

WHITNEY LAKE REALLOCATION STUDY, BOSQUE AND HILL COUNTIES, TX

Public Meeting
Aug 14, 2025



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THE FEASIBILITY STUDY PROCESS AND MILESTONES



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Whitney Lake Multiple Purpose Storage



571'

Top of Flood Pool Elevation

FLOOD POOL

533'

Top of Conservation Pool Elevation

CONSERVATION POOL

520'

Bottom of Conservation Pool Elevation

INACTIVE POOL

Bottom Line:

- The Top of Conservation elevation at 533' will not change.
- The Tentatively Selected Plan results in higher lake levels compared to historical levels seen from the early 1970s through 2014.

DAM

Turbine Penstock Inlet Invert

475'

Sluice Gate Inlet Invert

425'



WHAT IS THE PURPOSE OF THE STUDY?



- The USACE is studying the feasibility of reallocating some storage capacity or proportion of storage in Whitney Lake for the purpose of water supply.
- The reallocation is needed to provide water for municipal and industrial (M&I) users in response to population and industry growth.



WHAT IS A REALLOCATION?



A change in some amount of storage or proportion of storage in an existing reservoir, such as Whitney Lake, from its present use (in this case from hydropower) to M&I water supply as authorized by the Water Supply Act of 1958.

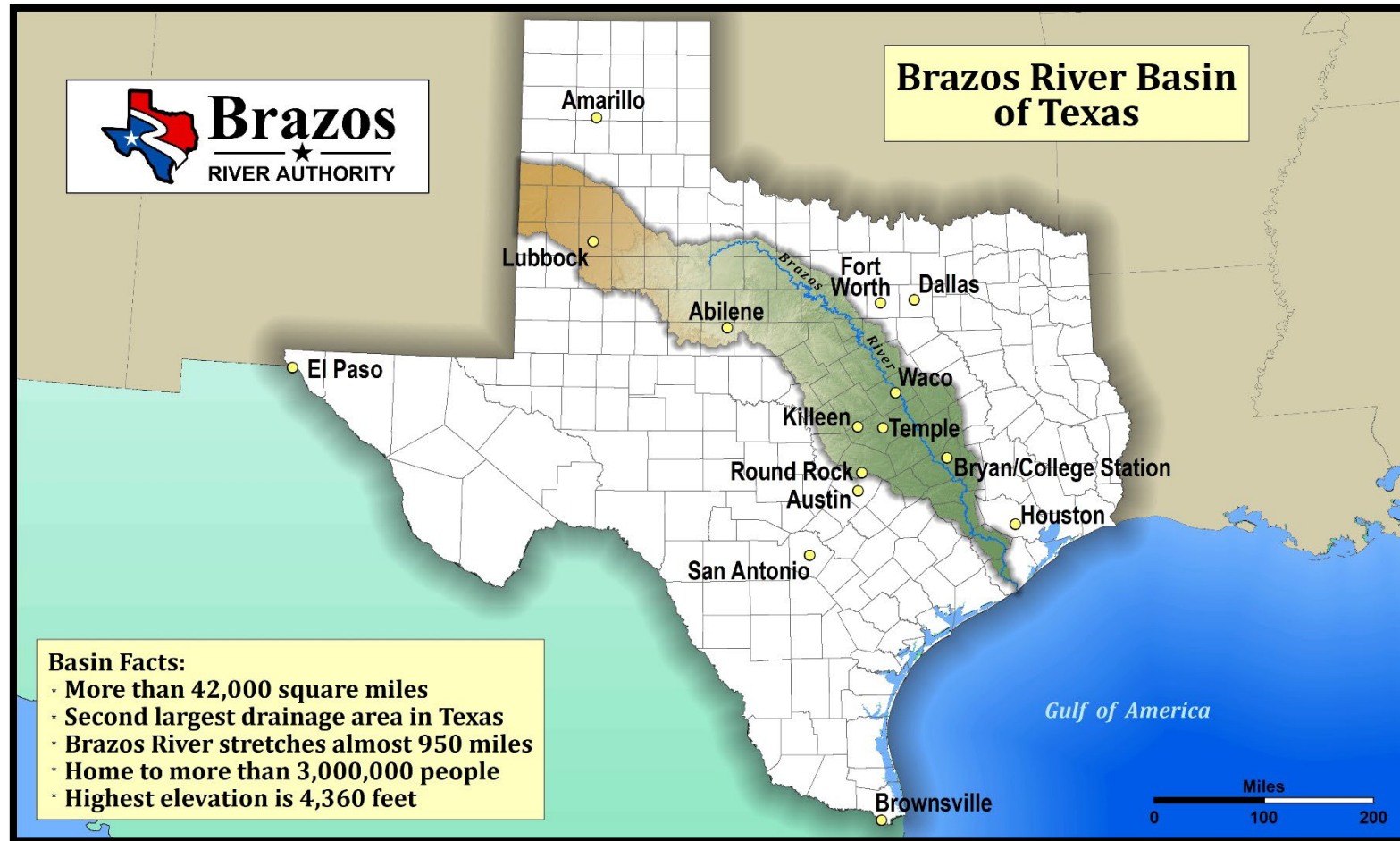


Brazos River Authority Overview

Our Mission

To develop, manage, and protect the water resources of the Brazos River basin

- **Created by the Texas Legislature in 1929**
- **Self-funded – does not levy or collect taxes**
- **21-member Board appointed by the Governor**
- **Holds a storage contract with the USACE for water supply in Whitney Lake**
 - **And in seven other USACE Reservoirs**

