INTERNATIONAL BOUNDARY AND WATER COMMISSION

UNITED STATES SECTION

Region M Planning Meeting

February 21, 2024

Dr. Maria Elena Giner, P.E.

USIBWC Commissioner

- Update on 5Yr Cycle Deliveries
- Current Mexican Dam Storage
- Current International Dam Storage
- Actions USIBWC is Taking
    - Operational Constraints and Near-Term Projections
- Rio Grande Minute Update

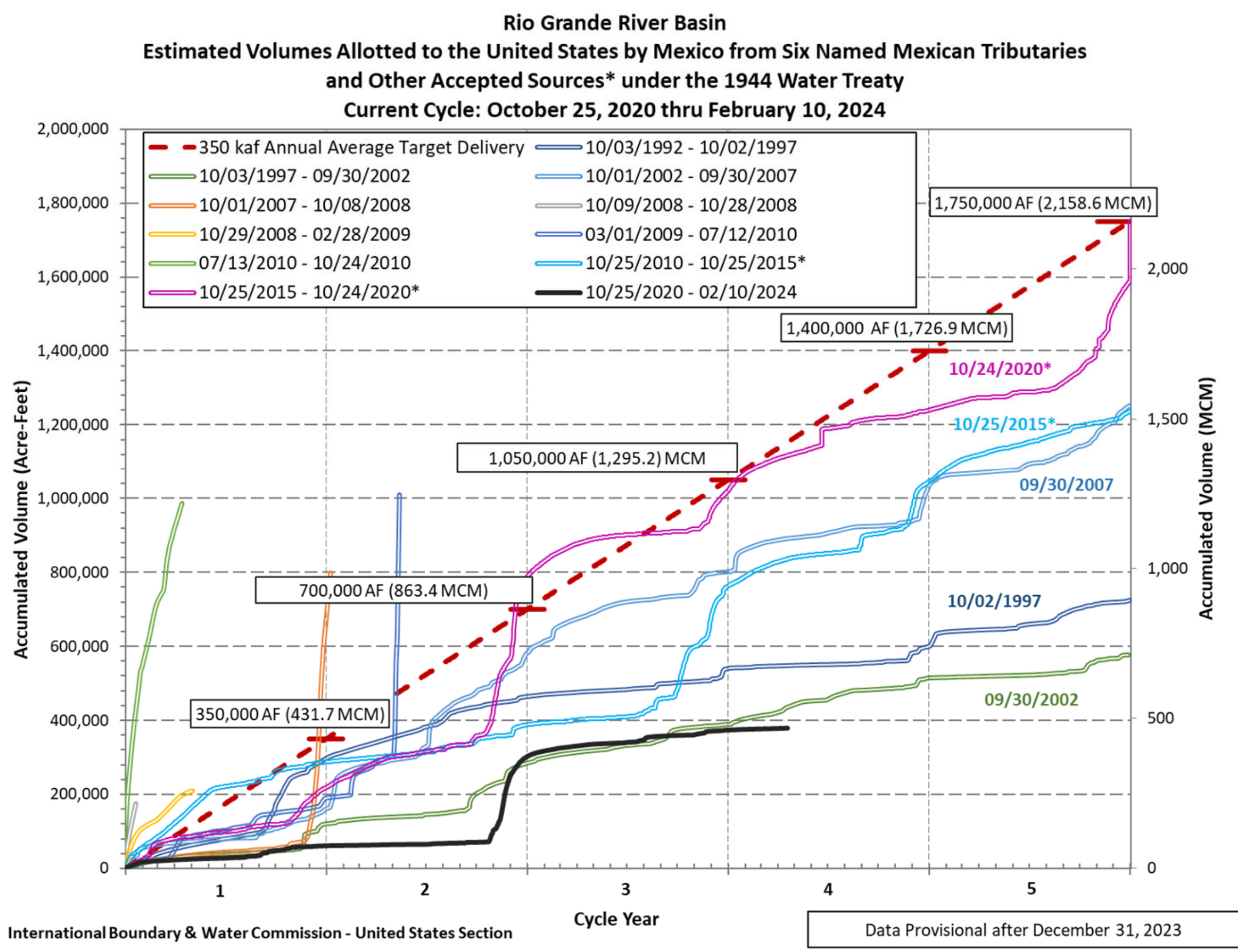
1944 Water Treaty – 5YR Cycle Deliveries

5yr Cycle Deliveries (February 10, 2024)

- Cycle Year 1 – 61,161 AF (75.441 MCM)
- Cycle Year 2 – 240,266 AF (296.4 MCM)
- Cycle Year 3 – 72,522 AF (89.5 MCM)
- Cycle Year 4 – 4,906 AF (6.1 MCM)

