

**Colorado River Citizens Forum**  
**El Centro, CA**  
**March 9, 2016**  
**\* Tentative Meeting Notes**

**Board Members in attendance:**

Kevin Eatherly, Co-Chair  
Roberta McDermott, US Natural Resources Conservation Service  
Cary Meister, Yuma Audubon Society  
Tomas Sanchez, James Davey & Associates  
Yazmin Arrellano Torres, City of Brawley  
John Hernandez, Our Roots Multi-Cultural Center  
Tom Davis, Yuma County Water User's Association  
Chuck Cullom, Central Arizona Project  
Glenna Barrett, So. Low Desert Resource Conservation & Development Council

**USIBWC Staff in attendance:**

Sally Spener, US Secretary  
Anna Morales, Yuma Area Office Manager

**31 Members of the public in attendance:**

Jay Simonton, City of Yuma  
Gary Corzo, US Border Patrol  
Edwin Delgado, Imperial Valley Press  
Ed Virden, Bureau of Reclamation  
Ken Rosevear, ACS  
Perri Benemelis, Central Arizona Project  
Armando Villa, County of Imperial  
John Dantise  
Paul Hager, US Border Patrol  
Jim Clayton, Mission Ranches  
Maria Ramirez, US Bureau of Reclamation  
Vic Nguyen, Colorado River board of California  
Deana Ikeya, Arizona Department of Water Resources  
Eric Morales, Coachella Valley Water District  
Ben Perez, Student  
Juan Riosmoreno, Mexican Section, IBWC  
Ismael Gomez, Imperial Irrigation District - Water  
Jim Buster, Environmental Fund  
Vince Brooke, Imperial Irrigation District  
Tomas Oliva, Rep. Juan Vargas  
Paula Pangle  
Darren Simon, San Diego County Water Authority  
Gary Knight, City of Yuma  
Harry Ruzgerian, Metropolitan Water district  
Donald Gross, Arizona Water Resource  
Leroy Lewis, Coachella Valley Water  
Nancy Meister, Yuma Audubon  
Tina Shields, Imperial Irrigation District  
Liz Gonzalez, Citizen

Maria Gonzalez, Yuma County/DDS  
Juan Lenthbi, Yuma County/DDS

**Welcome and Introductions:**

At 4:00 PM Citizens Forum co-chair Kevin Eatherly convened meeting by welcoming the group. Present board members and audience attendees introduced themselves. Mr. Eatherly then introduced first presenter, Ed Virden, Chief of Operations and Maintenance, Bureau of Reclamation, Yuma, AZ, who presented the intricate Colorado River water delivery system below Imperial Dam and the role that salinity agreements play in deliveries to Mexico.

**Presentation (1) by Ed Virden Chief of Operations and Maintenance, Bureau of Reclamation, Yuma, AZ- RECLAMATION WATER IN THE WEST: COLORADO RIVER WATER DELIVERY AND SALINITY MANAGEMENT**

Mr. Virden presented a [PowerPoint Presentation](#).

Ed Virden began with presenting an overview on managing salinity in the context of the drought and the evolution of salinity agreements and U.S. actions. The Colorado River remains in the worst drought in over 100 years of written record keeping. Explaining the periods from 2000 through 2015 has been the driest 16-year period ever recorded in the Lower Colorado River Basin. Paleo studies indicate the current drought is one of the worst in the Basin in the past 1200 years. The drought has inspired several programs to reduce water use so that reservoir elevations are preserved. Salinity management activities must be improved to keep up with the changes.

Virden provide a map that highlighted the Colorado River system from Parker Dam to the Northerly International Boundary (NIB) with Mexico. It displayed the system complexity below Imperial Dam.

Virden went on to explain, “What is Salinity”

- Salinity is the measure of the dissolved salt content in a water source
- The Colorado River system is naturally very saline
- Natural variability of river salinity is uncontrollable
- The US adds pumped drainage water to Mexican deliveries to conserve water in upstream reservoirs
- Minute 242, which regulates salinity of Colorado River deliveries to Mexico, prescribes a salinity differential so that water delivered to Mexico is of similar quality to that delivered to U.S. users.
- Salinity, and the salinity differential play significant roles in Yuma-area operations

Additionally, Virden gave an overview of Evolution of Salinity Agreements:

1. Minute No. 218 – “Recommendations in the Colorado River Salinity Problem.” March 22, 1965.
  - A binational effort seeking a permanent solution to the problem of increased salinity due to Wellton-Mohawk (WM) return flows
  - Mexico & U.S. entered agreement for construction of 353 cubic feet per second (cfs) concrete-lined channel known as the Main Outlet Drain Extension (MODE) to carry Wellton-Mohawk (WM) Valley return flows