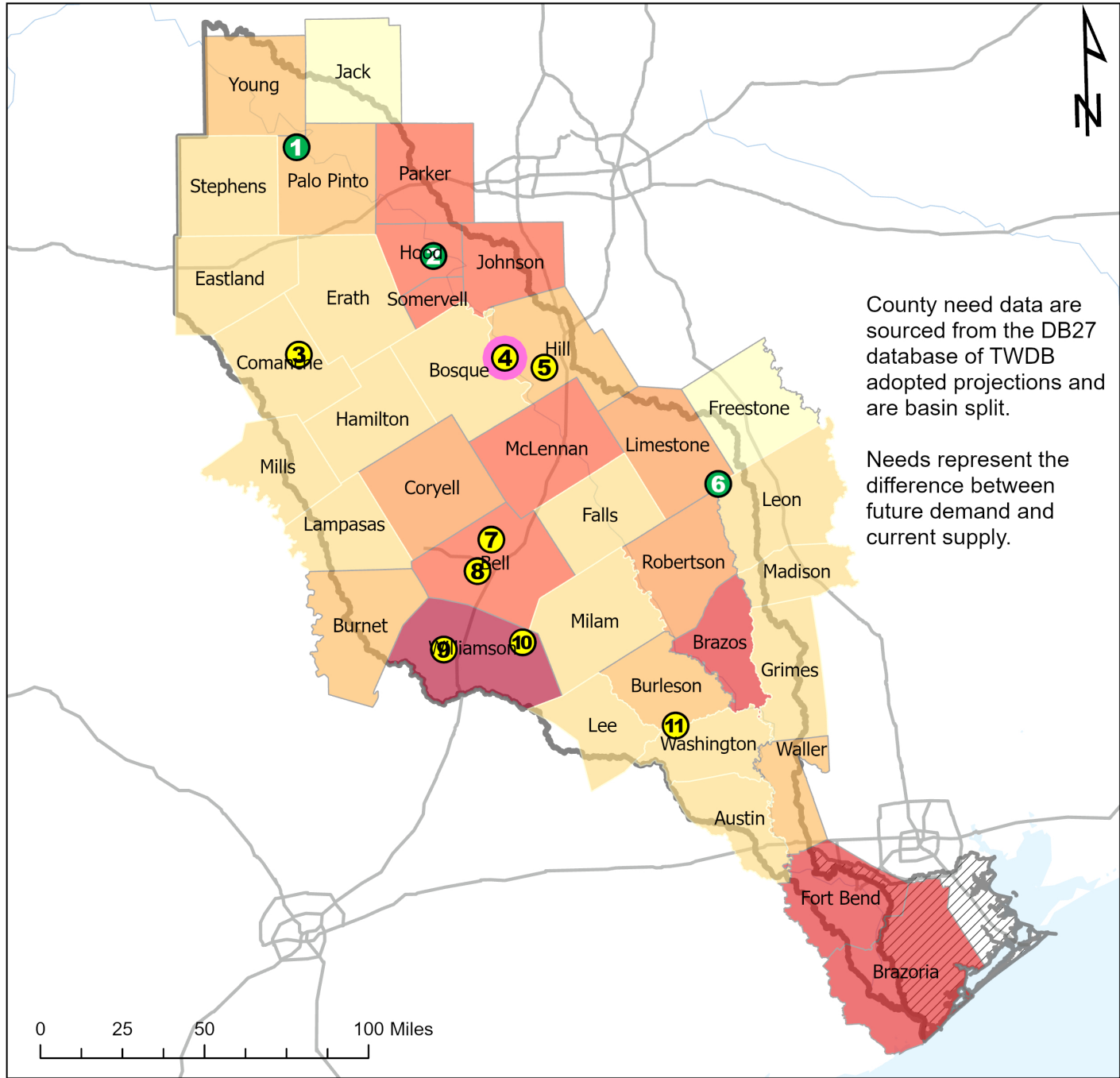




Brazos River Authority Water Supply Reservoirs

- Owned & Operated by BRA
- US Army Corps of Engineers





Brazos Basin County M & I Water Annual Need by 2080

BRA Water Supply Reservoirs
BRA (green), USACE (yellow)

- 1 Possum Kingdom Lake
- 2 Lake Granbury
- 3 Lake Proctor
- 4 Lake Whitney
- 5 Lake Aquilla
- 6 Lake Limestone
- 7 Lake Belton
- 8 Stillhouse Hollow Lake
- 9 Lake Georgetown
- 10 Lake Granger
- 11 Lake Somerville

BRA Water Supply Service Area
San Jacinto-Brazos Coastal Basin

- 2080 M&I Water Need (ac-ft/yr)
- 0
 - 1 - 2,500
 - 2,501 - 5,000
 - 5,001 - 10,000
 - 10,001 - 50,000
 - 50,001 - 150,000
 - 150,001 - 300,000

