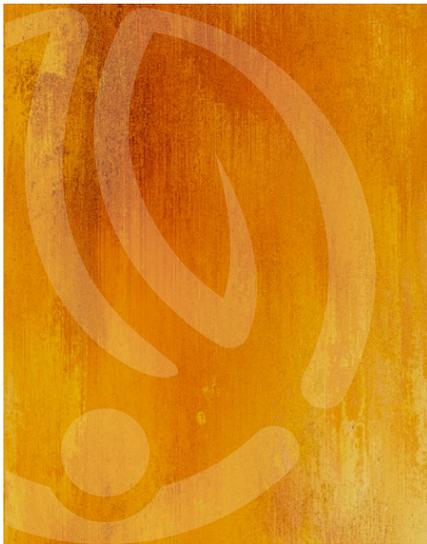


# Building a sustainable water future in the Tijuana-San Diego region

Yamilett Carrillo, Ph. D.  
Conservation Scientist

[yamilett@icfdn.org](mailto:yamilett@icfdn.org)



Inspired Giving. Meaningful Change.

# Opportunities for a sustainable water future in the Tijuana-San Diego region

Lessons from another US-Mexico watershed: the Colorado River

- Overview of the CR watershed
- Building the conditions for binational collaboration
- Elements of successful binational collaboration

## *What does the Colorado River mean to San Diego?*

- 68% of San Diego's region water comes from the Colorado River
- Shortage in CR water supply could affect San Diego



# The Colorado River Watershed

River flows are over-allocated by 10-20% above of annual supply.

➤ 7 states in U.S.A.