2. Minute No. 241 – “Recommendations to Improve Immediately the Quality of Colorado River Waters Going to Mexico.” July 14, 1972
  - Authorized U.S. to continue operation & maintenance of the MODE & discharge 118,000 AF of Wellton Mohawk drainage below Morelos Dam
3. Minute No. 242: intended to be the solution “The Permanent and Definitive Solution”
  - Beginning July 1, 1974, the salinity of water delivered at the Northerly International Boundary (NIB) will have average annual salinity of not more than:
    - 115 ppm +/- 30 parts per million (ppm) U.S. count (121 ppm +/- 30 ppm Mexican count) over the annual average salinity at Imperial Dam
    - U.S. shall continue to deliver approximately 140,000 acre-feet to Mexico on the land boundary at San Luis, Mexico as part of the 1.5 million acre-feet/year annual Colorado River allotment to Mexico, with a salinity essentially the same as that of the waters customarily delivered there (approximately 1200 to 1800 ppm)
    - The existing concrete-lined Wellton-Mohawk drain shall be extended approximately 53 miles to Santa Clara Slough (Gulf of CA). Construction & maintenance are performed by Mexico at the expense of the U.S.

Ed Virden went on to explain the U.S. Actions to improve water quality. The U.S delivers the most saline Colorado River returns to the Bypass Canal to meet Minute 242 requirements. Since 1990, the U.S. has delivered over 1.6 million acre-feet (MAF) to the Bypass Canal. This represents approximately 20 feet of elevation in Lake Mead. This water delivery to Mexico has supported habitat in the Cienega de Santa Clara and is not counted toward Mexico’s 1.5 MAF treaty allotment. The US makes annual investments of ~\$32 M/yr to reduce salinity in the river through the Colorado River Salinity Control Program. The efforts since 1973 have resulted in removal of 1.3 million tons of salt from the river or 90 ppm in the water arriving at Imperial Dam.

Two charts were presented providing key operational trends and historical salinity at Imperial Dam. He discussed spikes in salinity. He also described the current ongoing salinity study in the region.

In conclusion, in light of the current historic drought, all users share the concern for elevations in Lakes Mead and Powell. Minute 242 has been in place for over 40 years and conditions have changed significantly on the Colorado River. The US continues to meet the salinity differential under Minute 242 but it is increasingly difficult without releasing additional water from Lake Mead. Water conservation and water sustainability are paramount to both countries. Therefore, the US is continuing discussions to find cooperative, binational support for projects and initiatives that benefit all Colorado River water users.

**Ed Virden Questions and Answers (Q&A):**

Q: With the importance of the Cienega de Santa Clara has there been discussion of counting this water toward the overall water allocation?

A: Yes, there have been discussions.

Q: Have we met Minute 242?

A: Yes.

Q: Since that flows in to the Cienega, what has been the effect on the salinity of water in the MODE, is there an environmental issue?

A: The water that comes from our ground water wells is much more saline. As the surface water volume goes up, salinity goes down.

With the questions answered, Mr. Virden's presentation was completed and the meeting was turned over to Ms. Sally Spener.

**Presentation (2) Sally Spener, U.S. Secretary, International Boundary and Water Commission-MINUTE 319 AND BEYOND: U.S.-MEXICO COLORADO RIVER AGREEMENTS**

Ms. Spener presented a [PowerPoint Presentation](#).

Ms. Spener provided an update on the implementation of Minute No. 319, a 2012 agreement with Mexico, and work to develop a new agreement to enhance U.S.-Mexico cooperation.

**1944 WATER TREATY COLORADO RIVER:**

- U.S. to deliver to Mexico a volume of 1.5 maf/year
- When there are surplus waters, Mexico may receive an additional 200 kaf
- In extraordinary drought, Mexico reduced in proportion to U.S.
- U.S. has always met its delivery obligation

Photo presented of Lake Mead behind Hoover Dam outside of Las Vegas, by 2006 levels were dropping and concerns arose about what the future would hold in terms of storage for Lake Mead and the prospects of cut backs in the lower basin. IBWC convened stakeholders to address the means to enhance U.S.-Mexico cooperation

- 4 Work Groups established in 2008:
  - New Water Sources – augmentation projects, esp. desal
  - System Operations – delivery efficiencies and modeling
  - Environment – habitat enhancement
  - Conservation -- agricultural water conservation

In 2010 IBWC formalized dialogue between US and Mexico creating Minute 317, “Conceptual Framework for US-Mexico Discussions on Colorado River Cooperative Actions,”

formalizing the 4 Work Groups. It also provided for consultation with the affected states on policy and legal issues. Noted topics of interest to both countries:

- Identifying new water sources
- Improving system operations
- Minimizing impact of shortages
- Permitting Mexico to store water in the United States
- Water conservation
- Identifying water for environmental purposes

In April 2010 a 7.2 earthquake cause extensive damage to the irrigation structure and the response resulted in Minute 318.