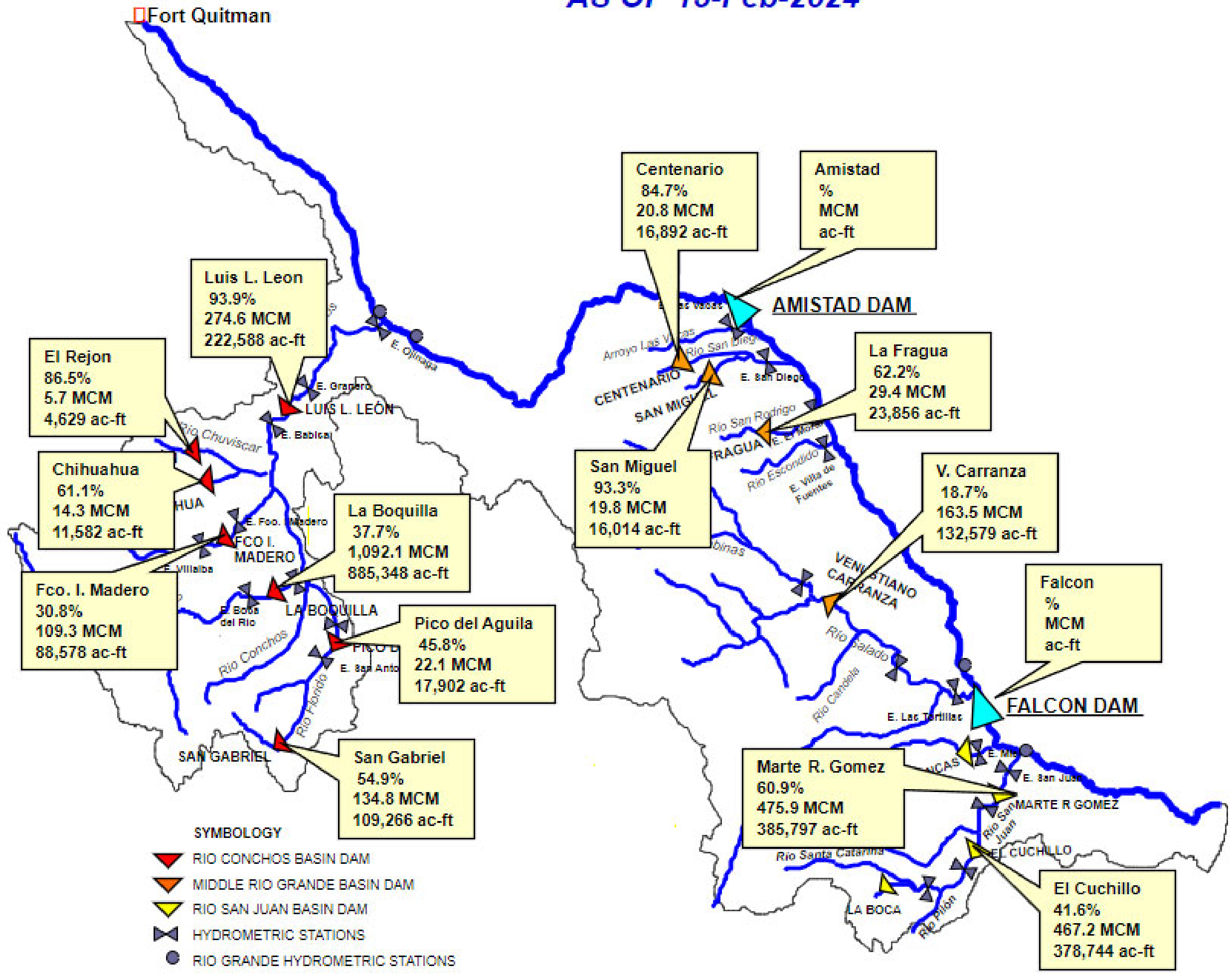
- Cycle to date – 378,855 AF (467.3 MCM)

- 740,424 AF (913 MCM) below seasonal curve
- 33.8% of expected minimum seasonal deliveries



- Rio Conchos
  - 1,222,000 af
  - 1,507.9 mcm
  - 40.0% Full
- Middle Tribs.
  - 187,390 af
  - 231.1 mcm
  - 23.7% Full

