International Boundary and Water Commission
United States Section

Dr. Maria-Elena Giner, Commissioner

Managing Water Along the U.S. – Mexico Border

Texas Water Conservation Association Summer Conference
June 16, 2022

San Diego, CA Field Office

Nogales, AZ Field Office

Yuma, AZ Field Office

Upper Rio Grande Field Office

Amistad Dam Field Office

Lower Rio Grande Field Office

UNITED STATES POWER PLANT at Falcon Dam.

The International Boundary and Water Commission is responsible for **applying the boundary and water treaties** between the United States and Mexico. The USIBWC has a broad range of responsibilities including:

- **Flood Control**: More than 500 miles of levees and 34,900 acres of flood plain
- **Water Delivery**: Ensure compliance with the 1906 Convention and 1944 Water Treaty for the Rio Grande and Colorado River
- **Dams and Hydroelectric Power Plants:** Manage two international dams and five diversion dams
- **Sanitation:** Border sanitation with three international wastewater treatment plants
- **Boundary Demarcation**: 700 monuments and markers, 15 concrete jurisdictional markers, and 64 buoys for lake boundaries

Some Major Ongoing Projects

- South Bay International Wastewater Treatment Plant (SBIWTP)
- Colorado River Conservation Projects (Minute 323)
- Nogales International Outfall Interceptor
- Upper Rio Grande: Sunland Park Construction
- Lower Rio Grande: Edinburg Levee Construction and Arroyo Colorado Sediment Removal
- Amistad Dam
- Heavy Equipment Replacement
- Mercedes, TX Field Office Administrative Building

USIBWC staffing at 12 offices in the border region and Washington D.C.:

- 252 authorized positions
- USIBWC proposes restoring staffing to 313 personnel at an additional cost of $9 M
- 1/3 of employees at or near retirement age

Annual Budget

Approx. $50 M for salaries and expenses

Approx. $50 M for construction

Sediment Management Program
Equipment Replacement
Flood Control
Other Unfunded Projects

Equipment on the levee

Levee rehabilitation

Amistad Dam

Maintenance Challenges

Estimated annual deferred maintenance $11 M

- Flood control structures $6.4 M
- Sediment $0.5 M
- Levees $1 M
- Wastewater Treatment facilities $2 M

Extraordinary deferred maintenance: $487 M

- Mostly sediment 21 million cy $475 M
- Wastewater Treatment Facilities (Capital) $6 M

Removing sediment in Presidio, TX

Removing sediment in El Paso, TX

Sediment Management Program

Remove Sediment from the River Channel

- Protects residents from flooding (flood control mission)
- Water delivery to US and Mexico (water delivery mission)

Install New Sediment Basins

- Keeps sediment from reaching the river
- Easier to remove sediment year-round

Next Steps:

- Assessment of workforce, equipment, and supplies
- Increase Staffing and Equipment to maintain annual requirements
- Contract Extraordinary Deferred Maintenance
- Sediment Transport Study and Modeling contract
- Agreements with municipalities to install sediment control structures upstream of river

Equipment Replacement Program

FY22, Congress appropriated $7.2 M for Heavy Equipment Replacement Program

- Aging equipment, some from early 1980's, requires costly repairs, and needs replacement at a cost of $60 M
- **Required Heavy Equipment:**

Dozers	Mowers
Dump Trucks	Scrapers
Excavators	Service Trucks
Graders	Tractors
Haulers	Water trucks
Loaders	

Flood Control Program

Rio Grande Flood Control Program $889 M is needed for 172 miles

High Priority – Due to FEMA accreditation for flood control protection in highly populated areas, levee failure, and rehabilitation of aquatic sites

- 24.2 miles of levees and levee gaps $105 M

Medium Priority – Based on value/benefit, complexity/constraints, and risk/safety

- 16.32 miles of levees and gaps $56 M

Low Priority – Based on value/benefit, complexity/constraints, and risk/safety

125.23 miles of levees and gaps $728 M

Tijuana River

- Tijuana River Levee Construction $40 M is needed for 3.77 miles

Levee Rehabilitation:

- Raising and rehabilitating levees to meet FEMA standards
- Communities with FEMA-accredited levees pay less for flood insurance
- $220+ million spent on region's levee projects since 2009

Safety of Dams and Facility Renovation

- Safety of Dams: $200 M
- Facilities Renovation: $31 M is needed for 61 facilities