Minute 318, “Adjustment of Delivery Schedules for Water Allotted to Mexico for the Years 2010 through 2013 as a Result of Infrastructure Damage in Irrigation District 014, Rio Colorado, Caused by the April 2010 Earthquake in the Mexicali Valley, Baja California.” Minute 318, concluded in December 2010, responds to damage to irrigation infrastructure in the Mexicali Valley following the Easter Day 2010

earthquake. It allows for delayed delivery of Colorado River water to Mexico until earthquake repairs are completed

Minute 318 allows Mexico to adjust its delivery schedule downward during the period from 2010 through 2013 by a total of up to 260,000 acre-feet (320 million cubic meters) when it cannot utilize its full allotment due to damage to its irrigation infrastructure. The water would then be delivered to Mexico in subsequent years after repairs are made to irrigation district canals. The Minute states the desire of both countries to schedule future delivery of the water in such a fashion so as not to trigger or exacerbate any potential shortage conditions in the United States.

Following Minute 318, U.S.-Mexico discussions intensified and a five-year agreement, Minute 319, was signed in late 2012:

- Signed in San Diego on Nov. 20, 2012
- 5-year agreement thru 2017
- 7 Sections:
  - Extension of Minute 318
  - High reservoir water sharing
  - Low reservoir shortage sharing
  - Intentionally Created Mexican Allocation (ICMA)
  - Salinity Management
  - Water for Environment and ICMA/ICS exchange pilot
  - Projects

Intentionally Created Mexican Allocation (ICMA) may be created through water conservation. Total delivery to Mexico may not exceed 1.7 maf/year. Some restrictions on deliveries during shortage conditions such as no delivery that would trigger shortage or a new shortage tier in the U.S.

- Mexico may create ICMA through adjustments to its annual delivery schedule resulting from water conservation projects or new water sources projects. So rather than the water being delivered, it can be held in the US for future delivery to Mexico.
- Allows for Mexico to create up to 250,000 acre-feet of ICMA/yr.
- Delivery of up to 200 kaf/year
- Deliveries may not negatively impact U.S. operations

### **Salinity Aspect:**

Minute 242 requires salinity of deliveries to Mexico to be similar to water quality at Imperial Dam. US and Mexico will operate system to minimize salinity impacts of Min. 319 actions. Mexico may choose to have saline water delivered through a bypass drain to reduce salinity at Northerly International Boundary (NIB). Salinity differential to be calculated as if water were delivered at NIB.

Another important part of Minute 319 is Environmental Pilot Program. There was 105,392 acre-foot “pulse flow” of environmental water in spring 2014. It inundated key areas of the river channel and floodplain with the intent of benefitting native habitat. Scientists are studying the effect of the pulse flow. Report shows we were successful in delivering environmental water to key areas. And our scientists will continue to study and report on the pulse flow’s impact on our habitat restoration efforts.

Nongovernmental organizations came up with base flow, a smaller regular flow for the environment, by acquiring water rights through a water trust.

The pilot program also includes:

- \$21 million from US for projects in Mexico
- Mexico derives long-term benefits from waters conserved from U.S. investment
- U.S. funders receive one-time 124,000 acre-feet of water to be converted from ICMA; no pipeline required
- Water benefits to the U.S. funding agencies

Minute 319 also mentions future discussions of possible projects such as:

- Seawater desalination
- Irrigation district modernization
- Fallowing
- Alamo Canal regulating reservoir
- Beneficial use of New River

Other environmental aspects are Restoration Sites:

- Miguel Aleman environmental restoration project
  - 87-acre site in Mexico across Colorado River from Hunter's Hole restoration in U.S.
  - Restore cottonwoods, willows, mesquite
  - Tens of thousands of trees planted
- Laguna Grande
  - 1200-acre NGO site in Mexico
  - Work began a decade ago
  - More than 100-thousand native trees planted
  - Tall trees have already replaced desert scrub

Implementation - Water Conservation Pilot Project

- Canal lining in Mexico
- 10-mile segment of Revolución Canal in Sonora
- Construction contract to be put out to bid this spring
- US entities are funding the work in exchange for a portion of the conserved water

For this pilot project, the Mexican government has proposed to concrete line portions of the Revolución Canal in Sonora for a length of ten miles. The goal is to improve efficiency and reduce seepage losses.