➤ 2 states in México

➤ 30 million people

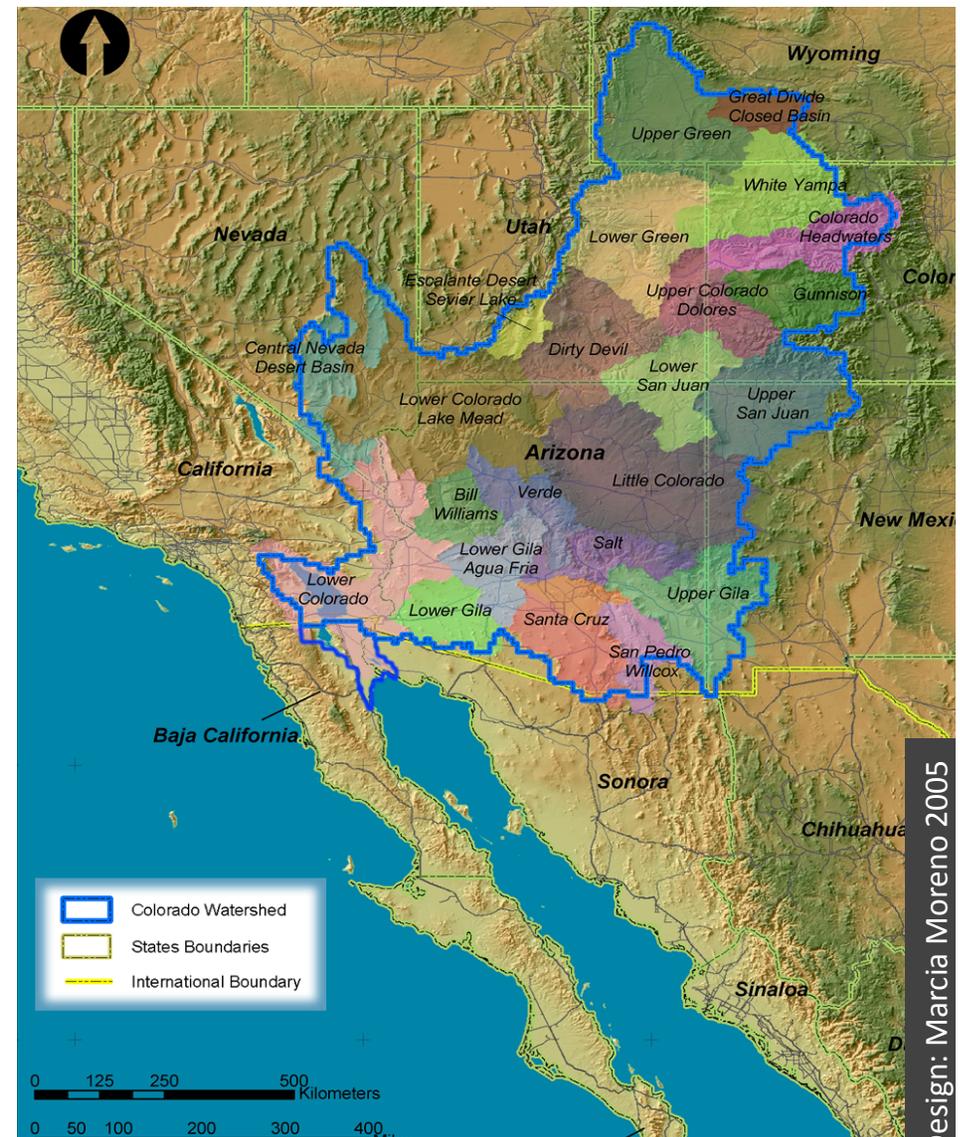


One of the most human-Disturbed rivers in the world:

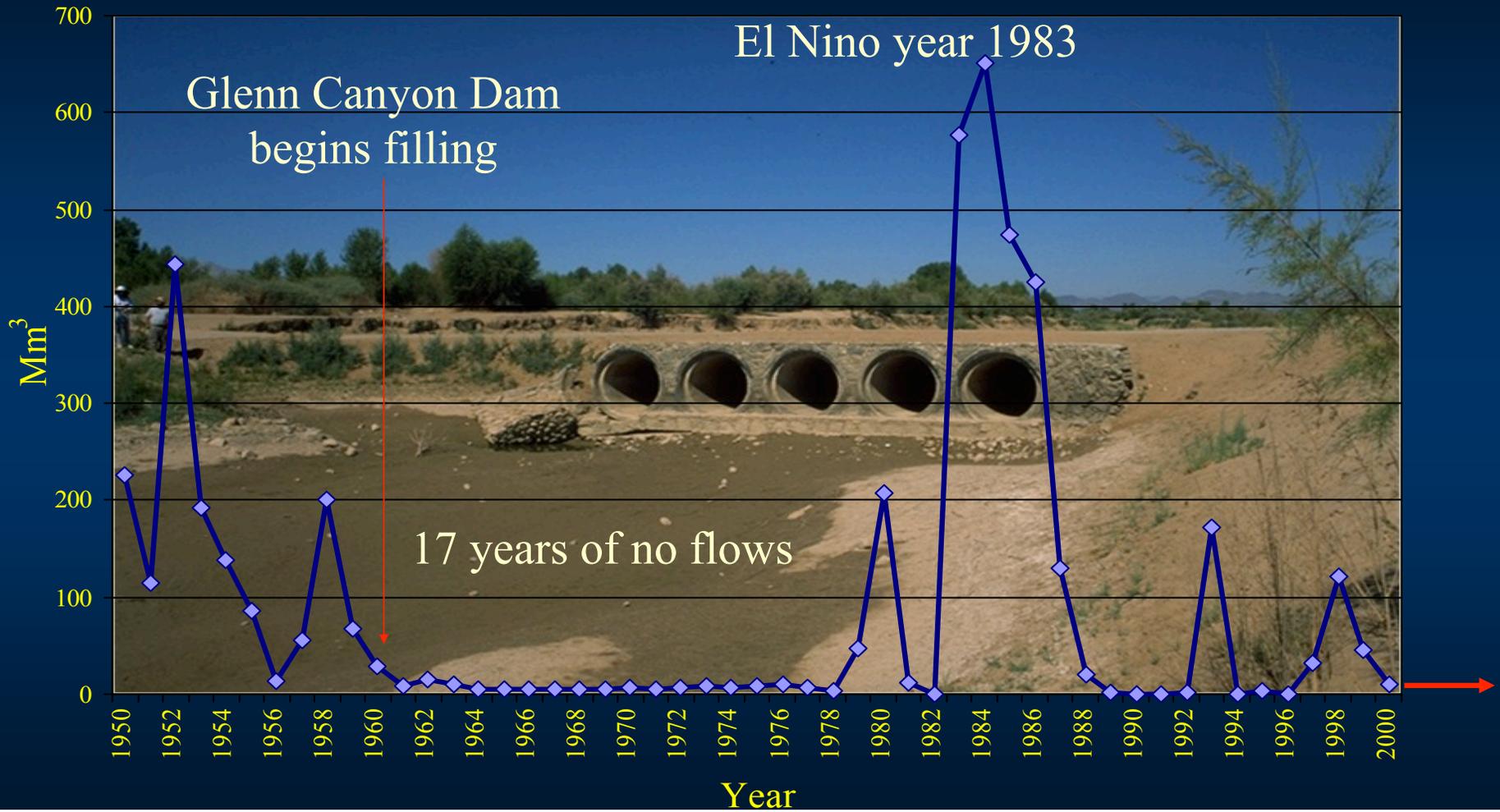
- 10 dams
- 80 major diversions
- 1.5 million acres irrigated