SELECT DAMS OF THE RIO GRANDE BASIN AS OF 15-Feb-2024



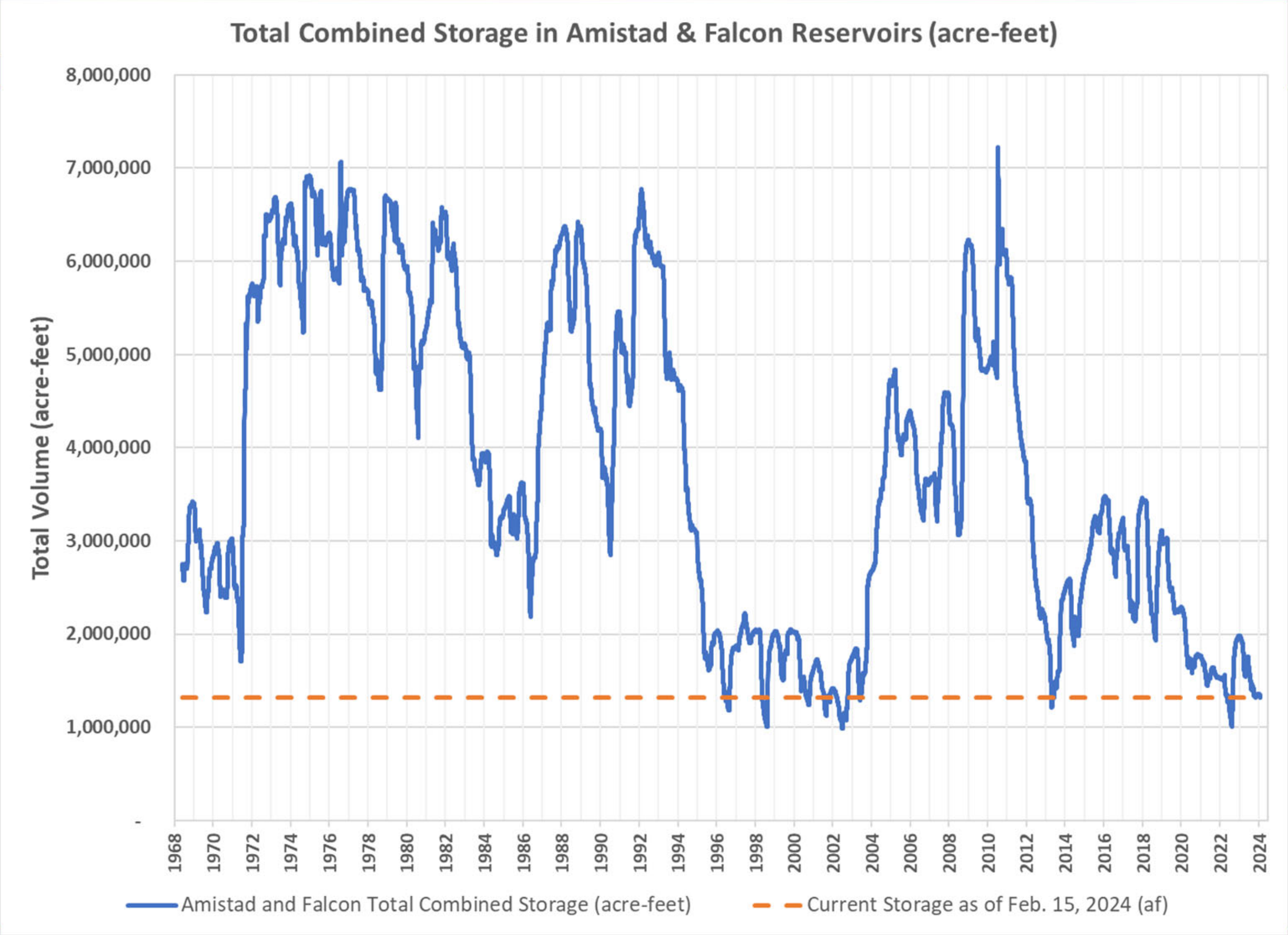
Ownerships as of Feb. 10, 2024

U.S. Storage

	%cap	TCM	Acre-Ft
Amistad	26.9%	602,000	488,000
Falcon	15.9%	307,000	249,000
Total	21.8%	909,000	737,000

Mx. Storage

	%cap	TCM	Acre-Ft
Amistad	19.8%	346,000	281,000
Falcon	26.9%	366,000	297,000
Total	22.9%	712,000	578,000



Actions Taken - Why

- Historic Low Reservoir Levels
- March 2023 – Release requests at Falcon Dam exceeded the release capability of dam.
- Recognition of drying conditions in the Rio Grande Basin
- Shortfall in 5-year cycle delivery from Mexico
- Similar operational constraints shared by Reclamation on dams in Colorado River
- Increase Predictability and Reliability for users

ACTIONS TAKEN

- Reviewed Operational Constraints of Amistad Dam and Falcon Dam
- Created diagram of each dam and identified critical elevations:
  - -Maximum water surface
  - -Top of normal flood control pool
  - -Top of conservation pool
  - -Spillway crest
  - -Power pool
  - -Dead Pool
- Identified release capability at each critical elevation
- Met with the Mexican Section to reach preliminary consensus on diagram (critical elevations and maximum releases)
- Identified new temporary dead pool due to non-operable U.S. outlet at Amistad

Actions Taken

Researched basis of 1944 Treaty

- How the 1944 Treaty was negotiated, what the science used was, and how it was to be implemented.
- 5-Year Commitment by Mexico
  - Rio Grande is Unpredictable.
  - Model Projections Showed Delivery Years < 350,000 ac-ft
  - Annual Deficits Were Expected
  - Model Projections Showed Debts at the end of 5Yrs was Possible
  - Testimony Proposed > 2/3 Share

