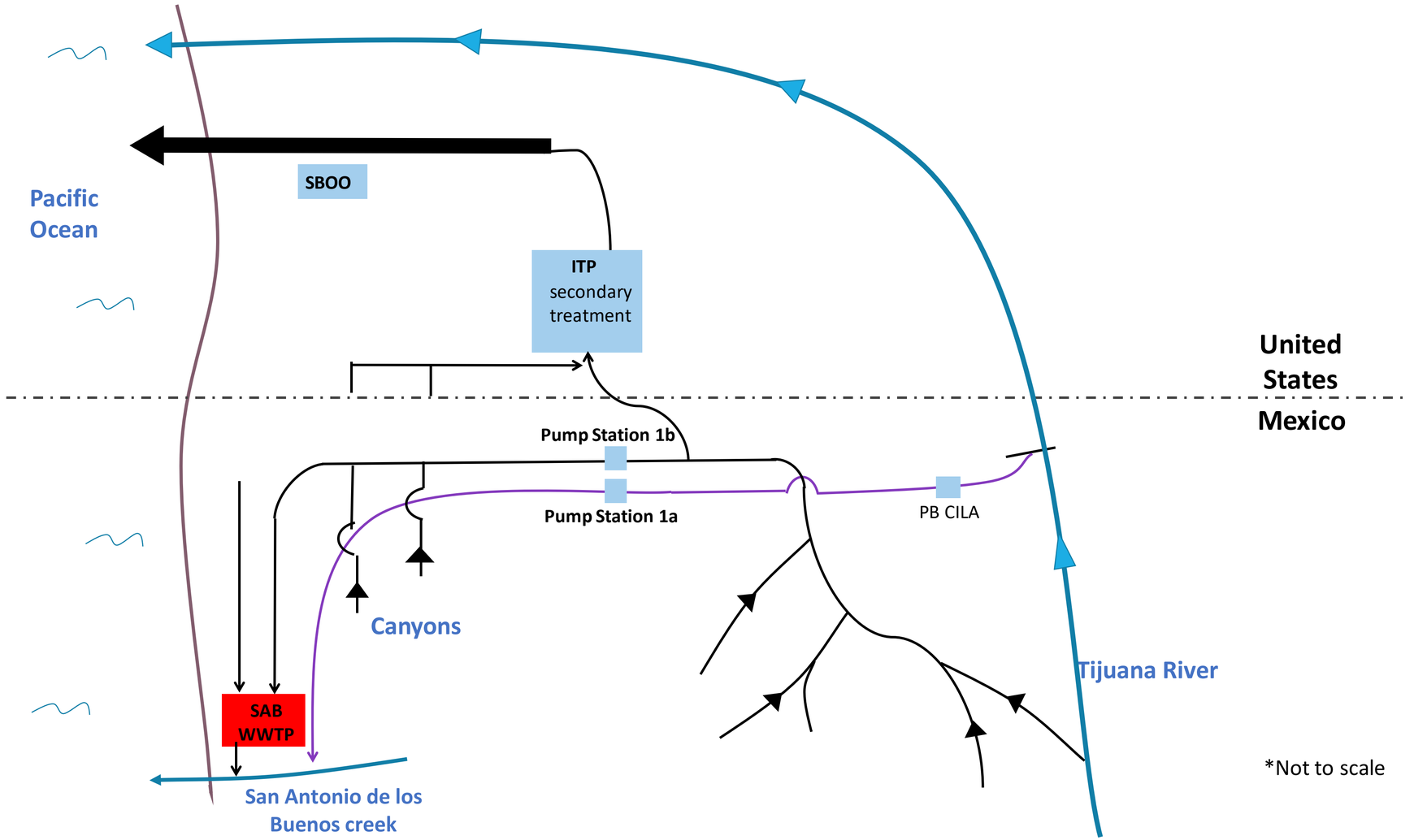
Project 8: Upgrade SAB to reduce untreated wastewater to coast

Location	Mexico
Pollutant addressed	Sewage
Benefited area in U.S.	Ocean/beaches (via SAB)



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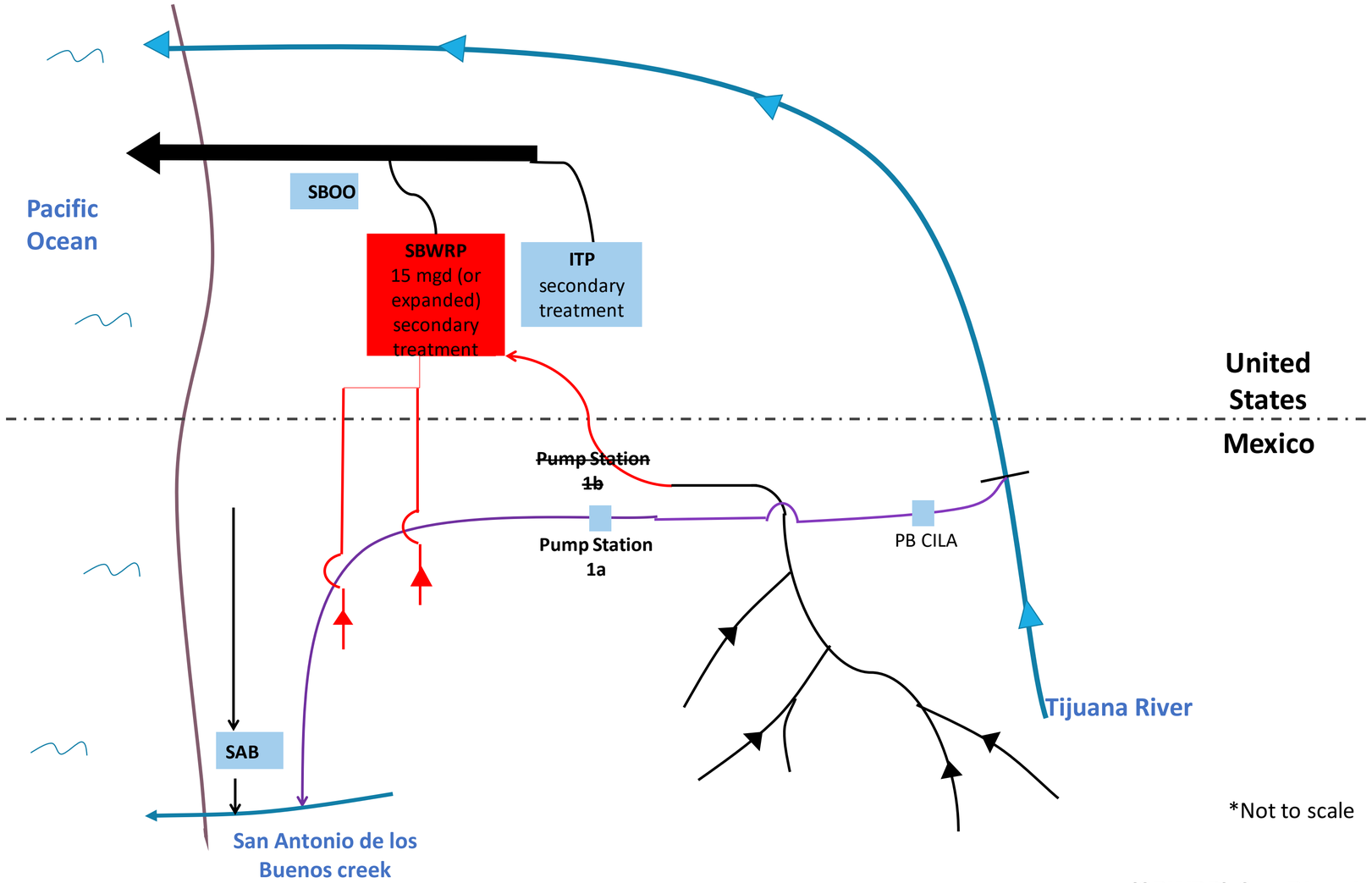
Project 9: Shift more wastewater treatment to U.S. (via SBWRP) to reduce flows in TR and SAB