## The Colorado River...

- Length: nearly 1,400 miles
- Watershed: 242,000 miles<sup>2</sup>
- River flow: 11.6 - 15 MAF/yr
- Allocated volume: 16.5 MAF/yr
  
- Supports > 2 million acres of irrigated croplands
- Sustains ≈ 30 million inhabitants in the US and Mexico
- > 87% of river flows diverted for agriculture

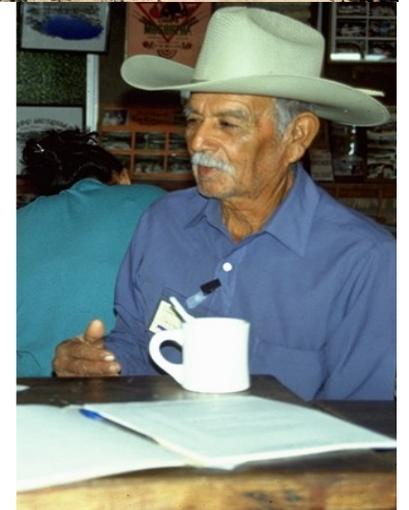


# Colorado River Flows to Mexico 1950-2000



“Before, there used to be a lot of water,  
Everything was good, there were beavers,  
We gathered herons’ eggs to eat,  
There were plenty of deer, fish, birds,  
We cultivated squash, watermelon,  
yurimuri beans.....

And with time, everything changed,  
The water disappeared,  
The fish disappeared,  
People suffered much,  
We dugged in the riverbed looking for water,  
We found only salty water to drink.  
**The river was gone,**  
The water was gone, cottonwoods were gone,  
willows were gone, mesquite were gone, fish....”



Onesimo Gonzalez, Cucapa Tribe Chief, 2001

# We can't expect there will be the “perfect” conditions for binational collaboration...

Basin conditions during Minute 319 negotiations:

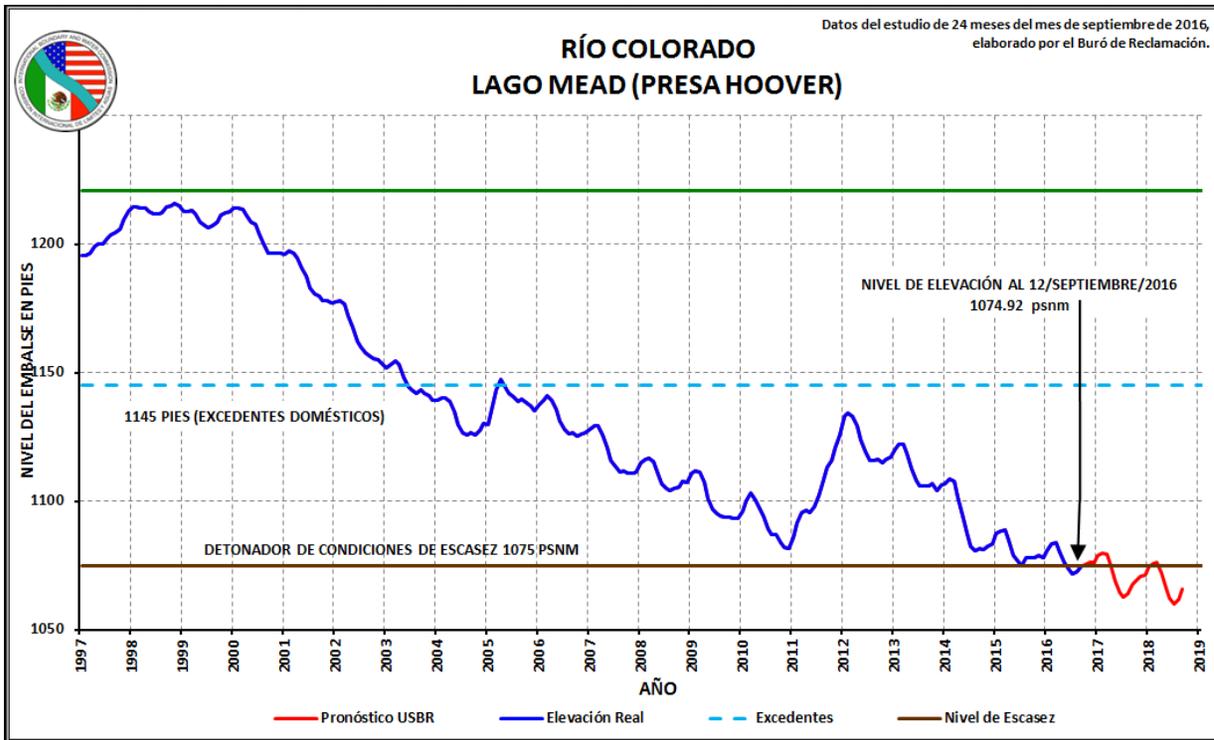
- >15 yrs of drought
- Shortages were already affecting Upper Basin users
- The effects of over-allocation of annual river flows basin-wide
- Urban demands in both countries kept growing
- Renewed salinity disputes between MX and US
- 2010 Earthquake in Mexicali



# But we can “build” the right conditions:

- Minute 319 wasn't the beginning of binational collaboration on environmental issues in the Colorado River:
  - **Minute 306:** Framework for US-MX studies for riparian and estuarine ecology in the Colorado River Delta (2000)
    - US-MX Colorado River Delta Symposium (September 11, 2001)
  - **Minute 316:** Yuma Desalting Plant Pilot Run (2010)
  - **Minute 317:** Framework for US-MX Colorado River Cooperative Actions (2010)
  - **Minute 318:** Adjustment of Water Deliveries to MX-Earthquake Emergency (2010)
  - Minute 319: “Interim International Cooperative Measures in the Colorado River Basin...” (3-7yr negotiation, in force 2012-2017).





Water Elevation Thresholds at Lake Mead (feet above sea level)	Cuts to Mexico's CR water supply (Mm <sup>3</sup> )	Cuts to US CR water supply (Mm <sup>3</sup> )
1,050 - 1,075 ft	62	411
1,025 - 1,050 ft	86	514
< 1,025 ft	154	617

# Minute 319 -Pulse Flow 2014







# Key to building the “right” binational conditions: **civic engagement**

- Natural disasters or contingency situations create opportunities for collaboration
- NGOs presented to Governments alternatives for “**Conservation before Shortage**” (2011)
- Participation of US-MX Universities and Scientists as Advisory Group to Govmts
- IBWC/CILA Binational working groups
- Civil society began the binational work, governments took the lead and realized they couldn’t do it without ngos participation.



# Opportunities for a sustainable water future in the Tijuana-San Diego region

- Why US-MX collaboration in the Tijuana watershed is the best opportunity to resolve issues affecting for both communities?