Aspects of Minute 319 pending implementation include:

- High reservoir conditions
  - Not expected this year or next
- Low reservoir conditions
  - 37% risk of shortage in 2017
- ICMA
  - Mexico has stored "earthquake" water but not ICMA

**Minute 32X:**

- Minute 319 ends 12/31/17
- Work began in 2015 on a new agreement based on Minute 319
- Goal is to sign a new Minute in 2016
- New Minute informed by Minute 319 and evolving basin conditions

Minute Negotiating Group (MNG) is a small group with federal and state representatives from both countries

- Minute Negotiating Group (MNG) meets monthly
- Meetings held in US and Mexico

- Domestic consultations inform discussions between binational meetings

The Minute Negotiating Group has established several work groups to support it.

**Salinity Work Group:**

Evaluates the impacts on the salinity of the Colorado River waters delivered to Mexico from the projects proposed for inclusion in a new comprehensive Minute and explore potential salinity control activities and operational improvements. The Work Group will use compliance with Minute 242 as the starting point.

**Projects Work Group:**

- Develop a list of projects and evaluate feasibility
- Irrigation district improvements of particular interest
- Clarify a framework for providing water benefits to the US in exchange for investment

**Environmental Work Group:**

- Develop recommendations for environmental projects
- Define priorities for environmental projects considering a range of possible environmental flows
- Assemble information on funding and water needs of current projects

**Sally Spener Questions and Answers (Q&A):**

Q: Is the original project complete? What's the status of Mexican Revolución Canal and conserved waters to be provided to the US in exchange for the investment.

A: The Revolution Canal lining construction will start in a few months. We don't need to wait for the project to be completed and the volume conserved before it is converted to ICS to be available to the U.S. funders. This water will be converted to ICS by end of 2017 based on water Mexico has stored in Lake Mead. Mexico then derives the long-term benefits of the conserved volumes.

Q: What things have been discussed about the Alamo and New River project?

A: The New River was to be the subject of future discussion and that particular project has not advanced at this point. Mexico still has interest in this project but the US has a few concerns about potential Salton Sea impacts.

Q: Who owns the All American Canal?

Tina Shields, Imperial Irrigation District, responded: All American Canal is a federal facility and it's still operated by Imperial Irrigation District (IID). IID controls the canal.

Q: Mexico was permitted to store earthquake water in Lake Mead, but is there any talk about US water agency being able to store water at Lake Mead?

A: That's what the ICS intentionally created surplus is, it's the equivalent in the US. There are specific domestic operating guidelines.

Q: Does Mexico have plans to build any reservoirs to store some of their own water?

A: In developing Minute 319, the Alamo Canal reservoir would have been the key project for that pilot project aspect but it was determined that the Revolución Canal lining project would be the biggest bang for your buck. There has been some preliminary work done on the Alamo reservoir that could potentially be implemented but it would be small regulating reservoir.

Q: Who is funding the canal lining project?

A: The entities in the US that contribute to the project are: Metropolitan Water District, US Government, Southern Nevada Water Authority, and Central Arizonan Project.

Q: What are the consequences for not meeting Minute 242?

A: The International Boundary and Water Commission US and Mexico, is responsible for the boundary and water treaties between the two countries and settling differences that arise. If we do not meet the agreement, we would hear about it and have to address it. Whether its doing technical studies or making operational changes. It's the responsibility of our Commission to make sure Minute 242 is met.

Q: Has there been discussion about using a portion of the All American canal as storage.

Tina Shields, IID , responded A: There has already been one portion of the old channel used as offline storage, this is used to mitigate the lost storage.

**Meeting Closing:**

Co-Chair, Kevin Eatherly asked for comments from the public and additional comments from the Commission.

IBWC US Secretary Sally Spener thanked the departing current board for their work and announced the Commission is accepting applications for new board members.

**Suggested Future Agenda Items for June 8<sup>th</sup> meeting in Yuma, AZ.**

- Presentation from the California Center for Water Policy
- Presentation on the case study from the irrigation districts
- Presentation from Dr. Kidd, ASU School of Business- The Correlation between Water Conservation and Business
- Update on Yuma Reclamation project
- Update on the Central Arizona Projects
- Metropolitan Water District to provide update on the Yuma Mesa Project

If there are other issues/projects you would like to hear, please email the Yuma IBWC office at [anna.morales@ibwc.gov](mailto:anna.morales@ibwc.gov)

Next meeting scheduled for June 8, 2016 in Yuma, AZ.

\*Meeting notes are tentative and summarize in draft the contents and discussion of Citizens Forum Meetings. While these notes are intended to provide a general overview of Citizens Forum Meetings, they may not necessarily be accurate or complete, and may not be representative of USIBWC policy or positions.