

Tijuana River Action Plan (TRAP)



By: Luke Demers, Nate Virovoy, and Tera Hayward  @divas



Contents

- Background
- History
- TRAP Mission Statement
- Stakeholders
- Governing Bodies
- Problems and TRAP Goals



Background

- Formed by two drainage networks in both US and Mexico
- Merges in City of Tijuana, Mexico
 - 11 Miles from Pacific Ocean
- Enters Pacific in San Diego, US
- 1,750 sqmi watershed
- Varied climate within watershed
 - Mostly Mediterranean climate
 - Some arid or semiarid climate



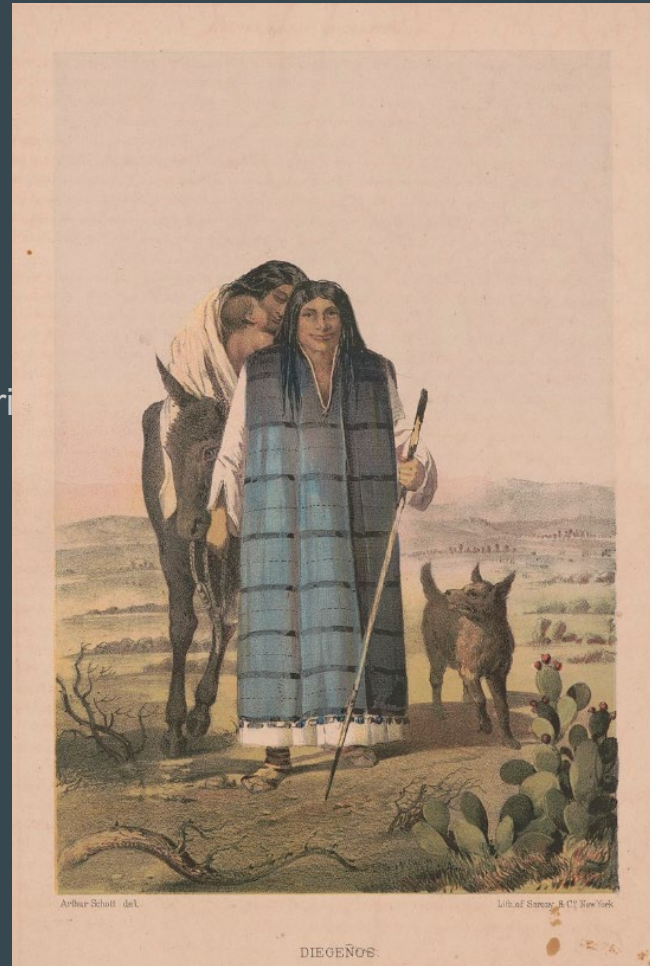
Background

- Native to Southern California Steelhead Trout
 - Type of Rainbow Trout
 - Adult lives in ocean
 - Spawn upstream
 - Can't go far upstream because of dams
 - Federal endangered species list
 - Faces many issues due to poor water quality, sediment, and increased water temperature
- Desert Cottontail
 - Habitat loss due to human development



History

- San Dieguito
 - Earliest humans known to live in the area
 - 10,000-8,000 years ago
 - Used atlatls to hunt megafauna until area became more arid
- La Holla
 - 8,000-1,300 years ago
 - Greater utilization of the resources of the lower watershed
- Kumeyaay
 - California, Baja California, Arizona
 - Called themselves “Tipai”
 - Means “the people”
 - 1,300 years ago
 - Engaged in farming and ceramic making
 - Largely untouched by Spanish conquistadors



TRAP Mission Statement

“The mission of TRAP is to mitigate pollution and improve water quality standards in the Tijuana River watershed in Southern California and Northwestern Mexico through cooperation of binational stakeholders by 2040.”

Stakeholders

- International
 - Mexico
 - United States of America
- National
 - State of Baja California
 - State of California
- Large Cities
 - City of Tijuana
 - City of San Diego
- Local
 - Small Towns
 - Local governing bodies



Governing Bodies

- Mexico
 - SEMARNAT- Mexico's Ministry of the Environment and Natural Resources
 - CONAGUA - National Water Commission
 - Administrative, technical advisory commission of SEMARNAT
- United States
 - EPA- Environmental Protection Agency



Problem 1: Sediment

- One of the fastest growing regions along US/Mexico border
 - About 6 million people currently reside in watershed
 - Population within watershed is growing unsustainably
- Housing uphill in the watershed is being developed with poor planning
 - Mexico has few laws and regulations on housing, doesn't enforce much
 - Sedimentation due to erosion from housing development is a huge issue
- Other pollutants flowing into river include waste tires, heavy metals, fertilizers, sewage, other various chemicals and general trash

TRAP Goal 1: Reduce Sediment in River

- TRAP intends to work with local policy makers to develop a long term dredging plan
- Public outreach strategy developed to inform locals of impact on watershed
 - Without widespread awareness changes can't be made

Problem 2: Solid Waste Management

- Increased growth in the region has resulted in an increase in illegal waste dumping
 - Municipal governments lack sufficient funds to keep up with exponential growth in area
- Watershed in two different areas of governance
 - Baja California does not have a budget for solid waste management
 - Limited collection infrastructure



TRAP Goal 2: Produce Solid Waste Management Plan

- TRAP intends to pursue studies on successful solid waste management plans that have proven effective in similarly large regions
 - Get in contact with policy makers in Mexico and United States to ensure a connected front
- Waste management infrastructure important
- Public Outreach
 - Again, public education is important in minimizing future issues

Problem 3: Water Quality

- Approximately 75% of watershed is in Mexico inside dense city of Tijuana
 - Sewage infrastructure inadequacies have created sewage pollution problems in watershed
- Sewage flows north through river system into ocean
 - Causes issues not only in watershed but also on surrounding coastline



TRAP Goal 3: Improve Water Quality

- Take steps to mitigate direct flow of sewage into river
- Money will need to be invested for the city of Tijuana to set up a better sewage infrastructure
- Point sources will then need to be identified and addressed on a case by case basis following this

References

- Barker, Lucy D. “Dredging of Tijuana River Valley Court Ordered to Stop.” San Diego Reader, San Diego Reader, 22 Feb. 2013, www.sandiegoreader.com/news/2013/feb/22/stringers-dredging-tijuana-river-valley/.
- “Comision Nacional Del Agua.” Gob, Gobierno De Mexico, 2020, www.gob.mx/conagua.
- Rivera, Salvador. “Crews Build Berms in Effort to Prevent Sewage Flows into U.S.” fox5sandiego.Com, Fox 5 San Diego, 6 Apr. 2013, fox5sandiego.com/news/crews-build-berms-in-effort-to-prevent-sewage-flows-into-u-s/amp/.
- “Southern California Steelhead Trout.” Center for Biological Diversity, Center for Biological Diversity, 2020, www.biologicaldiversity.org/species/fish/southern_California_steelhead_trout/index.html.
- “Tijuana River Estuary History.” Trnerr, San Diego State University, 2010, trnerr.org/content/uploads/2010/12/hs_curriculum_HISTORY-chapter.pdf.
- “United States Section.” U.S. IBWC, International Boundary & Watershed Commission (U.S. and Mexico), est. 1889, www.ibwc.org/html.
- Wright, Richard D. “Tijuana River Watershed Atlas.” Trnerr, San Diego State University, 2005, trnerr.org/content/uploads/2015/11/Tijuana-River-WatershedAtlas.pdf.