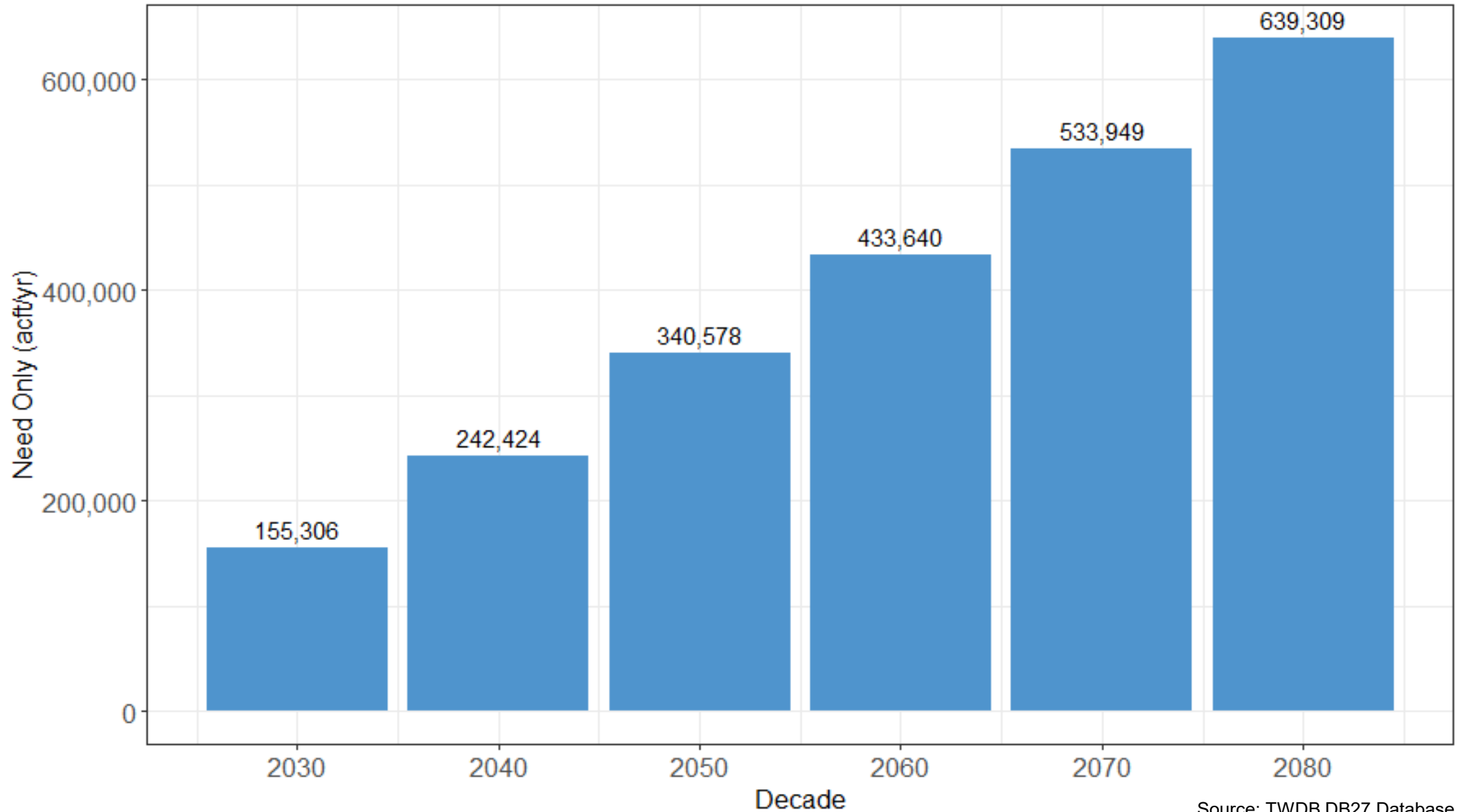
County need data are sourced from the DB27 database of TWDB adopted projections and are basin split.

Needs represent the difference between future demand and current supply.

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community



Municipal and Industrial (Manufacturing/Mining/Steam Electric Power) Water Supply Need



Source: TWDB DB27 Database



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Whitney Lake Existing Storage

