



Brazos G Regional Water Planning Group

Friday, October 20, 2023

10:00 AM

BRAZOS RIVER AUTHORITY

4600 COBBS DR. WACO, TX 76710



1. Call Meeting to Order

2. Invocation

3. Notice of Meeting

4. Attendance and Announcements

5. Public Input - Public questions and comments on agenda items or water planning issues (limited to 5 minutes each)



6. Report and possible discussion from Texas Water Development Board (TWDB) staff

The amendment process requires the following:

- A regional water planning group must submit a revision request, usually based on a request from a political subdivision, to the TWDB.
- The regional water planning group must provide at least 14 days notice for a meeting and make the proposed population and/or water demand projection revisions available for public inspection prior to the meeting.
- The regional water planning group must accept oral and written public comments at the meeting in which the request is considered and written comments for 14 days prior to the meeting.
- The regional water planning group submits the revision request to the TWDB, including a summary of all comments the planning group received at the meeting and during the comment period.

Minor Amendments

- can be made to incorporate changes that do not
- result in over-allocation of an existing or planned source of water,
- relate to a new reservoir,
- increase unmet needs or produce new unmet needs in the adopted regional water plan,
- have a significant effect on instream flows, environmental flows, or freshwater flows to bays and estuaries,
- have a significant substantive impact on water planning or previously adopted management strategies, or
- delete or change any legal requirements of a plan



Minor Amendment Process

- An entity requests the regional water planning group to amend a regional water plan.
- The regional water planning group considers the request and takes action to pursue the amendment at one of its regular public meetings.
- Amendment materials are prepared in accordance with TWDB rules and guidance, and a request for a “minor amendment determination” is submitted to the TWDB’s executive administrator.
- The executive administrator reviews the request and issues a determination to the planning group.
- If the executive administrator determines that it is a “minor amendment,” the regional water planning group considers adopting the amendment at a public meeting with an opportunity for public input. This meeting requires at least a 14-day notice. The regional water planning group considers public comments

Minor Amendment continued

- and may adopt the amendment at the meeting.
- The regional water planning group submits the adopted minor amendment materials, including a summary of public comments, to the TWDB for approval.
- The TWDB reviews the adopted minor amendment and, if acceptable, approves it at its next regular Board meeting.
- The TWDB then amends the state water plan, which requires a public hearing on the proposed state water plan amendment and a 30-day public notice prior to its adoption.

Major Amendments

- can be made to incorporate changes that cannot be addressed through a minor amendment. Major amendments shall not result in an over-allocation of an existing or planning source of water, and shall conform with all other rules for regional water plan development.
- Process: An entity requests that the regional water planning group make an amendment. The regional water planning group considers the request and takes action to pursue the amendment at one of its regular public meetings. Amendment materials are prepared in accordance with TWDB rules and guidance for consideration at a public hearing.

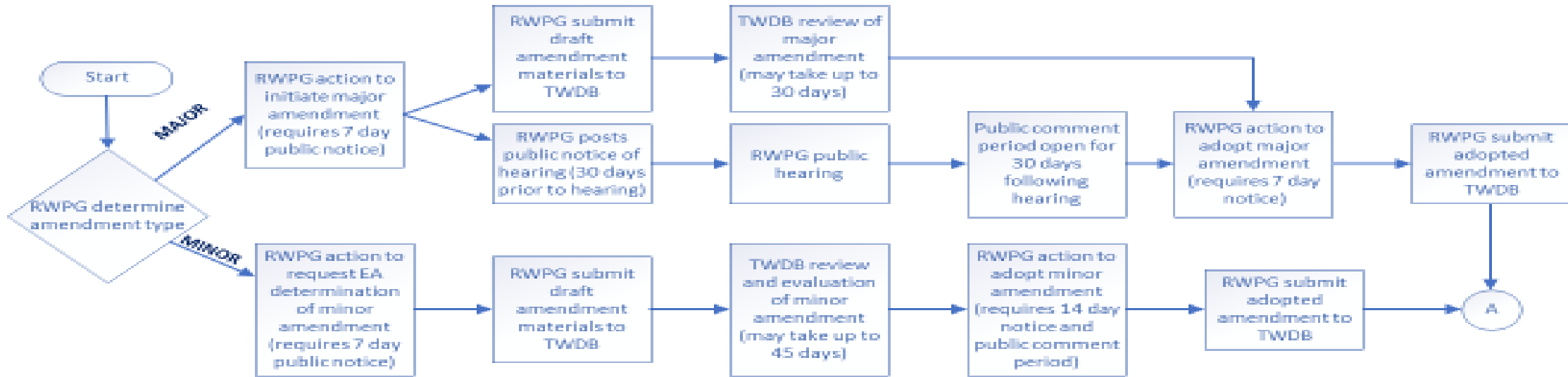


Major Amendment Process continued

- The regional water planning group holds a public hearing on the proposed amendment. This process requires 30 days between published notice of the hearing and the hearing date and a 30-day comment period following the hearing.
- The regional water planning group considers all public comments received and may adopt the regional water plan amendment at a regular planning group meeting after the 30-day comment period.
- The regional water planning group submits the adopted amendment materials, including a summary of public comments, to the TWDB for approval.