[http: www.cuencariotijuana.org](http://www.cuencariotijuana.org)



# Opportunities for Collaboration in the Tijuana River Watershed:

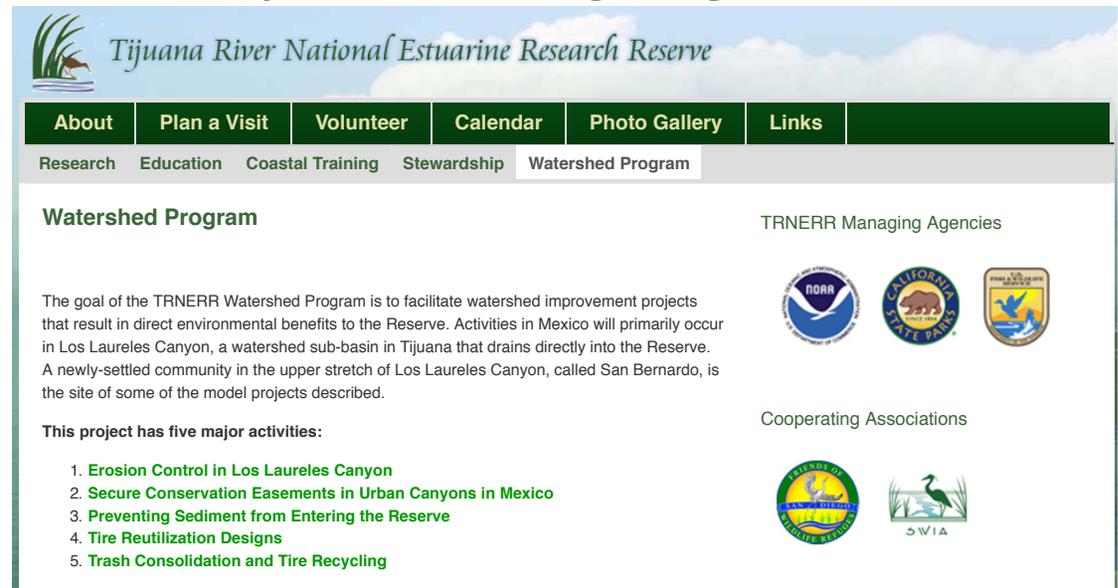
- Only 2 states share the watershed: California and Baja California.
- 5 million people - 40% of US-MX border population
- Environmental issues and Solutions are known:
  - sources of pollution,
  - needs for communication
  - rapid response needed by corresponding agencies
- Tijuana and San Diego communities want to address causes, not just symptoms
- US-Mexico governments have already signed the first binational agreement for binational cooperation on the Tijuana River watershed (Minute 320, signed in 2015)



# Opportunities for a sustainable water future in the Tijuana-San Diego region

Binational collaboration pathways are already established for the communities in both countries in the Tijuana-San Diego region.

<http://trnerr.org/watershed/>



The screenshot shows the website for the Tijuana River National Estuarine Research Reserve. The header includes the organization's name and a navigation menu with options: About, Plan a Visit, Volunteer, Calendar, Photo Gallery, and Links. Below this is a secondary menu with Research, Education, Coastal Training, Stewardship, and Watershed Program. The main content area is titled "Watershed Program" and contains a paragraph describing the program's goal: to facilitate watershed improvement projects that result in direct environmental benefits to the Reserve. It mentions activities in Los Laureles Canyon, a watershed sub-basin in Tijuana that drains directly into the Reserve, and notes that a newly-settled community in the upper stretch of Los Laureles Canyon, called San Bernardo, is the site of some of the model projects described. Below this text, it states "This project has five major activities:" followed by a numbered list: 1. Erosion Control in Los Laureles Canyon, 2. Secure Conservation Easements in Urban Canyons in Mexico, 3. Preventing Sediment from Entering the Reserve, 4. Tire Reutilization Designs, and 5. Trash Consolidation and Tire Recycling. To the right of the text, there are two sections: "TRNERR Managing Agencies" featuring logos for NOAA, California State Parks, and the U.S. Fish and Wildlife Service; and "Cooperating Associations" featuring logos for Friends of San Bernardo and SWIA.