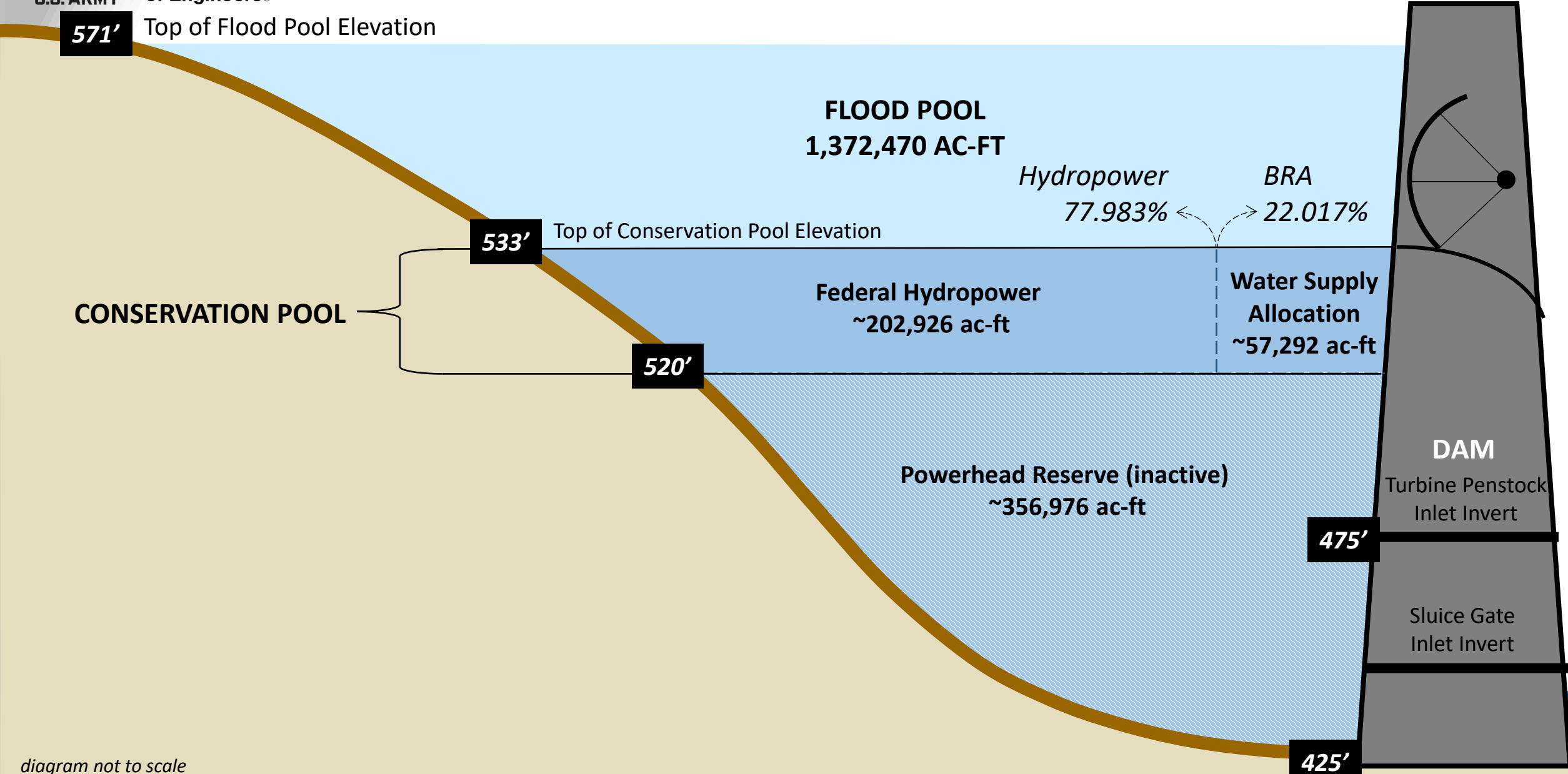


diagram not to scale

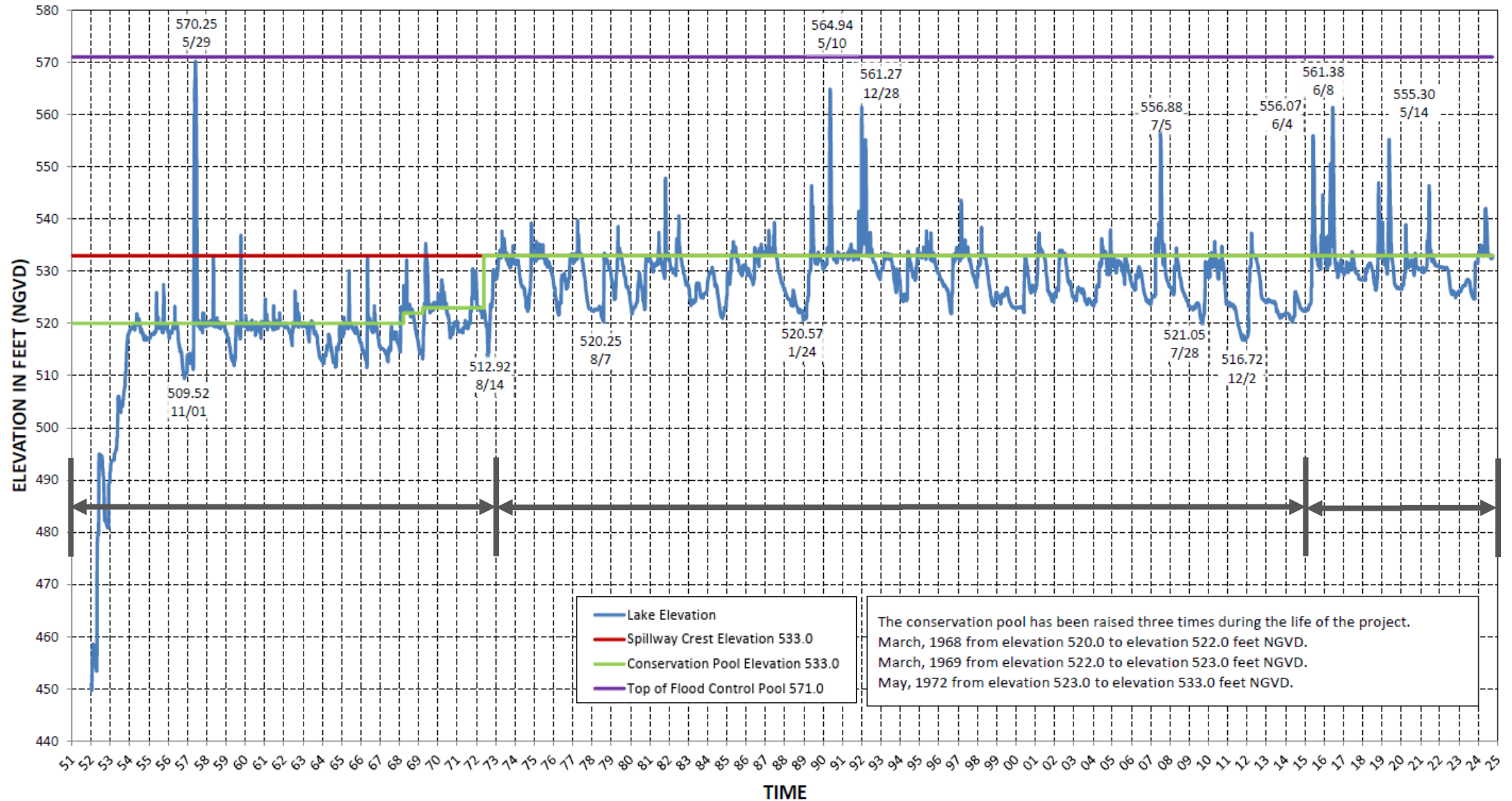


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WHITNEY LAKE PERIOD OF RECORD



BRAZOS RIVER BASIN SYSTEM DIAGRAM



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LEGEND:

FLOOD POOL: FLOOD STORAGE



CONSERVATION POOL: WATER SUPPLY STORAGE



CONTROL POINT: MAXIMUM REGULATED CHANNEL CAPACITY CUBIC FEET PER SECOND (CFS)