RWPG Amendment Process for RWP

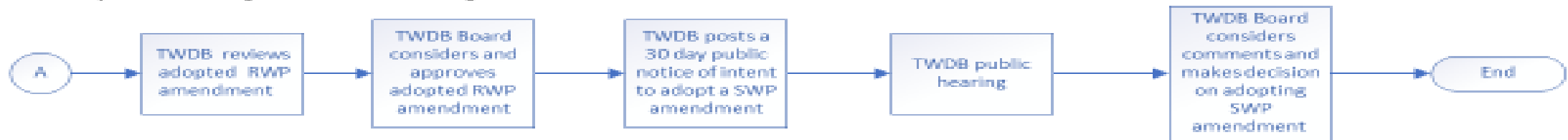
Major amendment process may take approximately three (3) months and includes two (2) RWPG meetings and one (1) hearing. Minor amendment process may take approximately 2.5 months and includes two (2) RWPG meetings.



Regional and State Water Plan Amendment Process

TWDB Amendment Process for SWP

TWDB amendment process may take approximately three (3) months, subject to the timing of TWDB Board meetings.



Acronyms:
 TWDB: Texas Water Development Board
 RWPG: Regional Water Planning Group
 RWP: Regional Water Plan
 SWP: State Water Plan

Updated September 2022



7. Report, discussion, and possible action on the report from the Groundwater Committee

Brazos G Water Planning

Item 7

Groundwater Committee Summary



WACO, TX OCT 20, 2023

Groundwater Committee Meeting

Sept. 20, 2023

Consultant Team

- Summary of changes in MAG amounts by aquifer/county between 2021 and 2026 Plans
- Defined MAG peak factor per TAC
 - Walkthrough of process for requesting use of MAG Peak Factor
- Defined MAG Reallocation
 - Walkthrough of process for requesting MAG Reallocation

Discussion on timing/schedule

Discussion on Brazos River Alluvium

Interaction with the river varies based on many factors, including

- aquifer levels,
- recharge,
- river stage, etc.

Alluvium groundwater is a private property right regulated by GCDs

Recognize alluvium is not always dependable, may not always be productive due to limited available drawdown in wells

Late 2021 round WMS to avoid unmet needs in the plan.

Discussed:

- Potential lack of reliability of Brazos Alluvium as a municipal WMS. Several members agreed that it was generally not a reliable source for large municipal supplies in the current round of planning.
- Alluvium is likely better suited for agricultural use in the long term, possibly insufficient for municipal use.
- Large MAG estimates in the Brazos Alluvium can be low hanging fruit for WMS.
- Need for continued approach to see the Alluvium as limited for large municipal WMS due to potential lack of reliability over the long term.

Consider adding to the Process for Identifying Potentially Feasible Strategies.

Next meeting Nov/Dec



8. Report, discussion, and possible action on the report from the Scope of Work Committee

Brazos G Water Planning

Item 8

Scope of Work Committee Summary



Task 4C – Technical Memorandum, Due March 4

1. DB27 Tables
 - a) Population
 - b) Water Demand
 - c) Source Availability
 - d) Existing WUG Supply
 - e) Identified WUG Needs / Surplus
 - f) 2026 RWP WUG Data Comparison to 2021 RWP
 - g) 2026 RWP Source Data Comparison to 2021 RWP
2. Documented Process to Identify Potentially Feasible WMSs
3. List of All Potentially Feasible WMSs Identified by RWPG to date
4. Copy of the Hydrologic Variance Request
5. Documented Sedimentation Methodology
6. Table of Details on Hydrologic Models Used
7. Documented Methodology of Groundwater Availability
8. Summary of Region's Interregional Coordination Efforts
9. List of Infeasible WMSs and WMSPs Identified by RWPG
10. All Model Input/Output Files Used to Estimate Water Availability

Snapshot of Status on 2026 Planning

Timeline

Brazos G Meeting, Action Requested:

- Approve submittal of hydrologic variance request

Discussion:

- Lists of WWP/MWPs
- Activities of:
 - GW Committee
 - SOW Committee
 - Infeasible 2021 WMSs process
 - Feasible WMSs process

SOW Committee:

- Recommend list of infeasible 2021 strategies
- Recommend process for identifying feasible strategies
- Recommend list of identified feasible strategies to date

GW Committee:

- Recommend GW modifications

Consultant:

- WAM source availability
- Existing supply allocations
- DB 27 data entry

Brazos G Meeting, Action Requested:

- ✓ Approve list of WWP/MWPs
- ✓ Approve modifications to GW availability
- ✓ Adopt process for identifying potentially feasible strategies
- ✓ Approve list of potentially feasible strategies
- ✓ Approve list of identified infeasible 2021 strategies
- Consider snapshot of availabilities and identified needs
- Approve submittal of Technical Memorandum
- Initiate Amendment

Consultant Submittal of Material for RWPG's Review

Required Submittal of Technical Memorandum

October 20, 2023

Nov – Dec 2023

January 2024 ← 14-day Notice

Feb 2024

March 4, 2024

Scope of Work Committee Meeting

Oct. 10, 2023

Infeasible 2021 WMSs

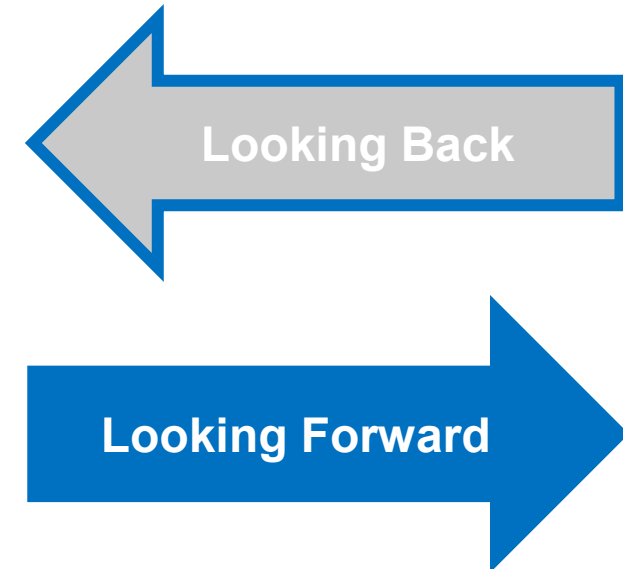
- Process
- Status

2026 Process for Identifying Feasible WMS

- Statutory and Administrative Requirements
- 2021 Process
- Initially Proposed Modifications for 2026 Plan

Next Meeting

- Early November





9. Report, discussion, and possible action on report from Technical Consultant – Carollo

**9.1. Summary on source availability, supplies, and
elements of Hydrologic Variance Request**

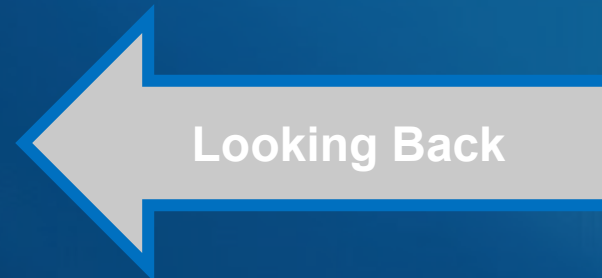
**9.2. Action Item: Approval of Submittal of Hydrologic
Variance Request**