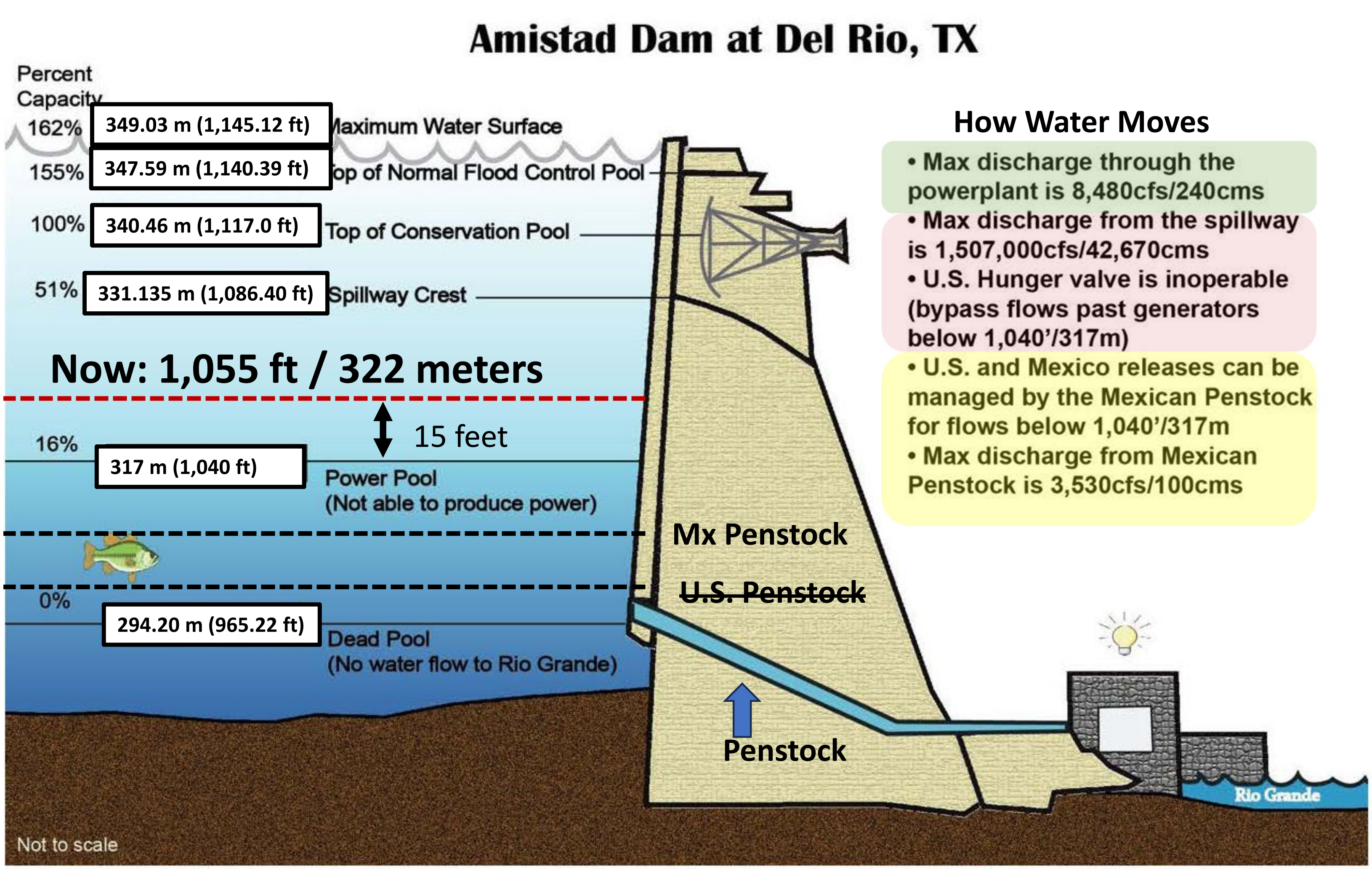
ACTIONS TAKEN

- Negotiating Rio Grande Minute
- Increased Stakeholder Outreach
- Engagement with Congressional representatives and staff
- Engagement with Department of State
- Near Term Projections at Amistad Dam