Location	Mostly U.S.
Pollutant addressed	Sewage
Benefited area in U.S.	Tijuana River/ocean



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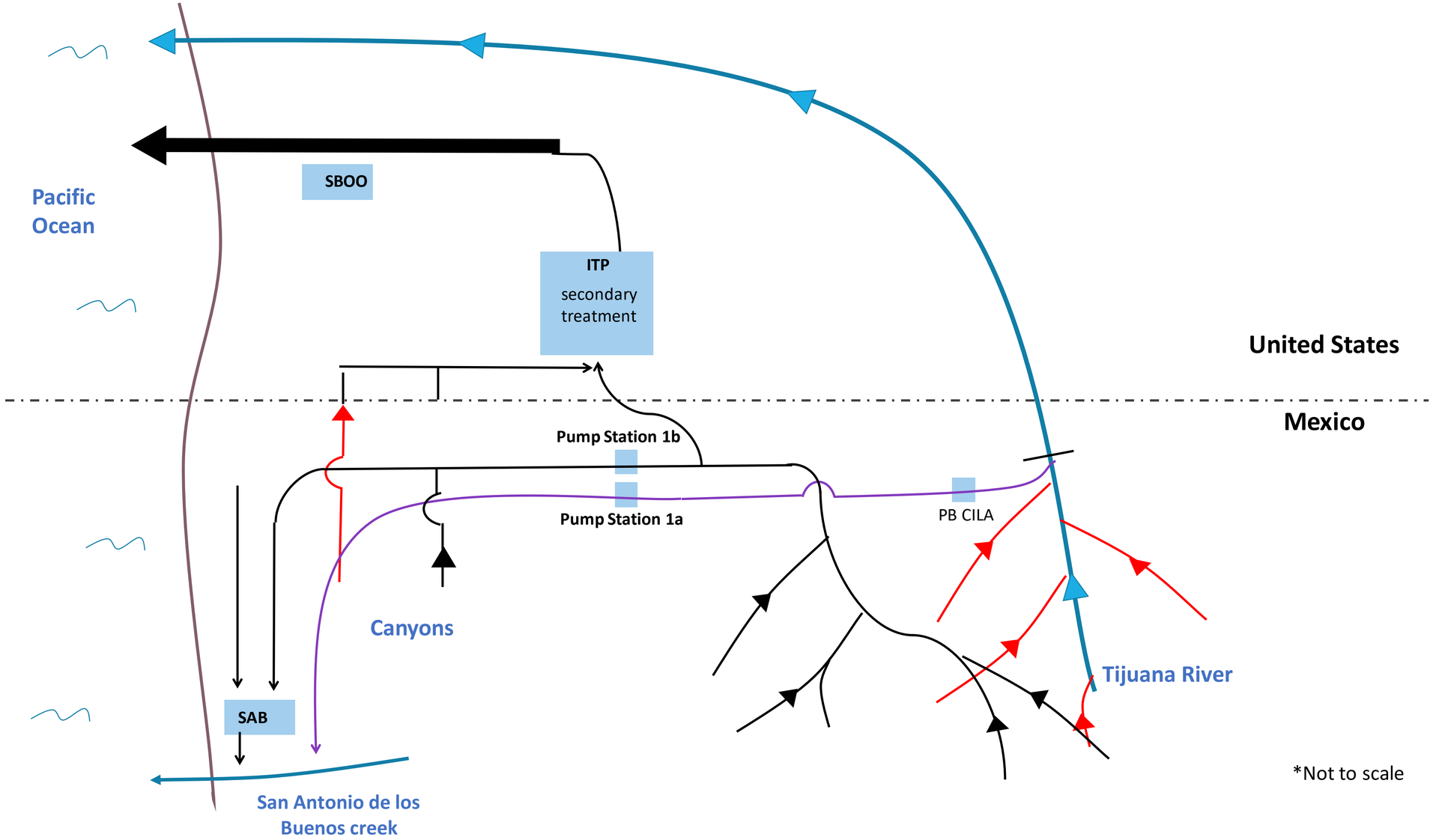
(SBWRP) San Diego's South Bay Water Reclamation Plant

Project 10: Reduce trash and sediment in TR and Goat Canyon via source control projects in Mexico

Location	Mexico
Pollutant addressed	Trash, sediment, marine debris
Benefited area in U.S.	Tijuana River/ocean



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Technical Assessment Process

- Technical Expert Consultation Process (TECP) meetings and data acquisition are progressing

- Challenges:
  - Thoroughness of feasibility assessments is dependent on data availability & usefulness
  - New information can have significant impacts on project viability and scope