Amistad Dam - Del Rio, TX

Admin Building – Mercedes, TX

Tijuana River Levees – San Diego, CA

Enterprise Asset Management Plan

Challenges

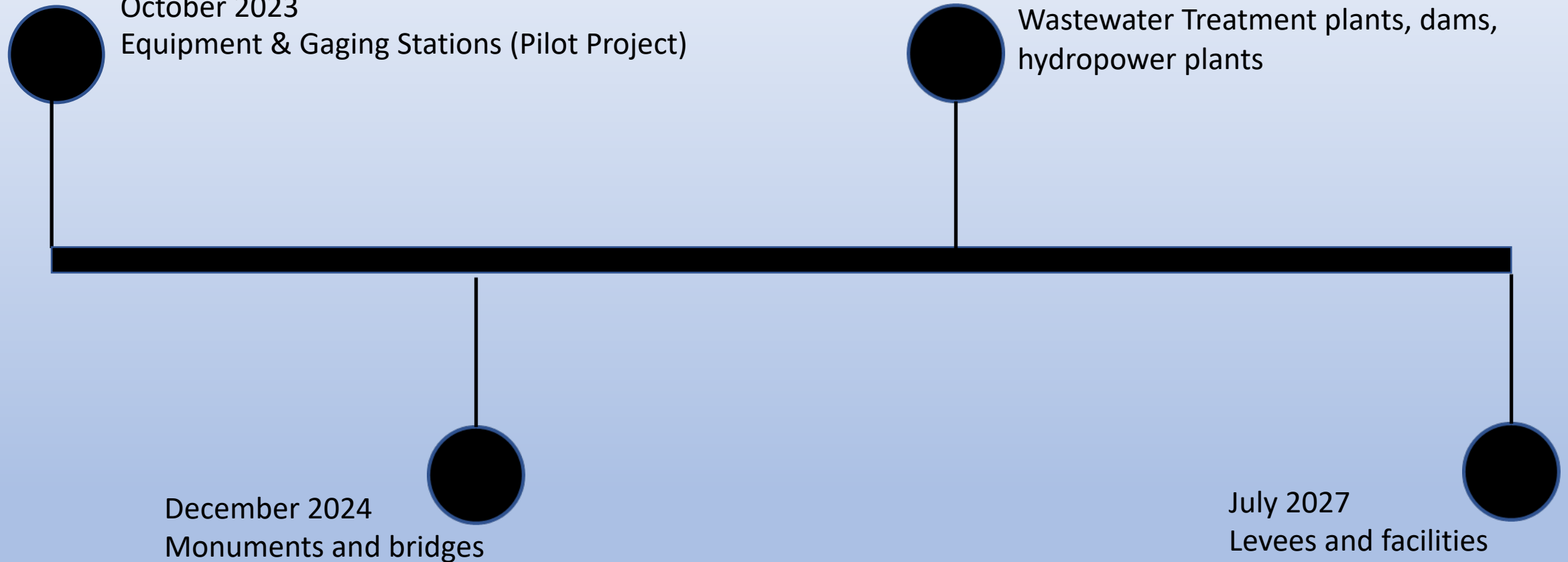
- Aging Infrastructure
- Budget & Personnel Constraints
- Increasing Demands
- Natural Disasters