HYDROPOWER PRODUCTION

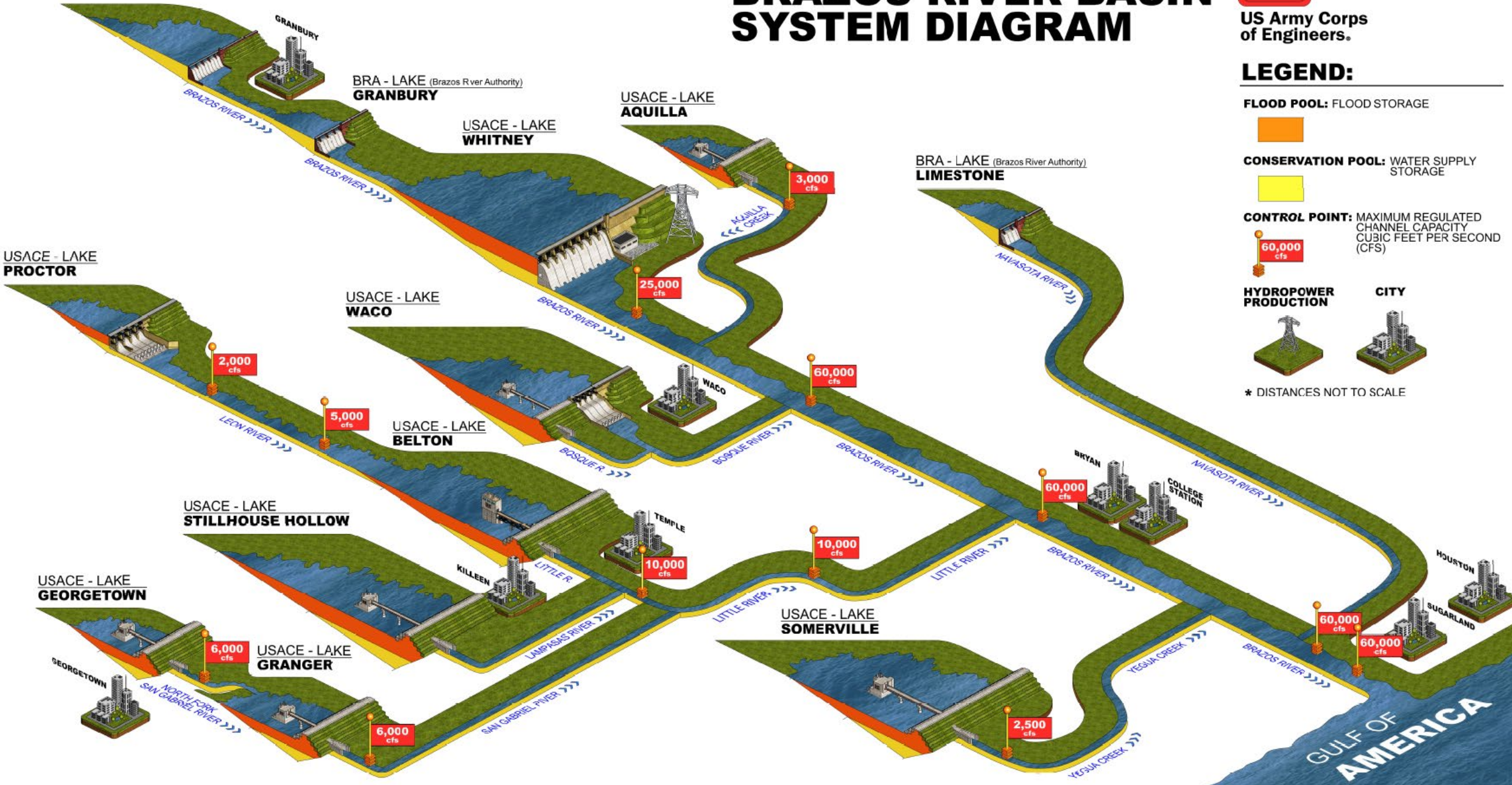


CITY



* DISTANCES NOT TO SCALE

BRA - LAKE (Brazos River Authority)
POSSUM KINGDOM



USACE - LAKE
PROCTOR

BRA - LAKE (Brazos River Authority)
GRANBURY

USACE - LAKE
WHITNEY

USACE - LAKE
AQUILLA

BRA - LAKE (Brazos River Authority)
LIMESTONE

USACE - LAKE
WACO

USACE - LAKE
BELTON

USACE - LAKE
STILLHOUSE HOLLOW

USACE - LAKE
GEORGETOWN

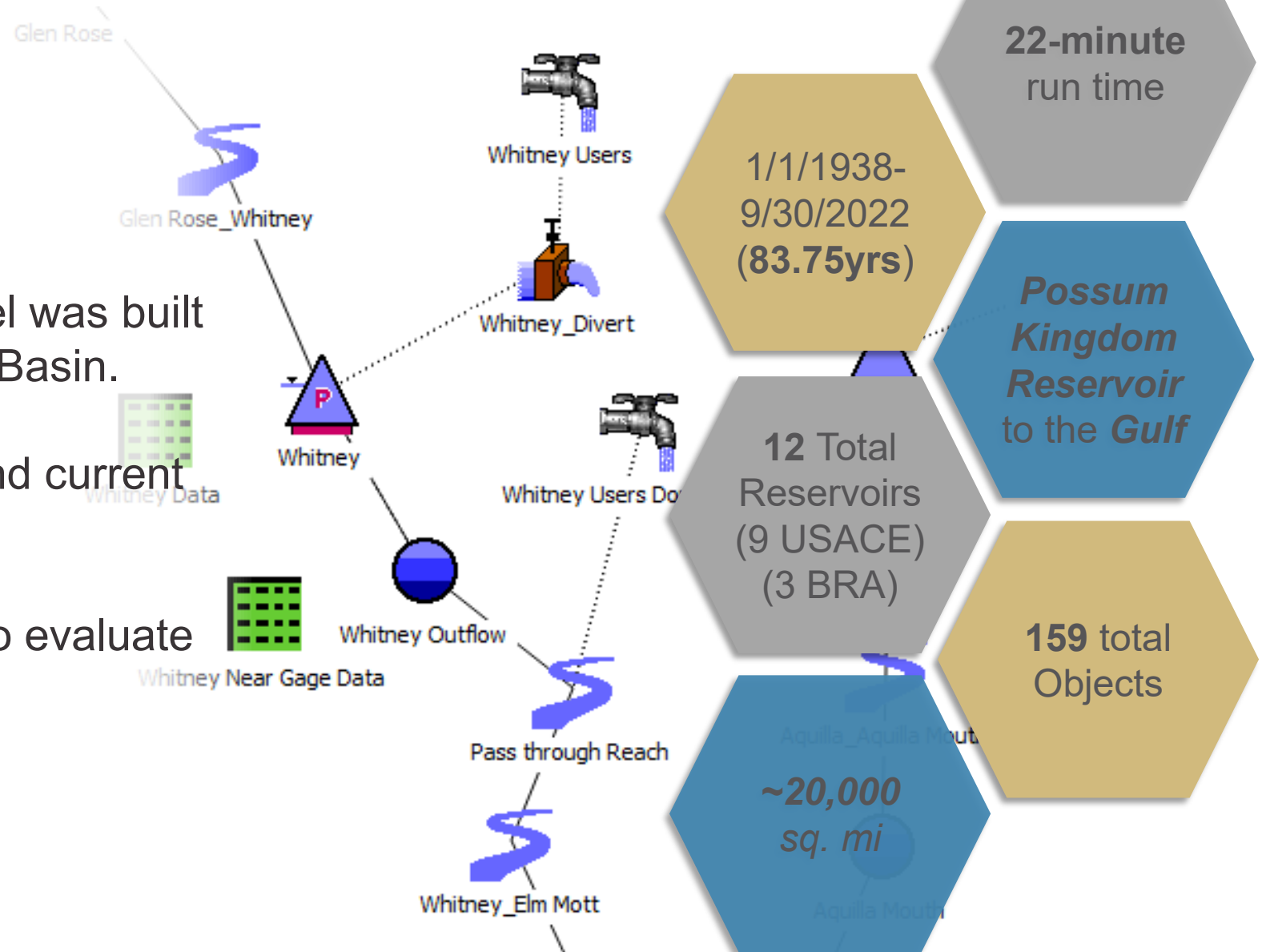
USACE - LAKE
GRANGER

USACE - LAKE
SOMERVILLE

GULF OF AMERICA

RESERVOIR MODELING

- Reservoir simulation model was built of the entire Brazos River Basin.
- Built with historical data and current operating procedures.
- Easily modify operations to evaluate the differences.





KEY CONSIDERATIONS



- Impacts on Authorized Project Purposes (flood control, hydropower, water supply)
- Impacts on Recreation and other Public Facilities
- Habitat Changes and the Impact on Wildlife
- Impacts to Cultural and Historic Resources
- Real Estate Requirements
- Dam Safety



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Tentatively Selected Plan Alternative Alternative 6



571' Top of Flood Pool Elevation

(520'-512')

**FLOOD POOL
1,372,470 AC-FT**

Hydropower 50% ← *Water Supply* → 50%

533' Top of Conservation Pool Elevation

**Federal Hydropower
~130,109 ac-ft**

~130,109 ac-ft **~57,292 ac-ft**

CONSERVATION POOL

520'

**Total Water Supply Allocation
~241,646 ac-ft**

~111,537 ac-ft

512'

**Powerhead Reserve (inactive)
~245,439 ac-ft**

475'

DAM
Turbine Penstock
Inlet Invert

Sluice Gate
Inlet Invert

425'

- Storage between 512 feet and 533 feet is split between BRA (65%) and SWPA (35%)