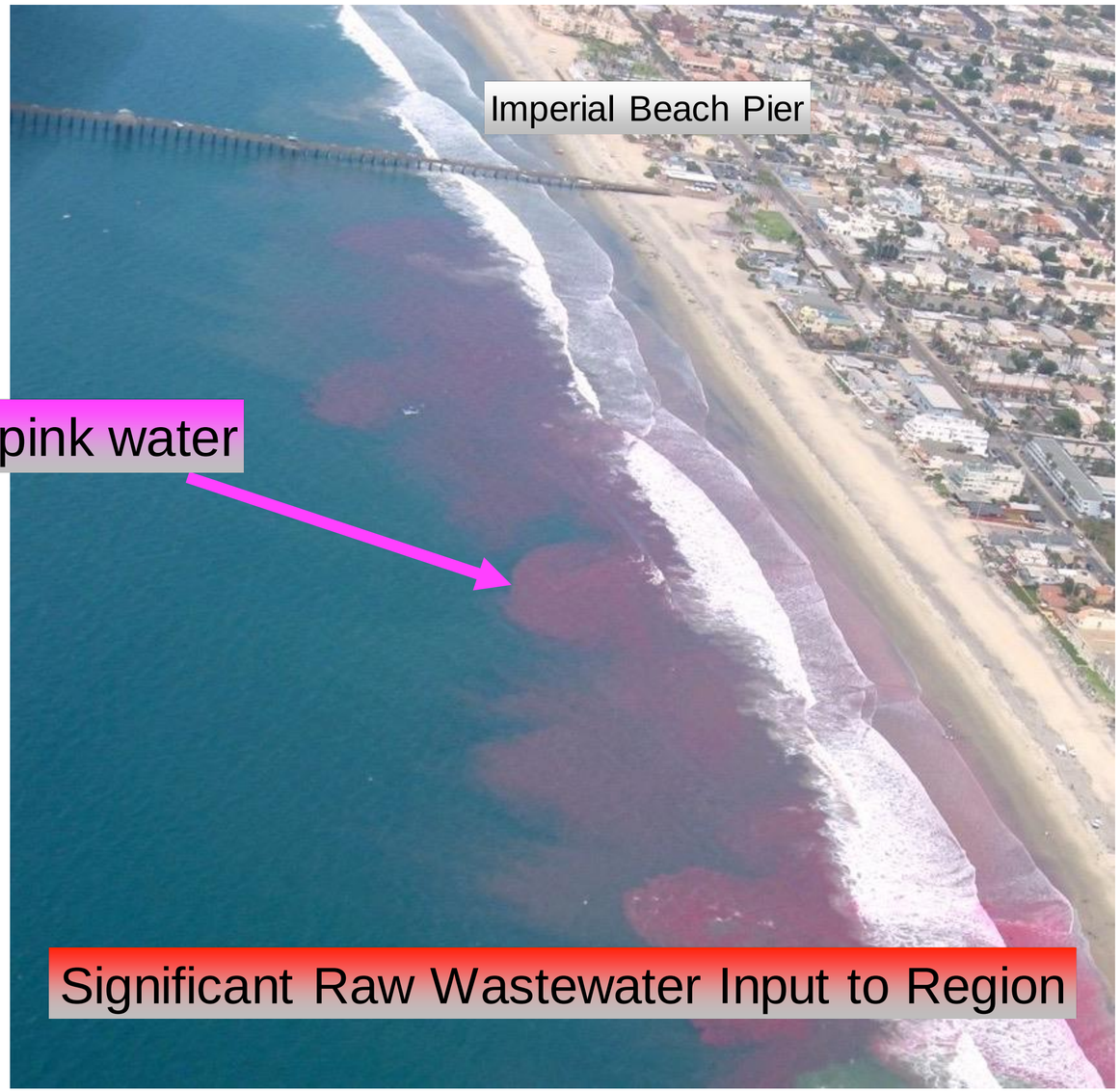
Current data needs:
- Pump station and conveyance data (IBWC Mexico Section)
- South Bay Water Reclamation Plant operating data (City of San Diego)
- Phase 2 Tijuana River H&H report (US Army Corps of Engineers)
- Impacts on operations (US Customs & Border Protection)

Overview of the Scripps Institution of Oceanography Study

Falk Fedderson and Sarah Giddings, Scripps Institution of Oceanography, University of California San Diego

Coastal Ocean Untreated Wastewater Modeling of the US/Mexico Border Region for USMCA decision making

Falk Feddersen & Sarah Giddings
Scripps Institution of Oceanography, University of California San Diego