VS

Solutions

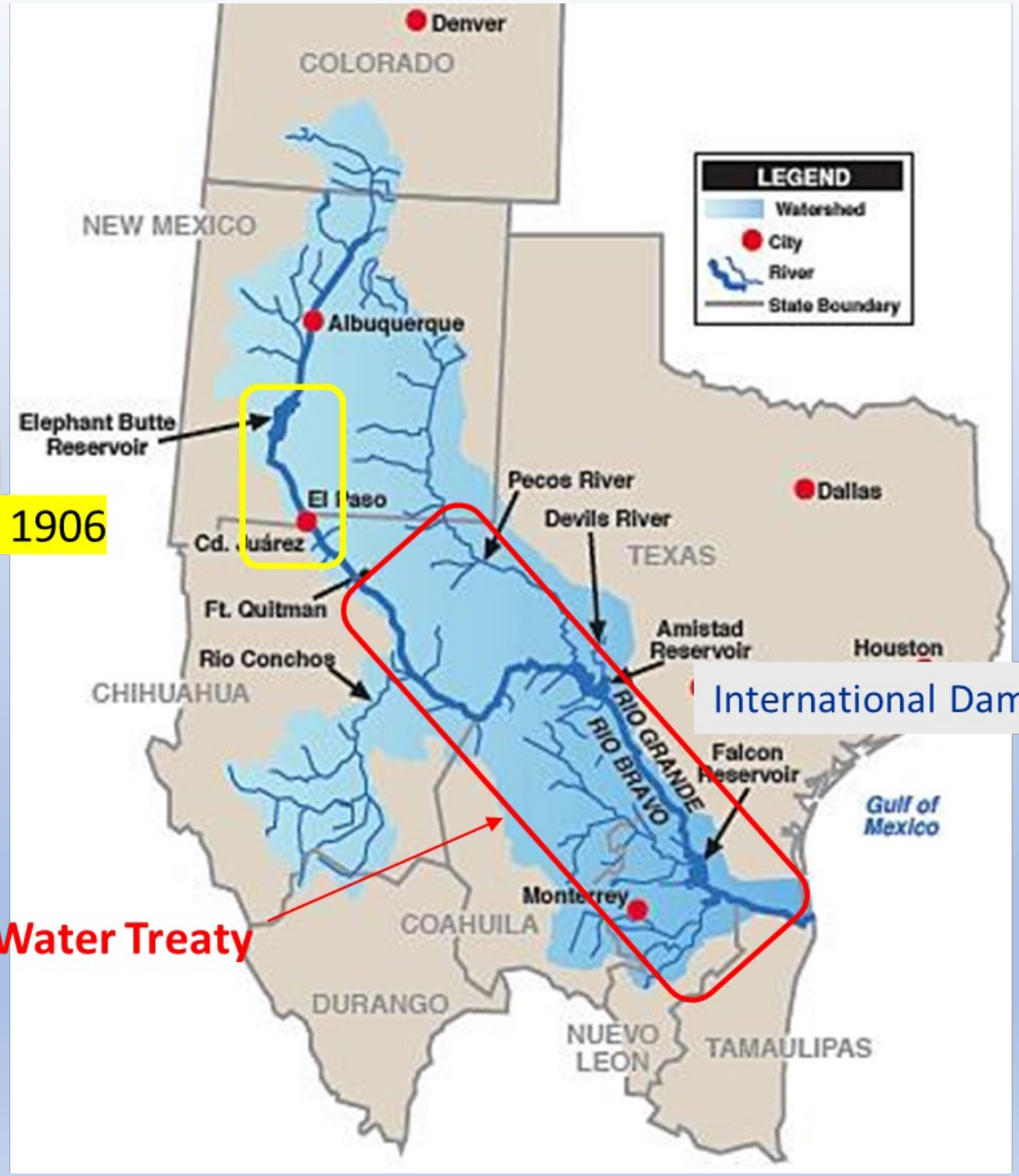
- Capital Planning
- Interactive software
- GIS Applications
- Data Collection
- Data Processing
- Monitoring
- Work Orders
- Predict Failures