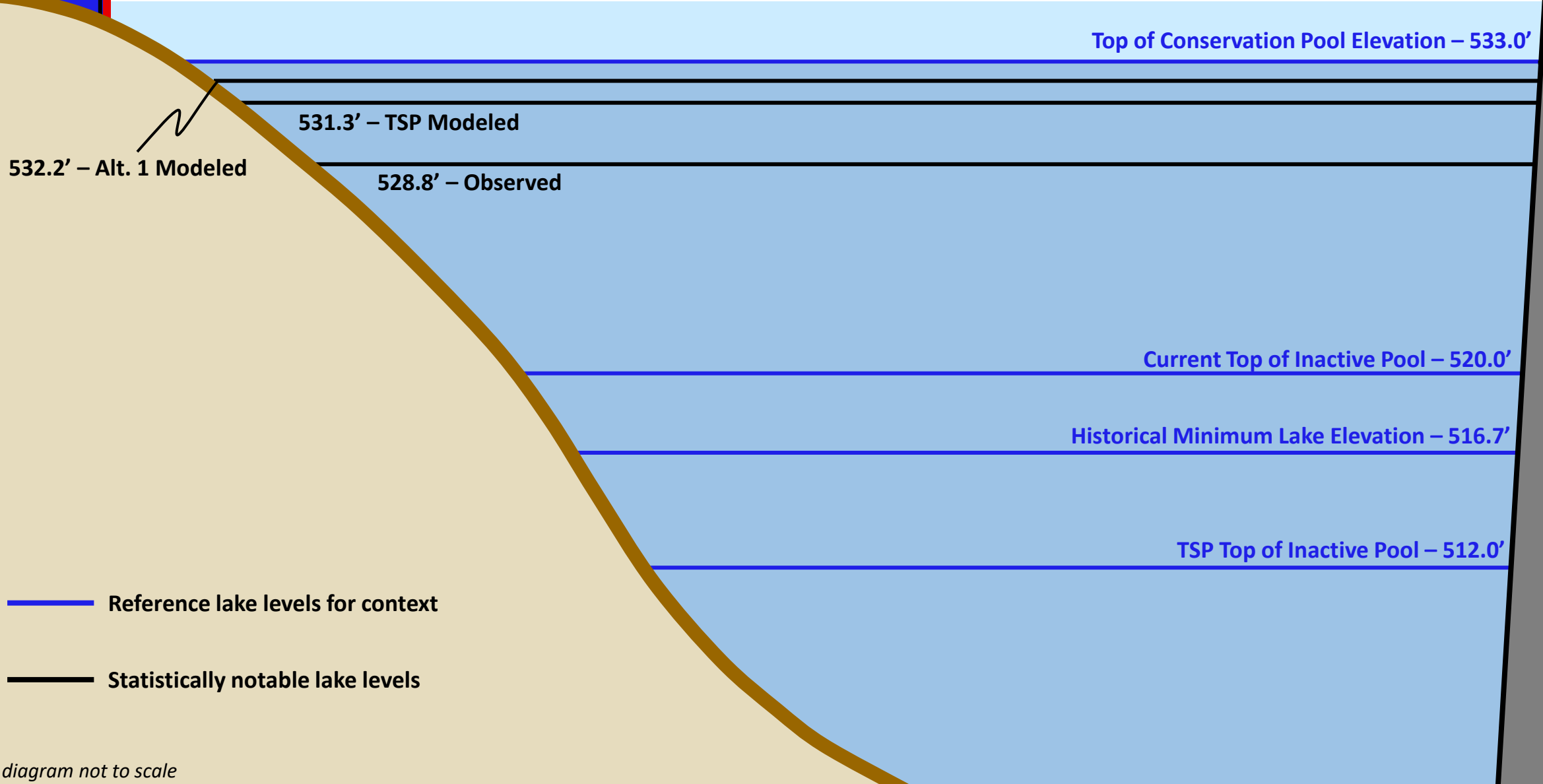
Whitney Lake Levels

- The Top of Conservation level at Whitney Lake has increased 3 times since impoundment began in December 1951.
- The current Top of Conservation level at 533' was established in May 1972, and the lake filled by March 1973.
- Hydropower operated in a 'peaking' capacity until around 2015 when Ready Reserve Hydropower became the primary operation.
- Ready Reserve Operations result in minimal hydropower releases.
- Therefore, the historical period from 1973 to 2014 is the most representative for depicting observed lake level variability.



Whitney Lake Levels: Period of Record Averages

On Average, the lake level is:



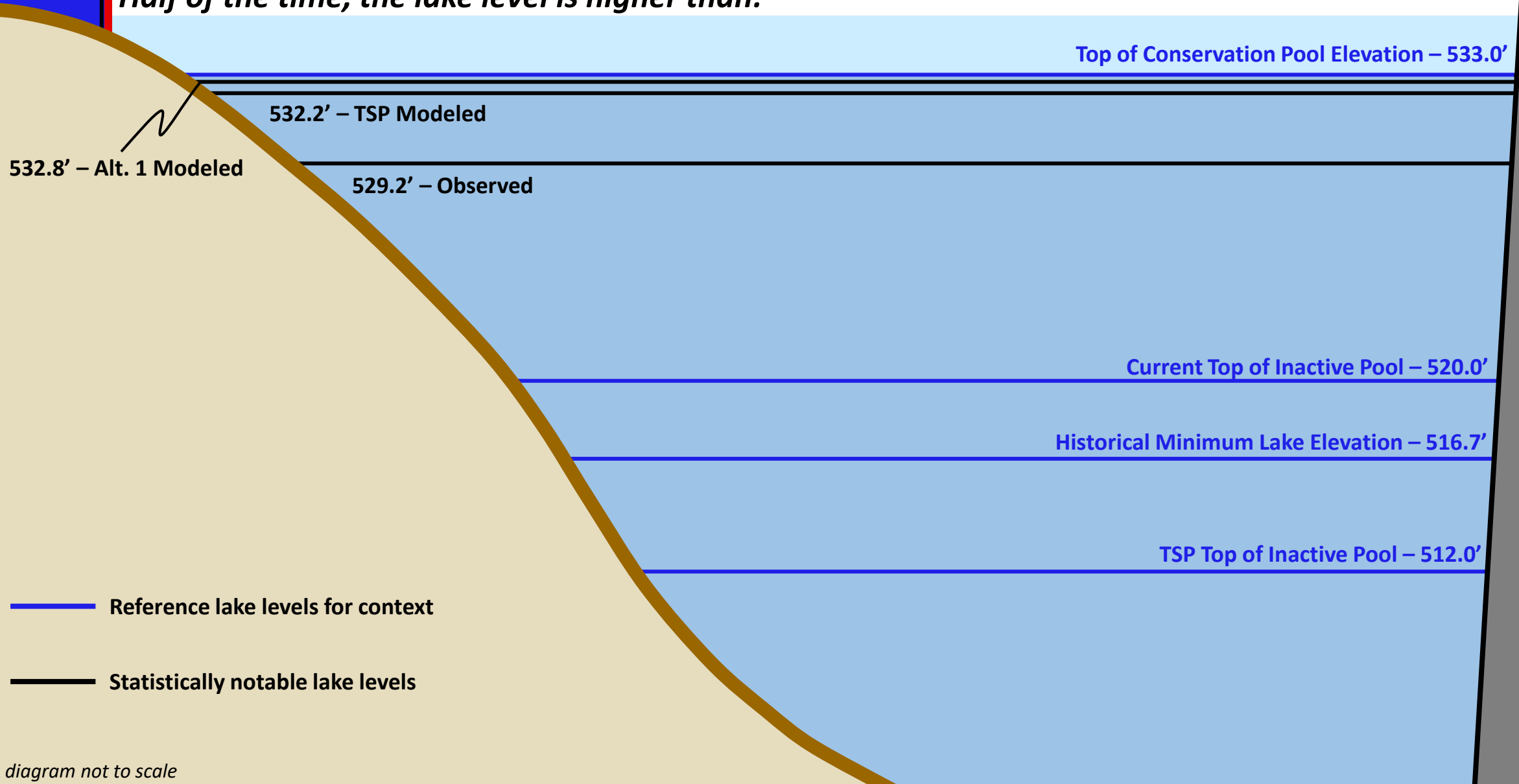
- Reference lake levels for context
- Statistically notable lake levels