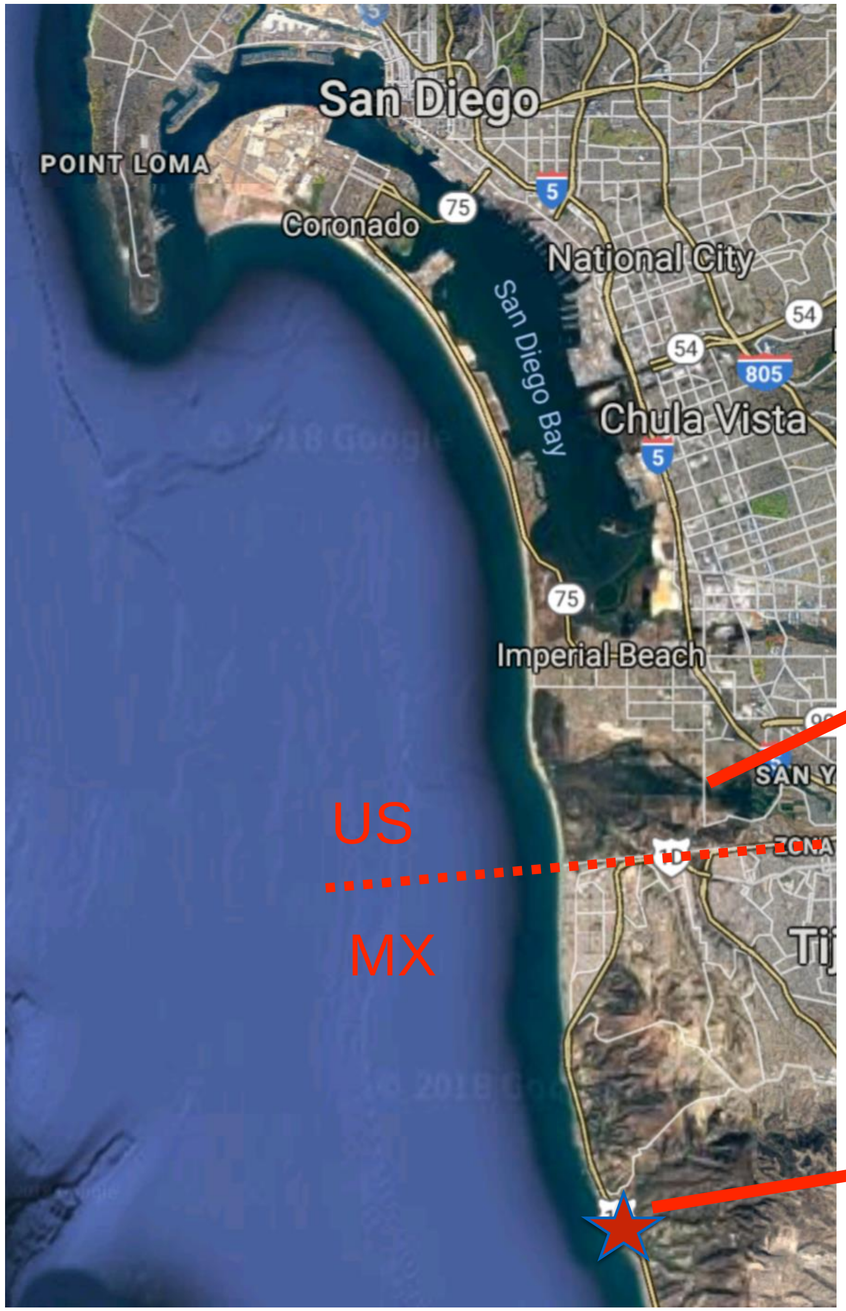


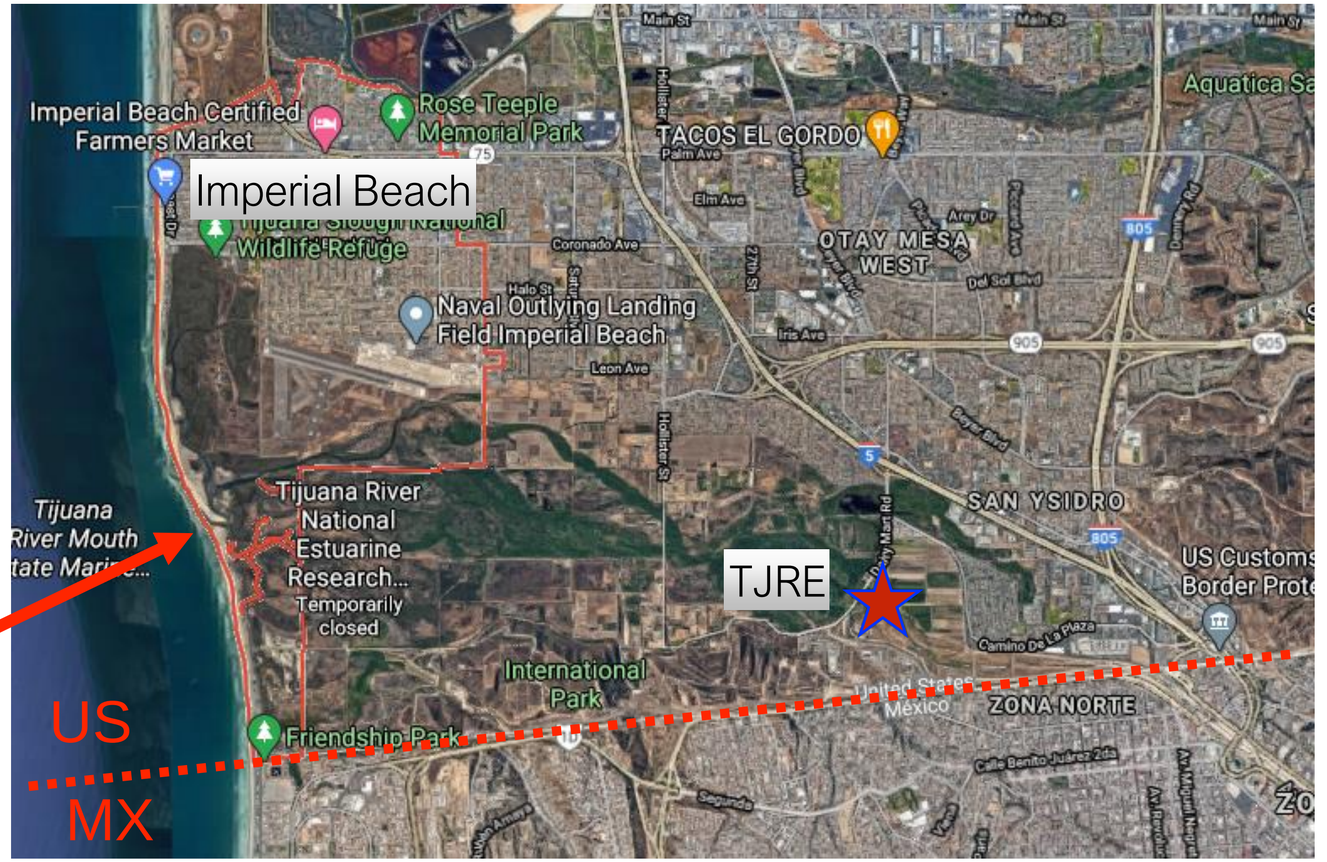
- Ocean numerical models analogous to weather models
- Use ocean models of wastewater transport to evaluate US/MX infrastructure scenarios

OUTLINE

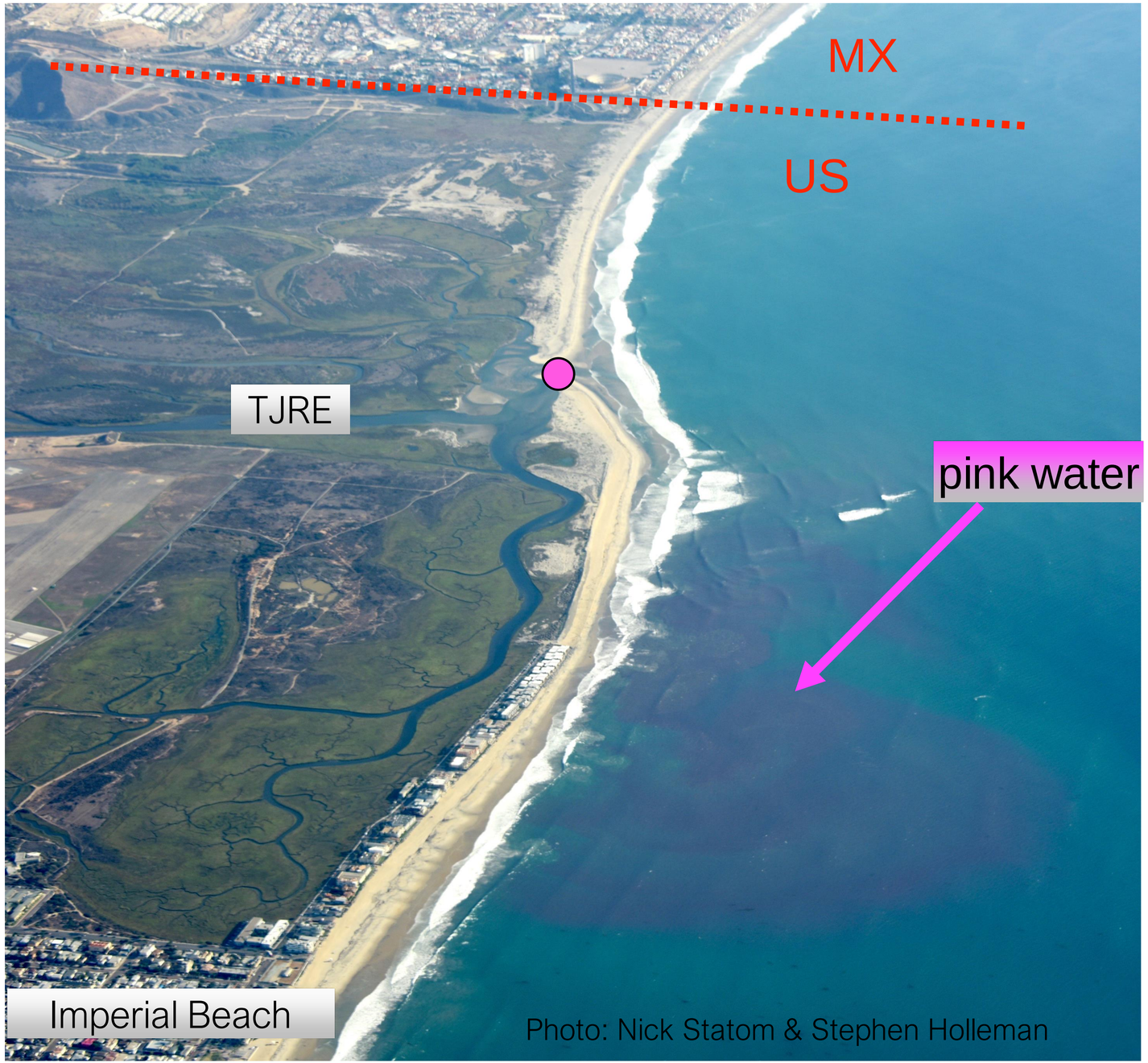
1. Regional wastewater sources
2. Example model wastewater events
3. Scenarios considered
4. Evaluation of scenarios via reduction in beach closure