PROGRAMA PARA  
EL MANEJO INTEGRAL  
DEL AGUA EN LA CUENCA  
DEL RÍO TIJUANA

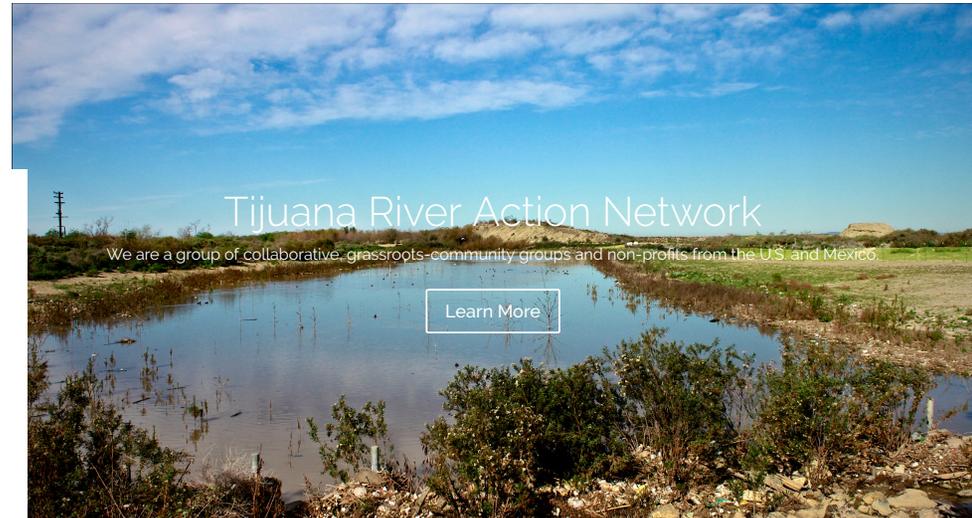


<http://www.cuencariotijuana.org/>

<http://www.tjriveraction.net/>



Tijuana River Action Network



We are committed to cross-border collaboration

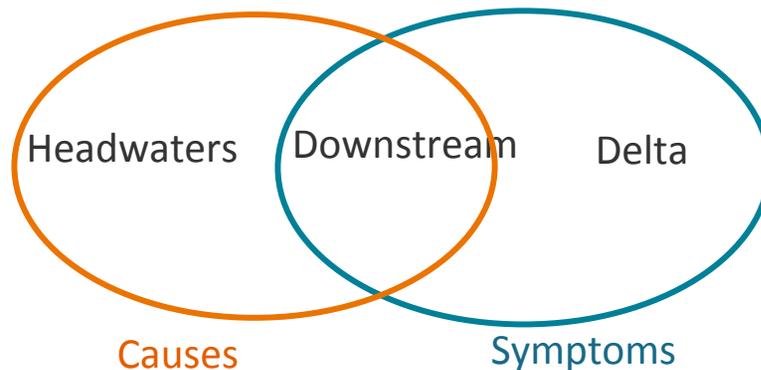
to address the conservation and restoration of the Tijuana River watershed.



# Opportunities for a sustainable water future in the Tijuana-San Diego region: some ideas....

## What could be the key next steps:

- Strengthen civic engagement,
- Develop a critical route or rapid response/binational communications plan
- Tell the communities how/where they can get current conditions



# Opportunities for a sustainable water future in the Tijuana-San Diego region: some ideas....

## More ideas:

- Create a pathway for residents and philanthropy to support needs identified by communities
- Enable further participation of ngos, scientists and community leaders
- Re-activate the binational groups created under Minute 320:
  - solid waste mgmt,
  - water quality, and
  - sediment control
- Develop a binational plan for integrated management of the watershed





<http://www.tjriveraction.net/>  
<http://trnerr.org/watershed/>  
<http://www.cuencariotijuana.org/>

Thank you!

[www.icfdn.org](http://www.icfdn.org)

Meaningful Giving. *Inspired Change.*