Temporary Dead Pool Change

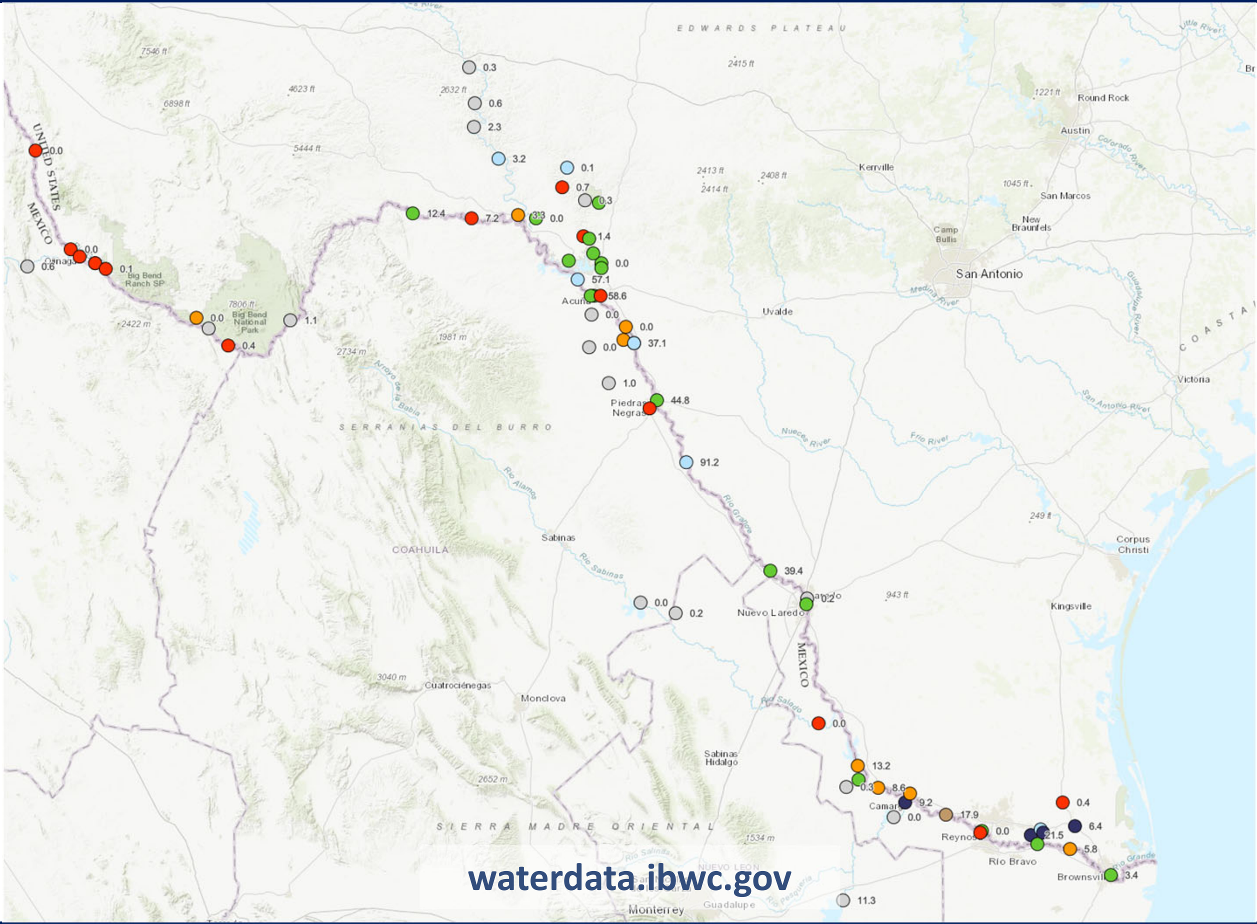
- Calculated the loss of storage volume due to increase in elevation for temporary dead pool
- Total Loss of Storage: 32,729 acre-feet
  - 10 acre-feet Falcon Dam
  - 32,719 acre-feet Amistad Dam
  - Split by conservation capacity at each dam. For U.S., 56.2% (18,388 ac-ft) at Amistad Dam and 58.6% (6 ac-ft) at Falcon Dam
- Loss of Storage for U.S: 18,394 acre-feet (<u>new temporary dead pool volume</u>)
- Previous Dead Pool Used by TCEQ: 4,600 acre-feet
- Communicated increase in temporary dead pool storage to TCEQ in letter dated January 31, 2024
- Effective until U.S. outlet at Amistad Dam is operational. Estimated project completion is end of April 2025

