

# **Rosarito Beach Binational Seawater Desalination Study**



**INTERNATIONAL BOUNDARY AND  
WATER COMMISSION CITIZEN'S FORUM**

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# Setting for Binational Discussion

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## Living with less water:

- **Bureau of Reclamation Demand and Supply Study**
  - River is already oversubscribed and demands are increasing
  - Climate change could reduce river supplies
- **Recent U.S. projects reduced excess Colorado River water to Mexico**
  - All American Canal Lining Project
  - Brock (“Drop 2”) Reservoir
  - Yuma Desalination Plant pilot operation

## Managing shortages:

- **2007 completion of shortage guidelines and operating criteria for Lake Mead, Lake Powell**

# Binational Cooperative Process

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- International Boundary and Water Commission initiated binational cooperative process
- Goal: Improve water supplies and water management for both countries

# Process Organization

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- **U.S. Core Group:**
  - IBWC United States Section
  - United States Bureau of Reclamation
  - Colorado River Basin states
    - ✦ Lower Basin: California, Nevada, Arizona
    - ✦ Upper Basin: Colorado, Utah, Wyoming, New Mexico
  - Conservation organizations

# Process Organization, cont.

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- **Mexico Core Group:**
  - IBWC Mexico Section
  - Comision Nacional del Agua (National Water Commission)
  - SEMARNAT (Mexico EPA)
  - States of Baja California and Sonora
  - Conservation organizations

# Process Organization, cont.

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- **Issue-specific work groups**
  - New water supply
  - Water conservation
  - System operations
  - Environmental
- **Potential benefits:**
  - Increased system augmentation
  - Shortage management flexibility
  - Beneficial changes to system operations
  - River ecosystem improvements

# Potential Binational Projects

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- Desalination (ocean and brackish)
- Mexicali Valley irrigation improvements
- Drought management
- Operational storage
- Storage in Lake Mead
- Wetlands and habitat restoration, protection
- Mexico water delivery via All American Canal
- New River water
- Aquifer monitoring

# Seawater Desalination Study

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- **Proposed Baja California, Mexico seawater desalination plant**
  - Located at Rosarito Beach in Baja California
  - Product water could supply Mexico or U.S.
    - ✦ Direct pipeline to U.S. (San Diego), or
    - ✦ Exchange of Colorado River water

# Overview of Project

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- Goal: evaluation and preliminary design of Rosarito Beach site for 50-mgd seawater desalination plant
- Initiated study funded by:
  - Central Arizona Water Conservation District
  - Metropolitan Water District
  - San Diego County Water Authority
  - Southern Nevada Water Authority

# Project Scope of Work

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Project divided into four phases:

1. Feasibility evaluation
2. Detailed review and conveyance evaluation
3. Pilot plant development and testing
4. Preliminary design



# Project Execution

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- Each phase is implemented separately
  - Allows “go” or “no go” decision
  - Funding agencies may opt out after each phase
- SDCWA administers contract
- First phase completed in 2010

# Phase 1 Draft Conclusions

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- No “fatal flaws” to project were found
- Significant Mexico / U.S. demand for product water (greater than 50 MGD)
- Suitable building sites are available
- Sufficient electric power is available, with access to intake and outfall channels for seawater supply and brine disposal
- Need to develop alternative pipeline alignments to deliver product water
- Complex environmental permitting issues

# Phase 2 of Study

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- **Phase 2 provides a more detailed review, including:**
  - 1) Analyzing existing pilot plant data
  - 2) Reassessing potential sites and evaluating existing facilities (power plant intake and outfall facilities)
  - 3) Updating plant conceptual design
  - 4) Evaluating alternative conveyance alignments
  - 5) Permitting activities
  - 6) Outreach activities with stakeholders
  - 7) Cost estimate

# Current Status of Study

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- **Funding agencies considering Phase 2**
  - U.S. agencies participation is pending Minute 319 discussions and implementation
- **Mexico proceeding with a Phase 2 task**
  - Hired consultant to analyze pipeline alignments for from plant to San Diego County
  - Working in coordination with U.S. agencies



# Next Steps

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- U.S. agencies decision on continuing study
- Mexico completion of pipeline alignment study
- Integration into larger Colorado River binational process