diagram not to scale



Whitney Lake Level Frequencies: 50% (average conditions)

Half of the time, the lake level is higher than:



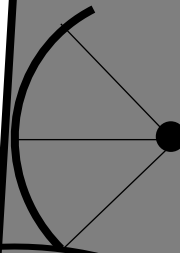
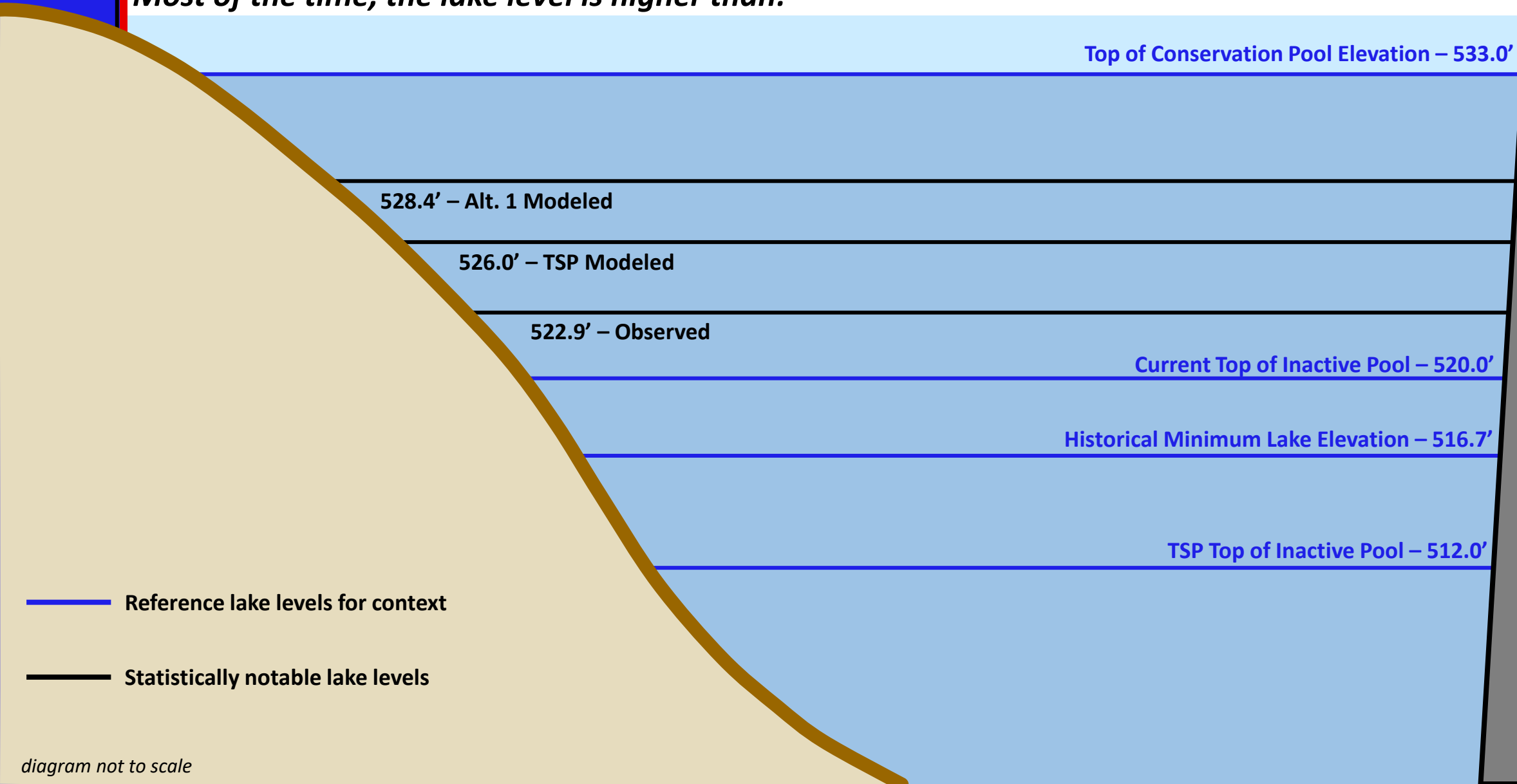
- Reference lake levels for context
- Statistically notable lake levels

diagram not to scale



Whitney Lake Level Frequencies: 90% (significant drought)

Most of the time, the lake level is higher than:



DAM

— Reference lake levels for context

— Statistically notable lake levels

diagram not to scale



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WE WANT YOUR COMMENTS!

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You can comment using the comment forms or record a verbal comment before you leave tonight

Or you can comment in one of the following ways:

- E-mail: CESWF-Whitney_Reallocation@usace.army.mil
- U.S. Postal Service:
U.S. Army Corps of Engineers, Fort Worth District
ATTN: Whitney Lake Reallocation Project – RPEC
819 Taylor Street, Fort Worth, TX 76102

Comments need be submitted no later than August 20, 2025

*Information and comments submitted will be included in the public record