Amistad Critical Elevations



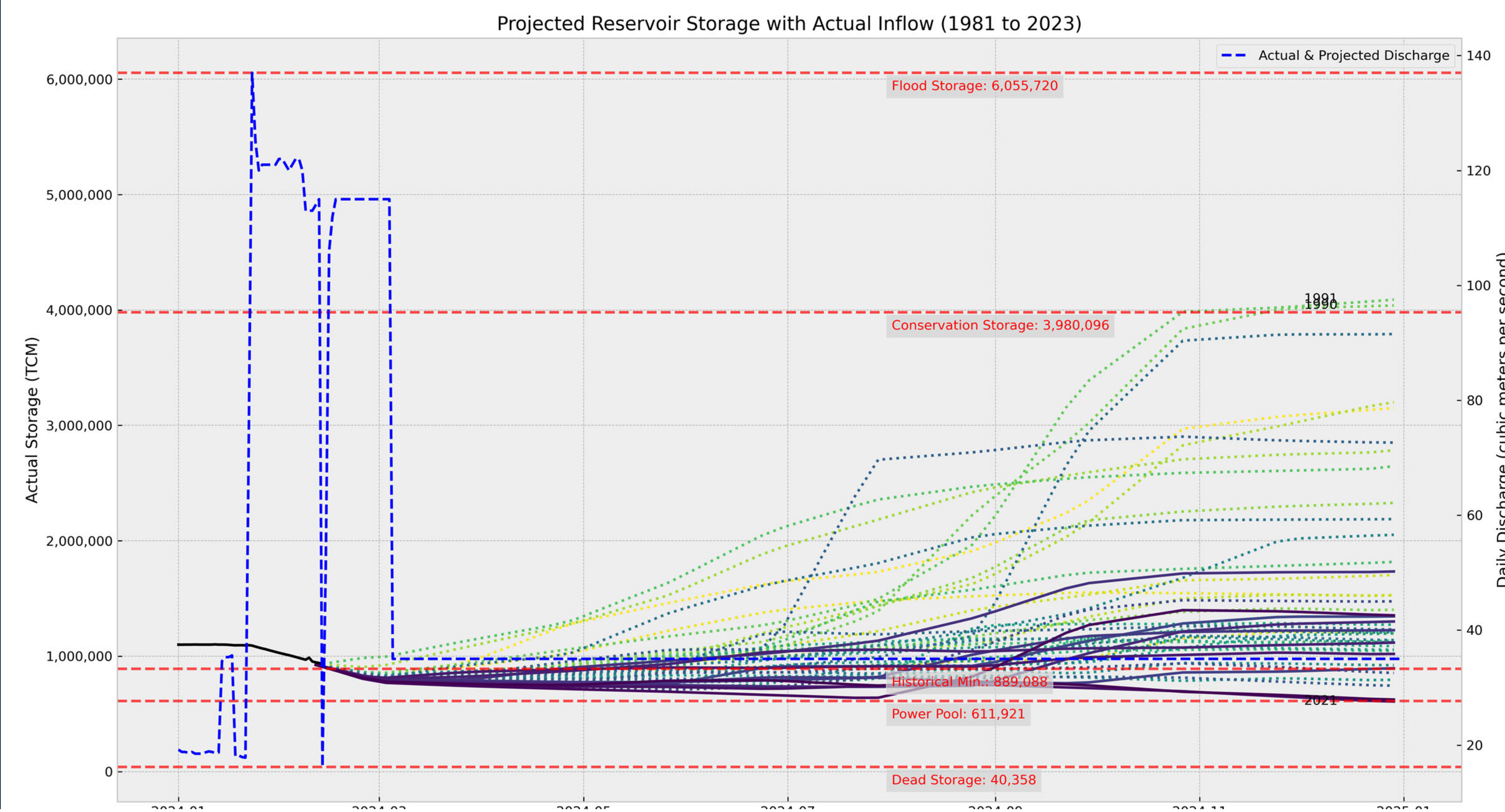
DATA PROGRAM

- IBWC maintains a stream gaging network along the U.S./Mexico border.
- River data are transmitted from stream gages 24/7 via GOES satellite.
- Discharge, water surface, and reservoir storage/ownership data are available on our website at: https://waterdata.ibwc.gov



Amistad Reservoir Projections

- **What Do We Know?**
  - Today's storage in Amistad Reservoir (~750,000 af)
  - Expected Releases through Early March and "Normal" release
  - Actual Historical Inflows (1981 to 2020)
- **What can we Do?**
  - Start With Our Storage Today
  - Model future storage based on historical inflow and planned release
    - Scenario 1: Today's Storage + February 1981 + March 1981…
    - Scenario 2: Today's Storage + February 1982 + March 1982…
  - Pretend 1981 Happened Today; Pretend 1982 Happened Today; and so on.
- **Where do we end up? (What is our Risk?)**


Projected Reservoir Storage with Actual Inflow (1981 to 2023)
Actual & Projected Discharge
Flood Storage: 6,055,720
Conservation Storage: 3,980,096
Historical Min.: 889,088
Power Pool: 611,921
Dead Storage: 40,358
1991
1990
2021
Actual Storage (TCM)
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
140
120
100
80
60
40
20

Projections vs. Reality – Last 70 Years (or so)

	1944 Water Treaty Projections		After Treaty Signed (1950s-2020s)		Differences Projected vs. Performance	
	1944 "Future" (ac-ft)	*1944 "Future" (%)*	*Since Treaty Was Signed (ac-ft)*	*Since Treaty Was Signed (%)*	*Diff. from "Future" (ac-ft)*	*Diff. from "Future" (%)*
U.S. Allotments						
U.S. Tributary Inflows	966,000	24.1%	850,000	21.1%	(116,000)	-2.9%
Mx Tributary Inflows	**385,000**	9.6%	**379,000**	9.4%	(6,000)	-0.1%
1/2 Unmeasured Tribs.	703,000	17.5%	811,000*	20.2%	108,000	2.7%
Subtotal	**2,054,000**	**51.2%**	**2,040,000**	**50.7%**	**(14,000)**	-0.3%
Mx Allotments						
Mx Tributary Inflows	1,258,000	31.3%	1,172,000	29.1%	(86,000)	-2.1%
1/2 Unmeasured Tribs.	703,000	17.5%	811,000*	20.2%	108,000	2.7%
Subtotal	**1,961,000**	**48.8%**	**1,984,000**	**49.3%**	**22,000**	0.5%
Total	**4,015,000**	**100%**	**4,024,000**	**100%**	**8,000**	0.2%

Projected ***"How it's gone"***

Projections vs. Reality – Last 30 Years (or so)

	1944 Water Treaty Projections		After Treaty Signed (1990s-2020s)		Differences Pre/Post Treaty "Now"	
	1944 "Future" (ac-ft)	*1944 "Future" (%)*	*"Now" (ac-ft)*	*"Now" (%)*	*Diff. from "Future" and "Now" (ac-ft)*	*Diff. from "Future" and "Now" (%)*
U.S. Allotments						
U.S. Tributary Inflows	966,000	24.1%	752,000	21.6%	(214,000)	-5.3%
Mx Tributary Inflows	385,000	9.6%	315,000	9.1%	(70,000)	-1.7%
1/2 Unmeasured Tribs.	703,000	17.5%	747,000	21.5%	44,000	1.1%
Subtotal	**2,054,000**	**51.2%**	1,813,000	52.1%	(240,000)	-6.0%
Mx Allotments						
Mx Tributary Inflows	1,258,000	31.3%	918,000	26.4%	(340,000)	-8.5%
1/2 Unmeasured Tribs.	703,000	17.5%	747,000	21.5%	44,000	1.1%
Subtotal	**1,961,000**	**48.8%**	1,664,000	47.9%	(296,000)	-7.4%
Total	**4,015,000**	**100%**	3,477,000	86.6%	(536,000)	-13%