San Diego/Tijuana Wastewater Sources to Ocean: TJRE and SAB/PTB



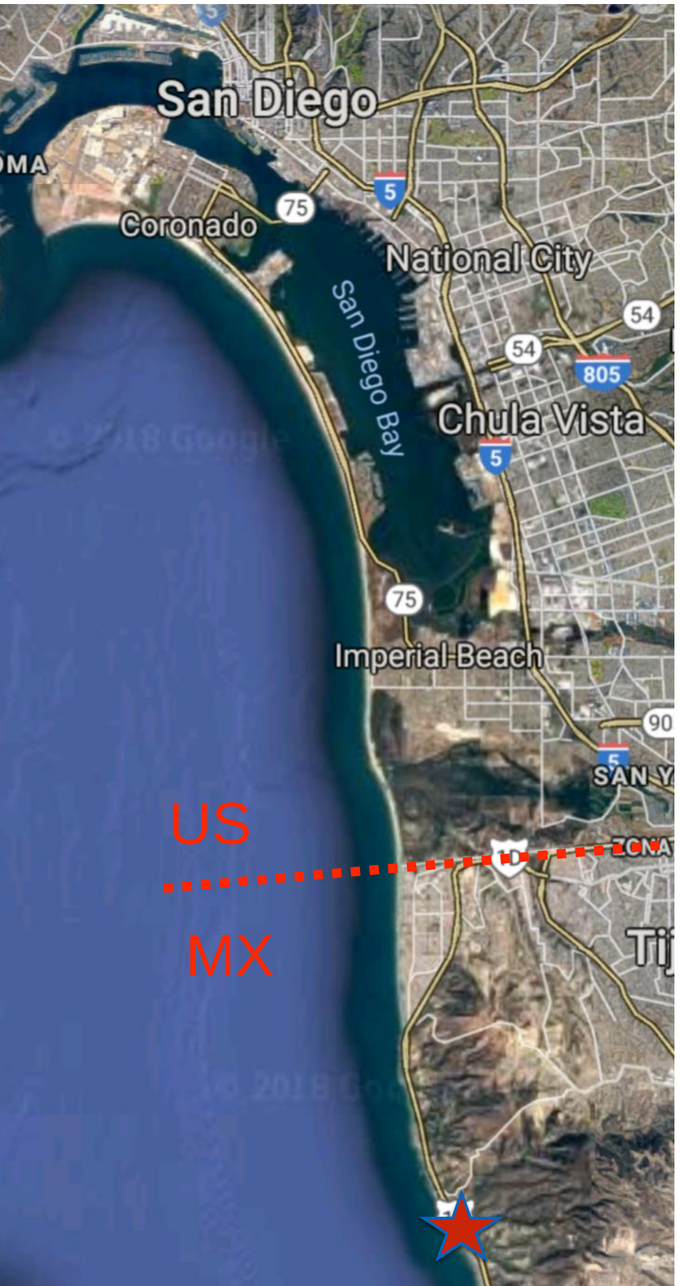


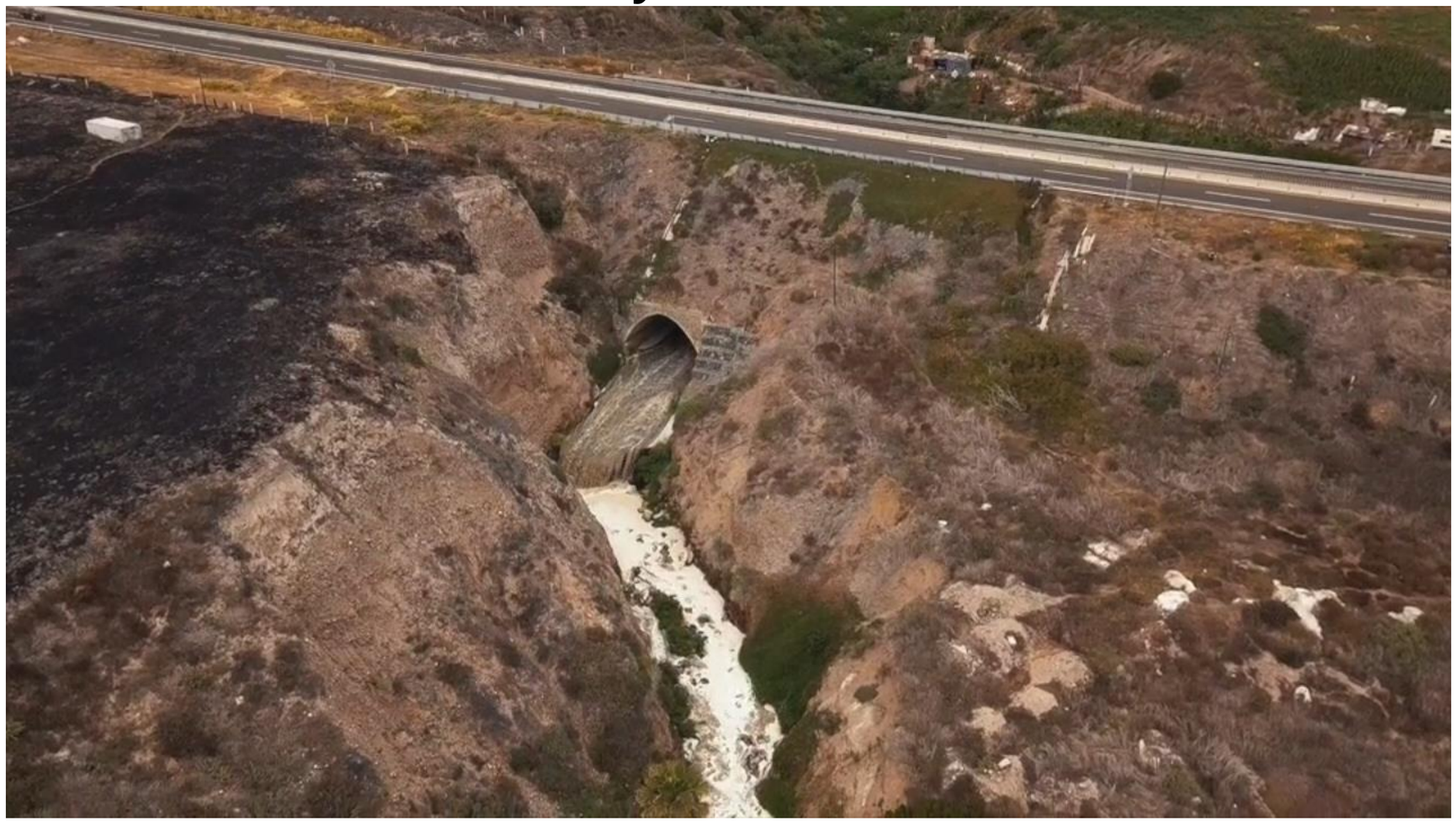
Tijuana River Estuary (TJRE) as a Untreated Wastewater Source to Ocean



- Normal Conditions: Untreated wastewater enters TJRE when it rains
- Upper limit of ~10 Million Gallons per Day (MGD)
- Modeling not considering catastrophic infrastructure failure