9.3. Regional Water Planning Update

Identification of Infeasible 2021 Strategies

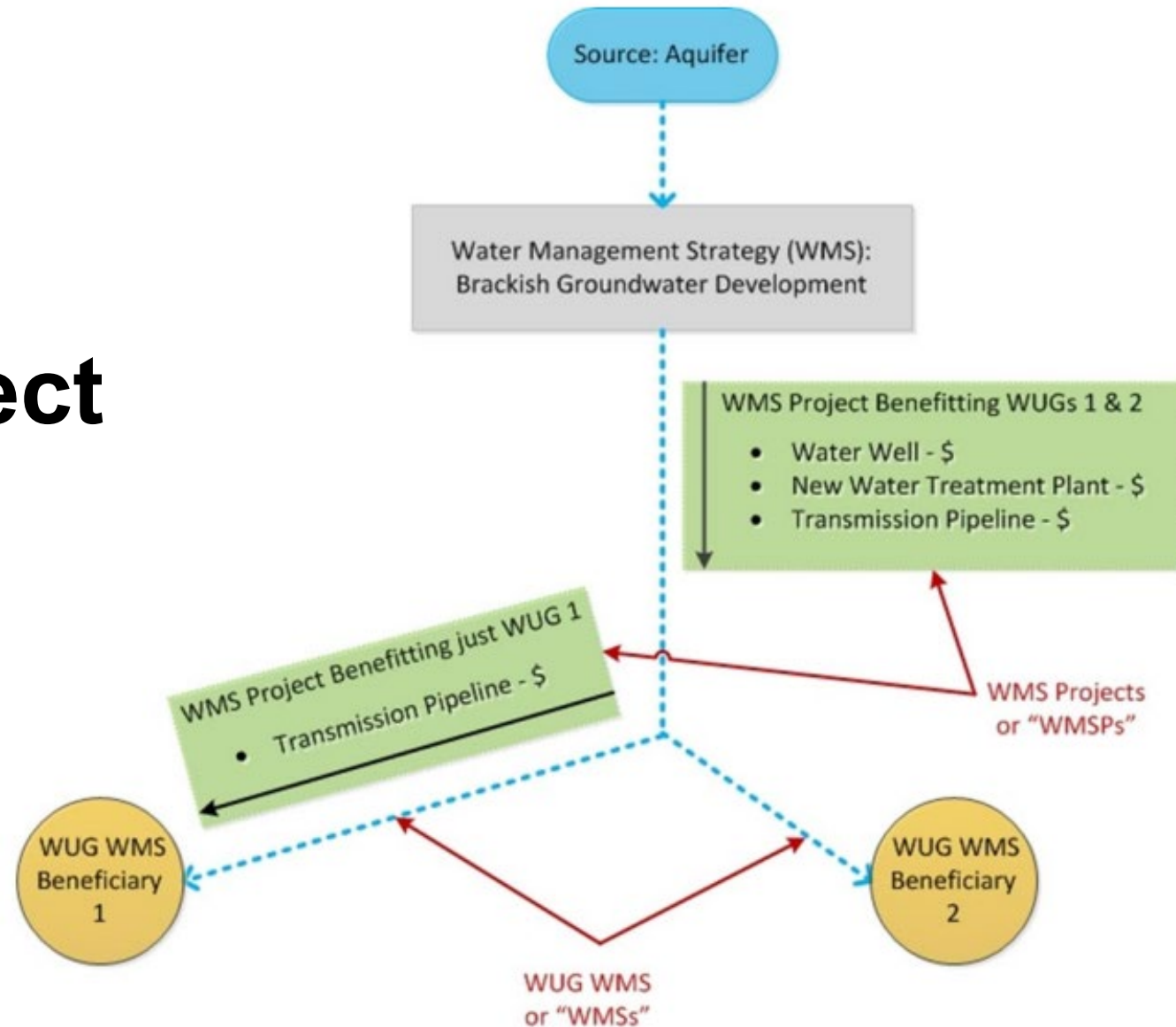
Process and Status

Process and Status



Water Management Strategy Structure

WMS & WMS Project



Feasible and Infeasible Water Management Strategies

- Statutory and Rule Requirements
 - TWC §16.053(h)(10) and 31 TAC §357.12 (b)
- RWPG shall:
 - Hold a public meeting to determine the process for identifying potentially feasible WMSs;
 - Process shall be documented, and
 - Shall include input received at the public meeting;
 - After reviewing the potentially feasible strategies using the documented process, the RWPG shall list all possible WMSs that are potentially feasible for meeting a water need in the region.
 - The public meeting shall also include a presentation of the results of the analysis of infeasible WMSs or WMSPs, as defined by Texas Water Code §16.053(h)(10), included in the most recently adopted RWP.
 - Include list of Infeasible WMSs and WMSPs in Technical Memorandum
 - Infeasible WMSs or WMSPs shall be identified based on:
 - Project sponsor provided information
 - Local knowledge, as acquired through plan development activities such as surveys, and as determined based on implementation schedules consistent with implementation by the project sponsors.
 - The group shall provide notice to all associated project sponsors and amend its adopted RWP as appropriate based upon the analysis.