Enterprise Asset Management



Water Deliveries

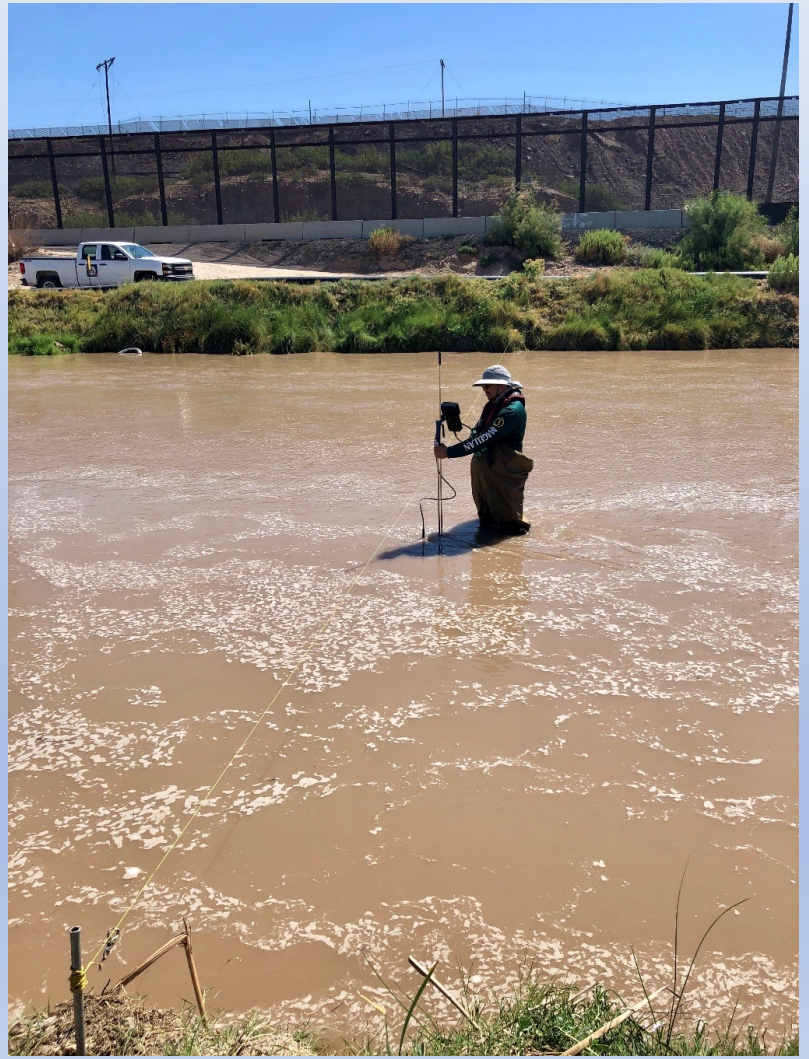
El Paso-Juarez Convention of 1906



International Dams

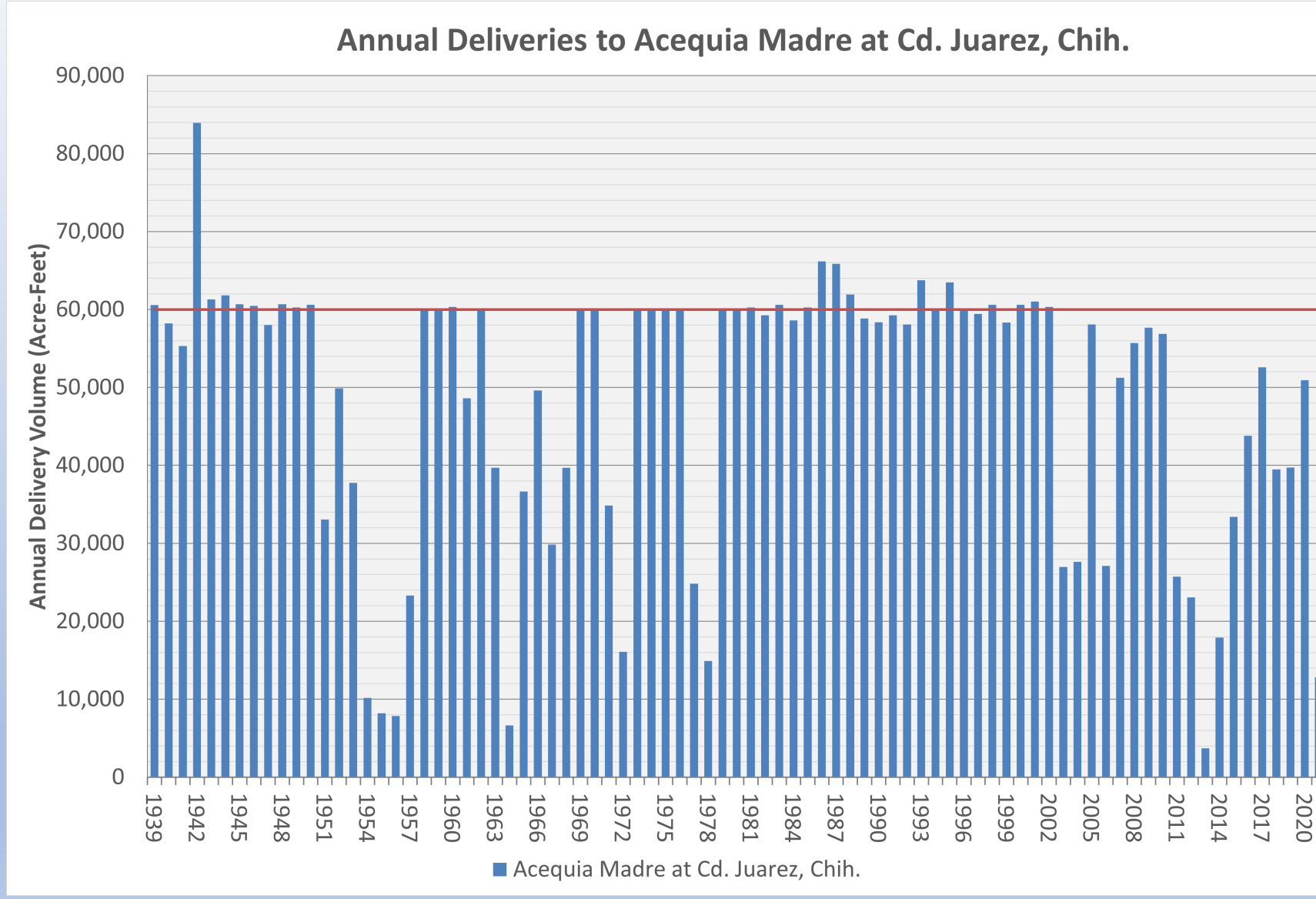
1944 Water Treaty

Convention of 1906

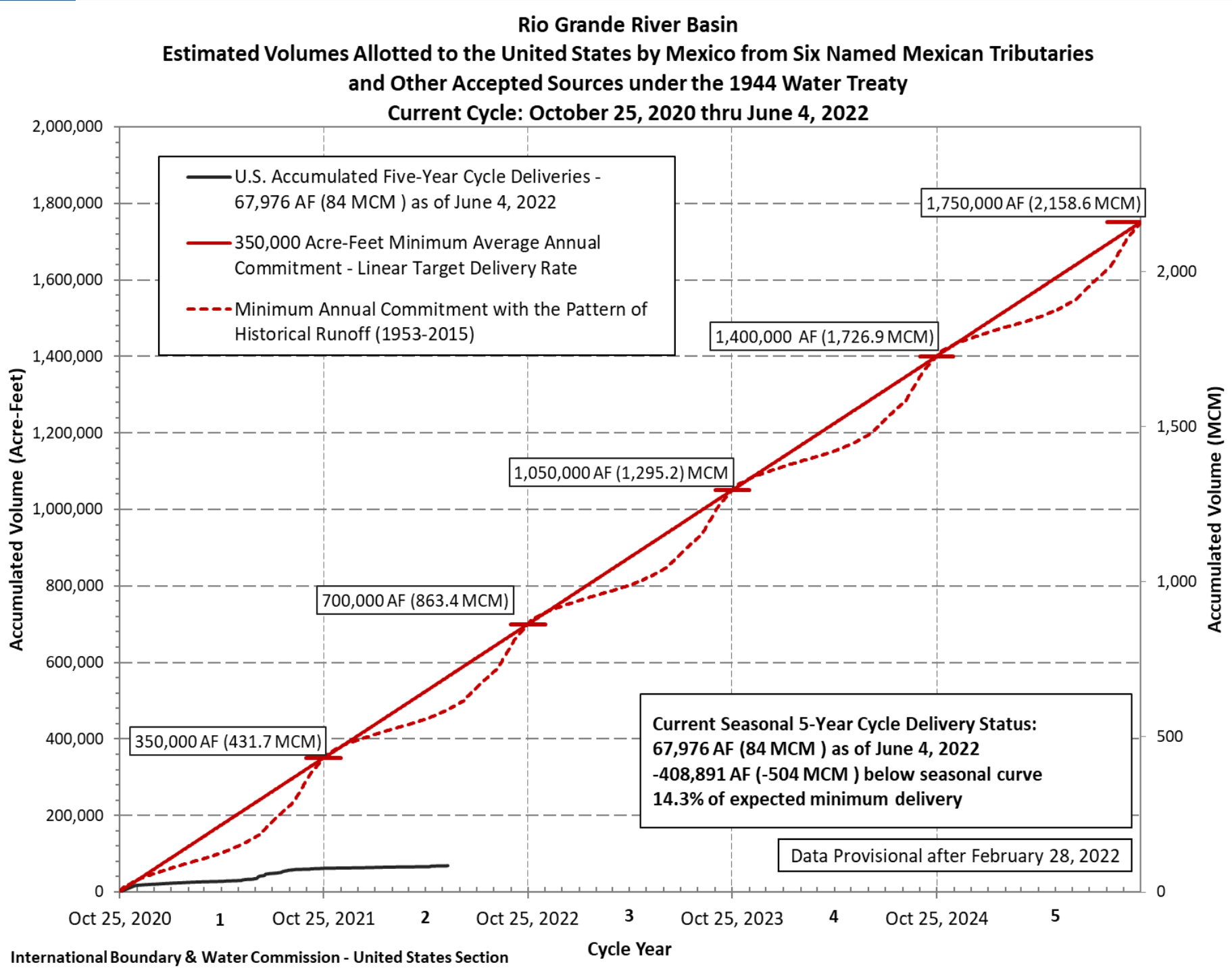


- **Useable Project Water in Storage (USBR):**
  - Feb. 2022: 258,535 acre-feet
  - Feb. 2021: 200,177 acre-feet
  - Feb. 2020: 630,108 acre-feet
- **Initial Allocation to Mexico: 12, 428 acre-feet = 20.7% of a full allocation**
- **Irrigation season started June 1st**
- **Annual station inspection with USBR, EBID, and EP#1 conducted in March.**
- **IBWC will continue to host monthly meetings to ensure binational coordination of deliveries.**