Projected ***"How is it going right now"***

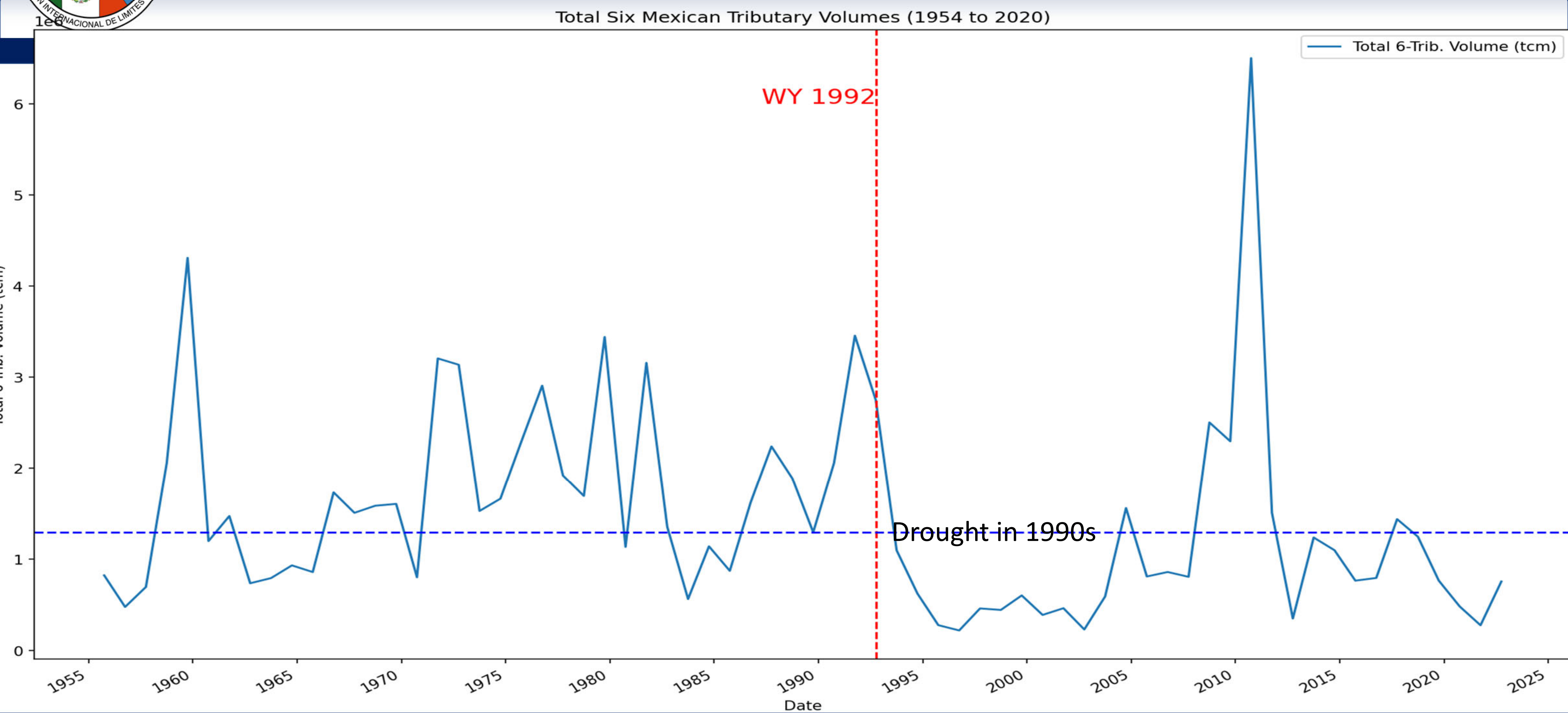
1944 Treaty Performance

Projections vs. Reality – Last 30 Years (without Alex)

	1944 Water Treaty Projections		After Treaty Signed (1990s-2020s)		Differences Pre/Post Treaty "Now"	
	1944 "Future" (ac-ft)	*1944 "Future" (%)*	*"Now" (ac-ft)*	*"Now" (%)*	*Diff. from "Future" and "Now" (ac-ft)*	*Diff. from "Future" and "Now" (%)*
U.S. Allotments						
U.S. Tributary Inflows	966,000	24.1%	752,000	22.5%	(214,000)	-5.3%
Mx Tributary Inflows	385,000	9.6%	269,000	8.1%	(116,000)	-2.9%
1/2 Unmeasured Tribs.	703,000	17.5%	747,000	22.4%	44,000	1.1%
Subtotal	**2,054,000**	**51.2%**	1,767,000	52.9%	(240,000)	-7.1%
Mx Allotments						
Mx Tributary Inflows	1,258,000	31.3%	827,000	24.8%	(431,000)	-10.7%
1/2 Unmeasured Tribs.	703,000	17.5%	747,000	22.4%	44,000	1.1%
Subtotal	**1,961,000**	**48.8%**	1,574,000	47.1%	(387,000)	-9.6%
Total	**4,015,000**	**100%**	3,341,000	83.2%	(673,000)	-17%

Projected ***"How is it going right now"***

5 Year Cycle Treaty Analysis



Next Steps and Future Development

- Amistad-Falcon System Projections
- Projected Future Ownerships
- More Timely Ownership Estimates
  - Currently 3 to 5 day lag after week ends
  - Won't Replace Preliminary Weekly for Allocations
- Updates to our website
- Long-Term Goal – Daily Operations Model