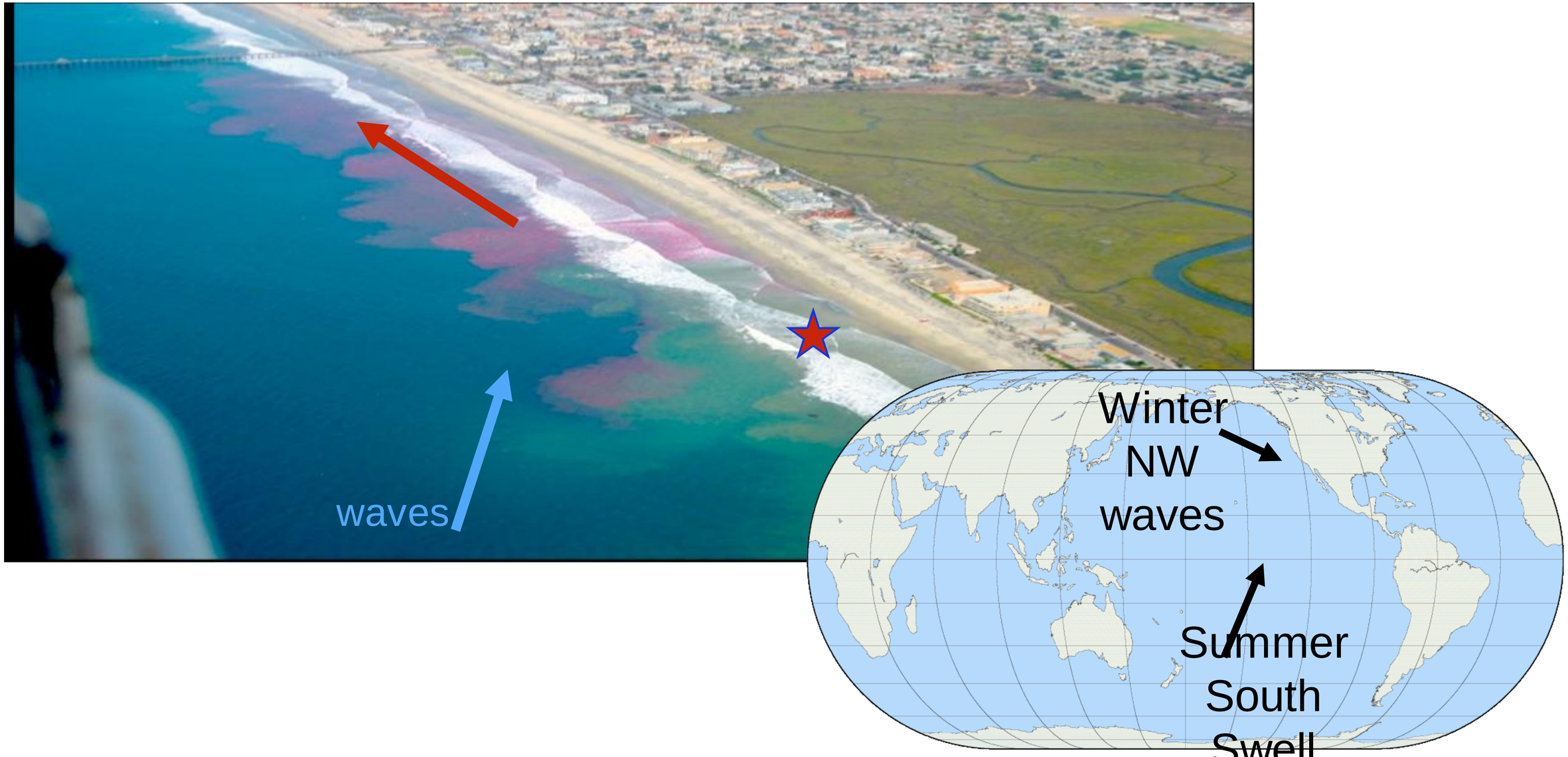
San Antonio de los Buenos, Pt Bandera (SAB/PTB) releases 35 MGD Untreated Wastewater directly onto the Beach





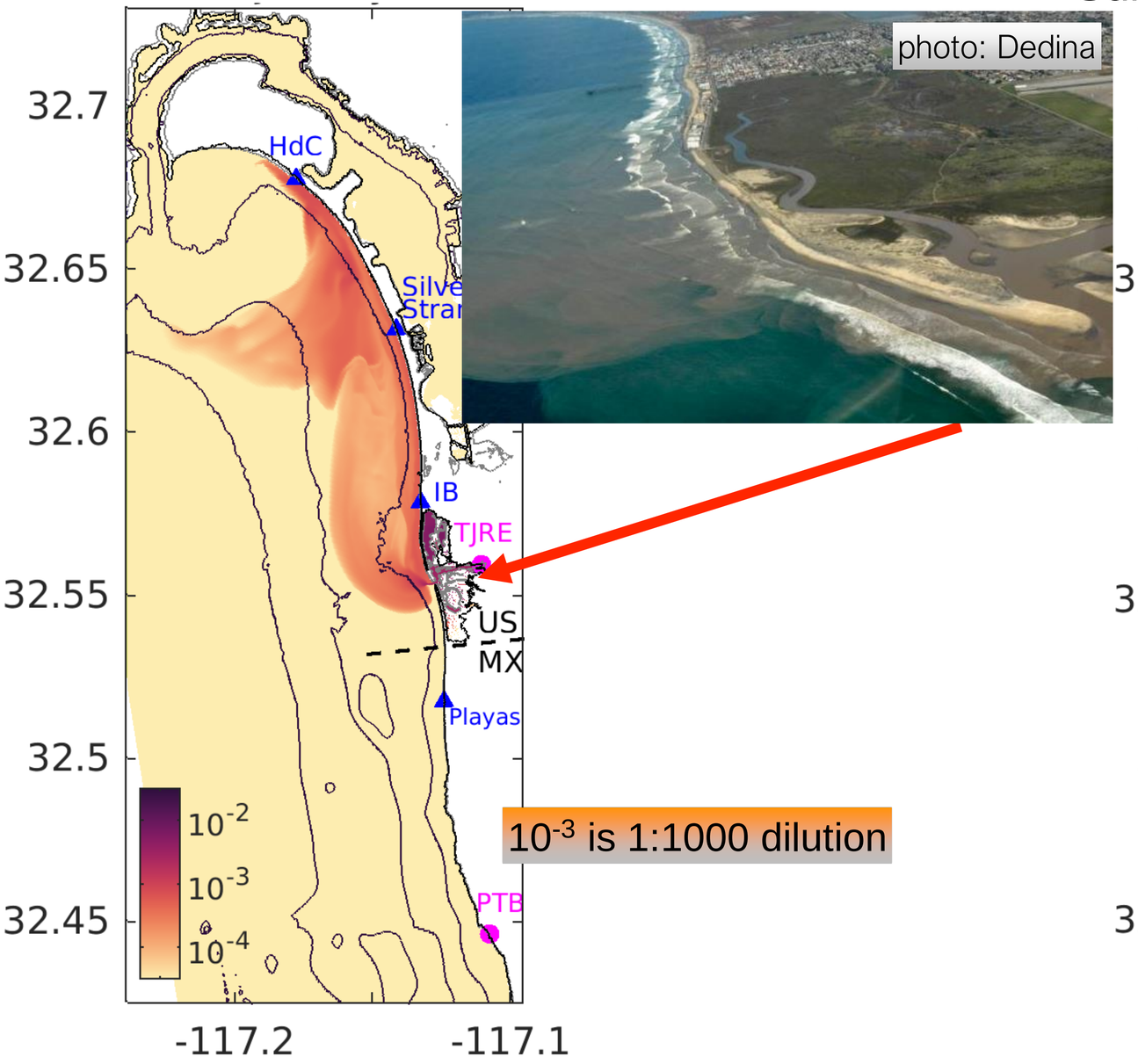
youtube video from Surfrider Foundation and Wildcoast