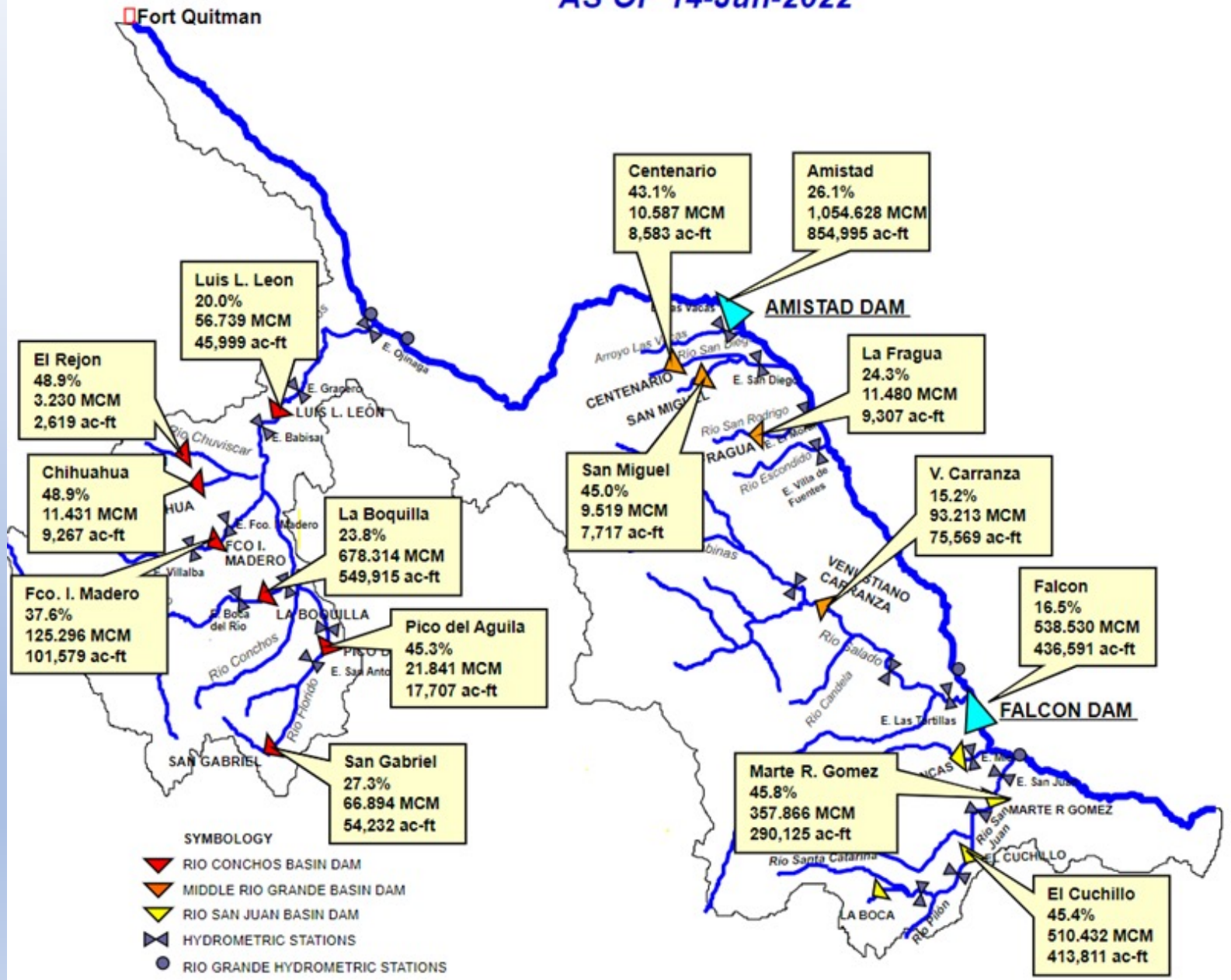
Convention of 1906 Deliveries (1939-2021)