NEXT STEPS

- Exchange of letters with Mexican Section to formalize identified critical elevations identified in diagrams and elevations based on 2014 bathymetric study
- Publish diagrams for each dam on USIBWC website
- Commission Joint Report to establish criteria to follow at critical elevations and competing release requests
  - Establish criteria on how releases will be split
  - Formal Communication plan between the two sections on releases
  - Requires each section to communicate with the respective water authorities when near power pool elevation

RIO GRANDE MINUTE TEAM (RGMT)

- IBWC Commissioners established RGMT to negotiate the new Minute; (
- **Goal:** **Negotiate a new Minute by Dec. 2023 to increase the predictability and reliability of Rio Grande water deliveries to users in both countries**
- **Members**
  - **United States:** IBWC and State of Texas
  - **Members:** CILA and CONAGUA
  - **Observers:** Department of State and Secretariat of Foreign Relations
- **Supported by** Rio Grande Policy Workgroup and Hydrology Work Group binational model to analyze water delivery scenarios

July 14 RGMT meeting in El Paso, TX

Overarching Principles

- Status quo is not working
  - Break the pattern of debt since the 1992-97 cycle
- Facilitate earlier deliveries – legal path forward for Mexico
- Collaboration between countries
  - Both Sections have to agree to application of certain provisions
  - Water needs to be put to beneficial use
- Transparency through dialogue and science
  - Agreement to fundamentals of the system
- Understand the impact to Texas stakeholders
- "Growing the Pie"
- Manage the Basin with Texas as a user

KEY ELEMENTS

- Existing Workgroups
  - Codifies existing binational **Lower Rio Grande Water Quality Initiative** (LRGWQI) which addresses water quality concerns
  - Emphasizes the continued role of the **Hydrology Work Group** to analyze scenarios and of the **Policy Work Group** to recommend future actions.
- New Workgroups
  - **Projects** – consider development of water conservation and new water sources projects (*grow the pie*)
  - **Environment** – Focus is on Big Bend area
- Operational Improvements
  - Improved coordination on demand and releases from **Amistad and Falcon Dams** that highlights physical constrains and formalizes a process
  - Define when **a five-year cycle** begins to ensure beneficial use
  - IBWC can modify **conservation capacities** temporarily in the international reservoirs (Amistad and Falcon) to store more water/establish a seasonal pool for use in dry season

-------------------------- All points under negotiation ---------------------------------

Key Elements (Cont'd)

Advancing from the Status Quo

- Affirm that Mexico must meet its delivery obligations in a **5-year cycle (not 10 years)** unless there is extraordinary drought or serious accident.
- **Change in management of watershed** by releasing from Mexico's interior reservoirs volumes of water.
- Provide new tools to Mexico to facilitate water deliveries to the United States
  - Opportunity to allot to the U.S. a **greater than 1/3 share** from the 6 tributaries (use Minute 234 in any cycle)
  - Allow **transfer from Mexican ownership to U.S. ownership** at Amistad and Falcon reservoirs (use Minute 234 in any cycle)
  - Incentivize Mexico to deliver water earlier in the cycle (**potential credit** for water delivered above 1/3 share from 6 tributaries or reservoir transfers if Mexico exceeds 1.75 maf in deliveries)
  - Consider deliveries from the **San Juan and Alamo Rivers** to address a shortfall if agreed to by the U.S.
- Minute is a **5-year pilot** unless extended or changed by another minute.

------------------------- All points under negotiation ---------------------------------

STATUS OF THE MINUTE

- The Minute has been **drafted**.
- The USIBWC has received **authorization** from the Department of State to sign it.
- In Mexico, officials in the states of **Chihuahua and Tamaulipas** expressed concern about the Minute, so Mexico's federal government undertook additional consultations with them.
- The proposed Minute is being reviewed by the highest levels of the **Mexican government.**
- As a result of those additional consultations in Mexico, they could seek **changes to the draft** Minute, which could require further negotiation with the USIBWC and review by the Department of State.
- **USIBWC and Department of State** continue to press Mexico to:
  - Sign the Minute as soon as possible.
  - Approve the Minute immediately thereafter (the Minute does not become effective until it is approved by the U.S. Department of State and the Mexican counterpart SRE)
  - Utilize the tools in the Minute to make immediate water deliveries to the United States.

WHY IS THIS IMPORTANT?

- Use of US/MX diplomacy through the **Minute process is the only mechanism** the United States has available to encourage compliance with the Treaty.
  - This new Minute **is REQUIRED by existing Minute 325**.
  - This new Minute is CRITICAL because it takes a progressive step forward, by encouraging Mexico's acknowledgment of the 5-year cycle (political pressure) and **gives Mexico legal tools** to meet the 5-year cycle (legal pressure), to encourage earlier cycle deliveries.
  - This new Minute is CRITICAL as it **builds a framework to grow the pie**…creating the start for potential conservation or new water projects for the benefit of both countries.
  - This new Minute is CRITICAL as it **expands science** for transparency and sound decision-making in the future.
- This Minute is not the endgame. The Commission will **continue to work on additional measures** to improve the reliability and predictability in Rio Grande water deliveries.

Questions?