Imperial Beach (IB): Northward Surfzone Transport During South Swell



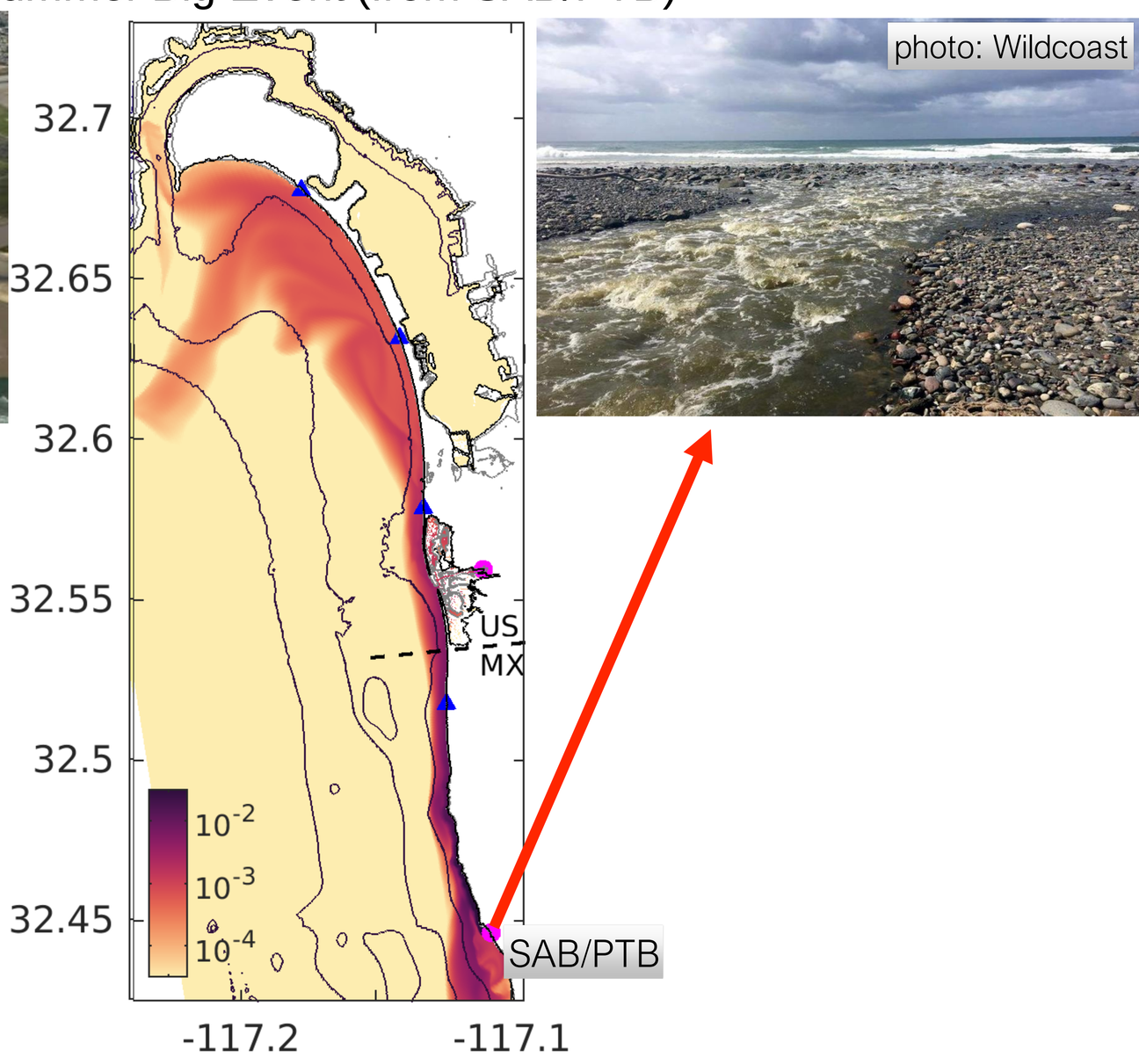
Modeling the Year 2017 Untreated Wastewater Concentrations

Winter Big Event (from TJRE)



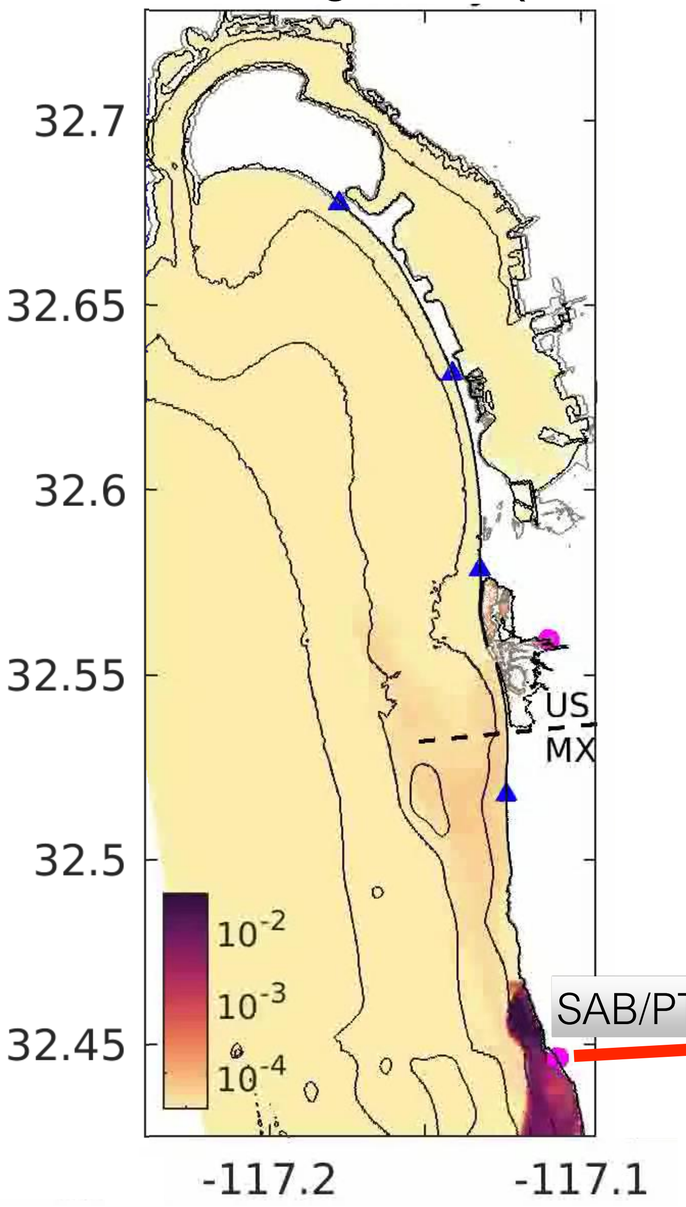
10^{-3} is 1:1000 dilution

Summer Big Event (from SAB/PTB)