1944 Water Treaty



SELECT DAMS OF THE RIO GRANDE BASIN
AS OF 14-Jun-2022



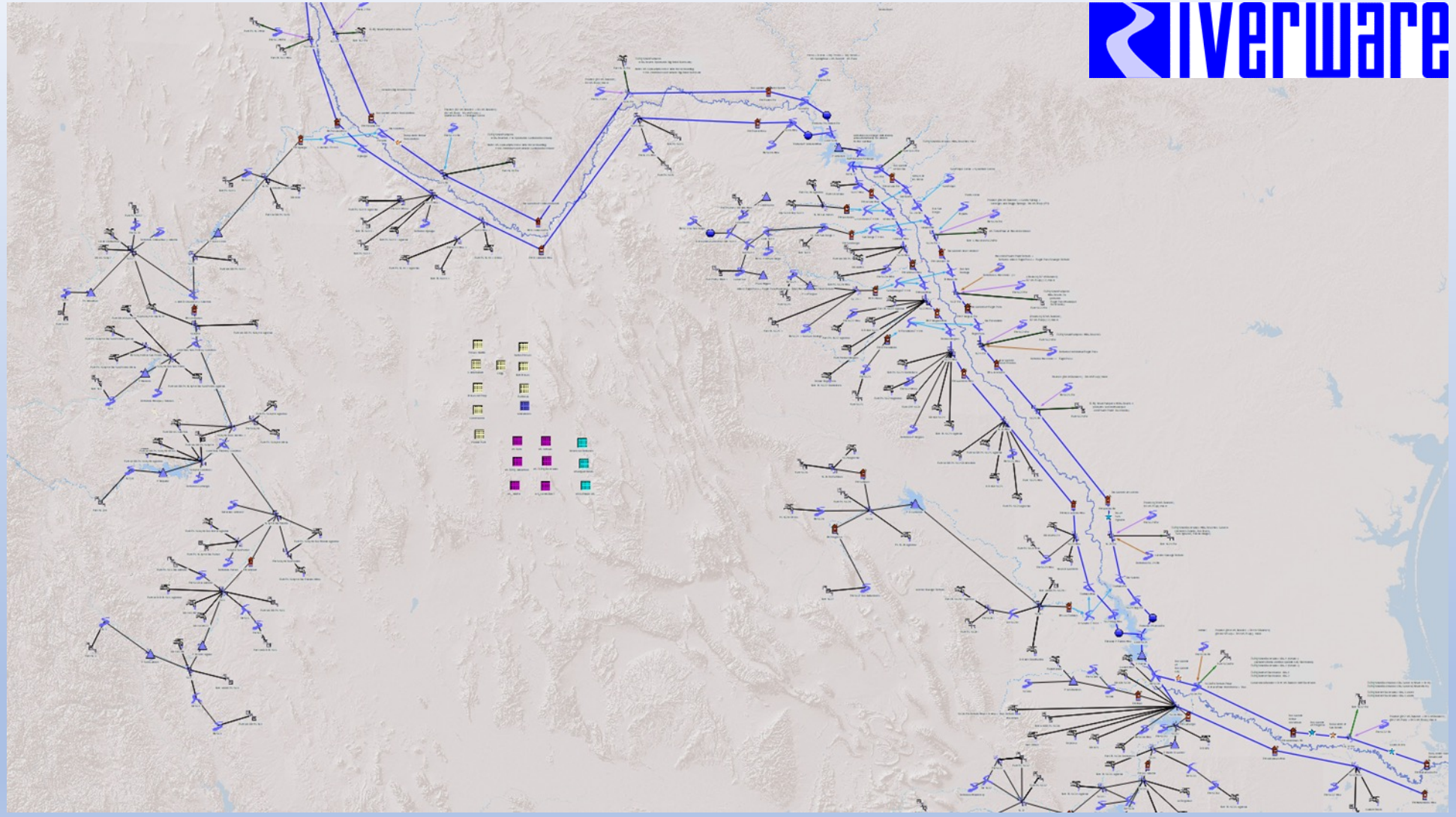
Cooperation on the Rio Grande

Minute 325

The Commission met at 10:00 a.m. on October 21, 2020 in Ciudad Juarez, Chihuahua near International Monument No. 1 to consider measures to end the current Rio Grande water delivery cycle without a shortfall, to improve the predictability and reliability of Rio Grande water deliveries to users in the United States and Mexico, and to permit the adoption of measures that may supply the municipal water needs of Mexican communities located along the Rio Grande downstream from Amistad International Dam in the event of an emergency

“ … to improve the predictability and reliability of Rio Grande water deliveries to users in the United States and Mexico…”

Cooperation on the Rio Grande – Minute 325



Calibration underway
Scenarios will be analyzed considering impacts in both countries
Policy work group and Hydrology workgroup formed

1944 WATER TREATY–COLORADO RIVER

- U.S. to deliver to Mexico a volume of 1.5 maf/yr
- When there are surplus waters, U.S. to deliver to Mexico a total volume of up to 1.7 maf/yr
- In extraordinary drought, Mexico reduced in proportion to U.S.

Cooperation on the Colorado River

- Signed Nov. 20, 2012
- 5-year pilot agreement thru 2017
- Key provisions:
  - **Investment** in water conservation
  - **Conserved volumes** of Mexican water in Lake Mead to be held in the US for future delivery
  - **Reduced water deliveries** in the event of low levels at Lake Mead
  - **Increased water deliveries** in the event of high levels at Lake Mead
  - Allows Mexico to defer annual water deliveries until it repairs **earthquake damage**
  - Water for the **environment**
  - Establishes binational work groups

The bleached lakeshore of Lake Mead at Hoover Dam provides a stark illustration of the declining reservoir level.