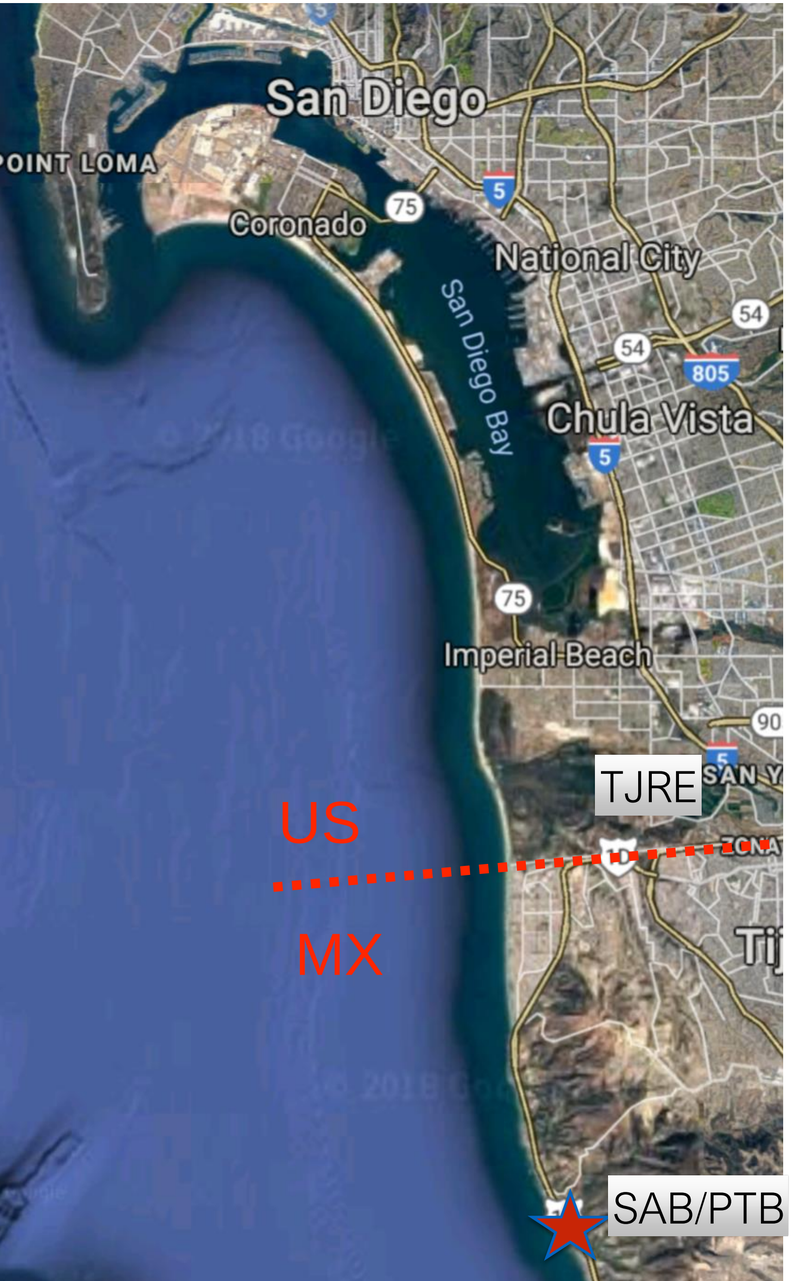
Modeling the Year 2017 Untreated Wastewater Concentrations

Summer Big Event (from SAB/PTB)



- July 2017
- Almost 10 days south swell (waves from the south)
- Wastewater impacts from SAB/PTB to entire region

Coastal Ocean Untreated Wastewater Modeling for USMCA decision making



Model 3 scenarios for year 2017

1. **baseline scenario**
2. **scenario A**:
   - divert TJRE inflow up to 35 MGD
   - reduce SAB/PTB to 10 MGD treated wastewater
3. **scenario B**:
   - divert TJRE inflow up to 163 MGD
   - no change at SAB/PTB

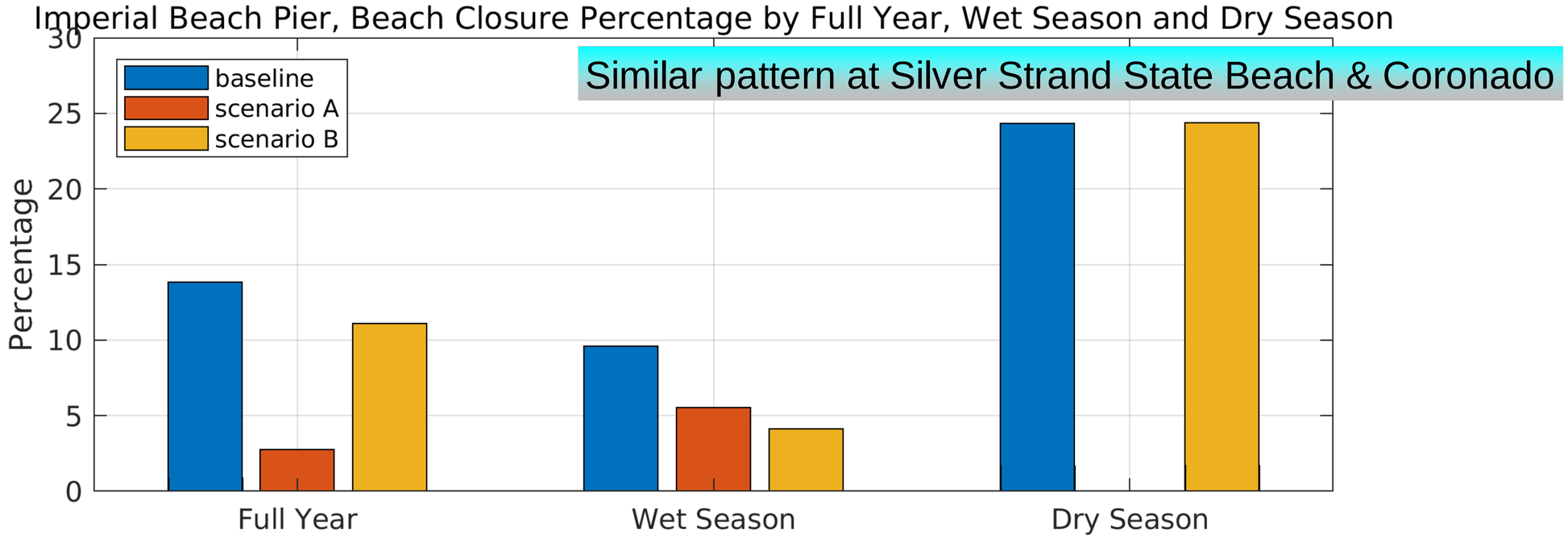
Use Ocean Untreated Wastewater Concentration to calculate percentage of time beach should be closed

- full year of 2017
- tourist (dry) season 2017: 22 May to 8 Sept
- CA wet season (1 October to 1 April)

Percentage of Beach Closure at Imperial Beach CA: 3 scenarios

1. scenario A: divert TJRE <35 MGD, reduce SAB/PTB
2. scenario B: divert TJRE < 163 MGD, baseline SAB/PTB

- full year of 2017
- CA wet season (10/1 to 4/1)
- dry (tourist) season (5/22 to 9/8)



Similar pattern at Silver Strand State Beach & Coronado

- scenario A: largest reduction beach closures overall, particularly for summer (dry season)
- scenario B: largest reduction of wet season beach closures

questions?

Next Steps and Upcoming Milestones

Co-Chairs

Upcoming Milestones

- November 20 Public Information Meeting
- Next EPECG Meeting

Closing Remarks

Co-Chairs

Thank you