Cooperation on the Colorado River

Accomplishments – Minute 319

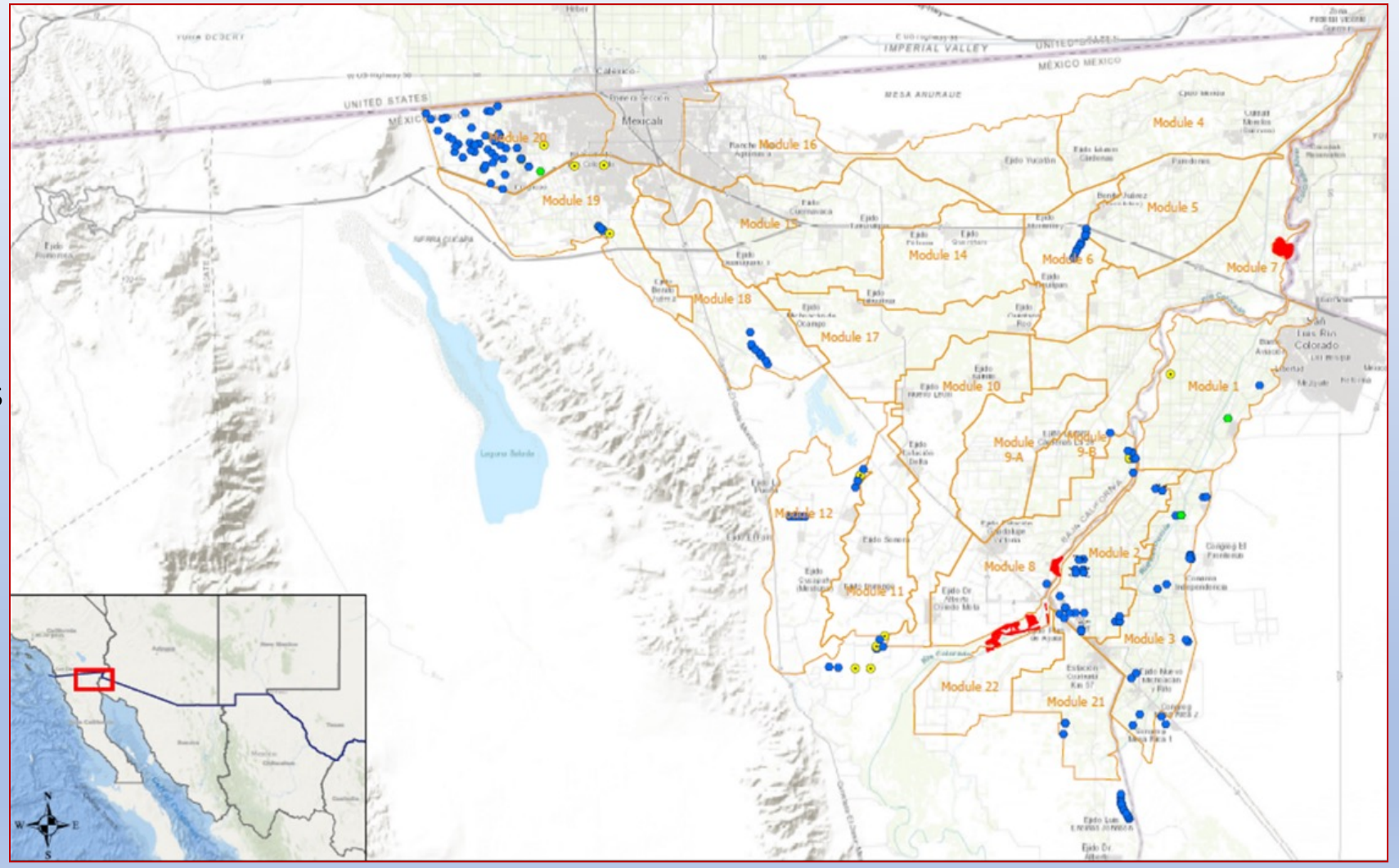
- **$21 M USD** invested in water conservation and environmental projects in Mexico
- Mexico made available **124,000 acre-feet to the US** in exchange for the investment
- Delivered **158,088 acre-feet** of water for environmental purposes
- Created **1,100 acres** of enhanced riparian habitat
- Successful pilot project that provided a **model for binational cooperation**

Laguna Grande Restoration Site

Cooperation on the Colorado River

Minute 319 Projects

- Canal lining – 29 miles
- Canal reconstruction – 2 miles
- Canal encasement – 5 miles
- New canals – 4 miles
- Structure modernization – 5 gates
- Land leveling – 2,471 acres
- Telemetry Systems – 21 sites
- Well projects – 5



Projects Map

What's Next for the Rio Grande?

White Paper – Conserving Water and Creating New Water Sources

Scope of Work

- Review **existing studies/reports** on Minutes 319 & 323 on the Colorado River and **conduct interviews** to assess the success and shortcomings of water conservation efforts
- Review **existing studies/reports on Rio Grande** treaty water deliveries
- **Conduct interviews** to assess the success and shortcomings of deliveries to/from Mexico
- For the Rio Grande, **review existing proposals** for a binational effort to develop water conservation, new water sources & movement of water between countries (such as water markets)
- Review **proposals by MxIBWC** and others to increase deliveries to the Rio Grande
- Assess **existing legal structures and hurdles**, feasibility, strengths, and challenges of potential approaches
- Proposed **recommendations** based on analysis

Questions and Discussion

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