Infeasible Strategies

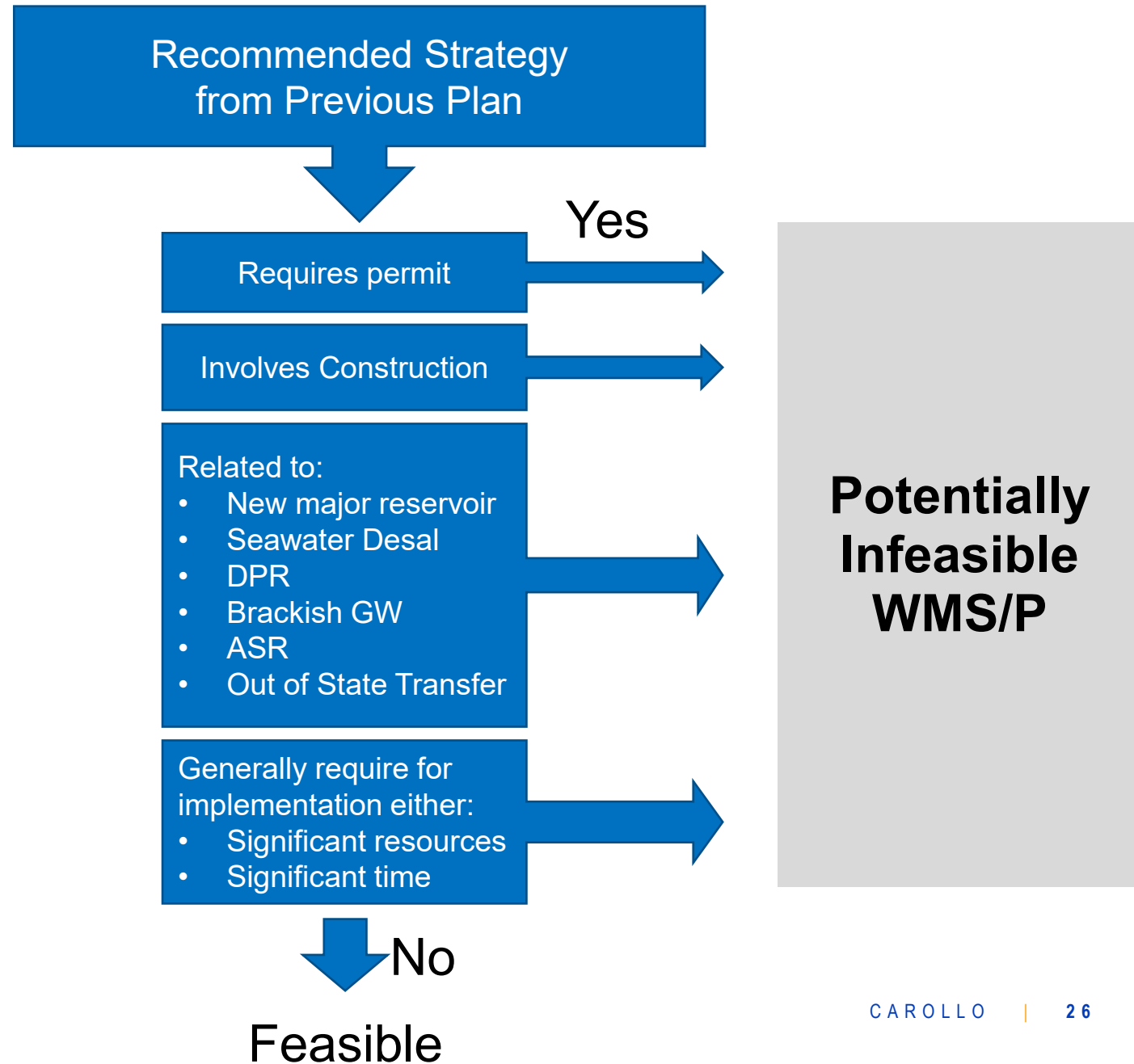
- Amend the previous RWP to modify and/or remove any infeasible WMS or WMSP in accordance with existing amendment procedures
- If applicable or required, identify and evaluate new WMSs or WMSPs that would be needed to meet need that had been met by infeasible WMS/WMSP
- Previous RWP may be amended to:
 - Remove infeasible WMS/WMSP
 - Revise infeasible WMS/WMSP to make it feasible
 - Incorporate a new WMS/WMSP to address the identified need.
- RWPG must submit the adopted amendments associated with this task to TWDB no later than three (3) months following March 4, 2024 (i.e., June 4, 2024).

“[A] water management strategy or project is considered infeasible if the proposed sponsor of the water management strategy or project has not taken an *affirmative* vote or other action to make expenditures necessary to construct or file applications for permits required in connection with the implementation of the water management strategy or project under federal or state law on a schedule that is consistent with the completion of the implementation of the water management strategy or project by the time the water management strategy or project is projected by the regional water plan or the state water plan to be needed.

- **TWC §16.053(h)(10)**

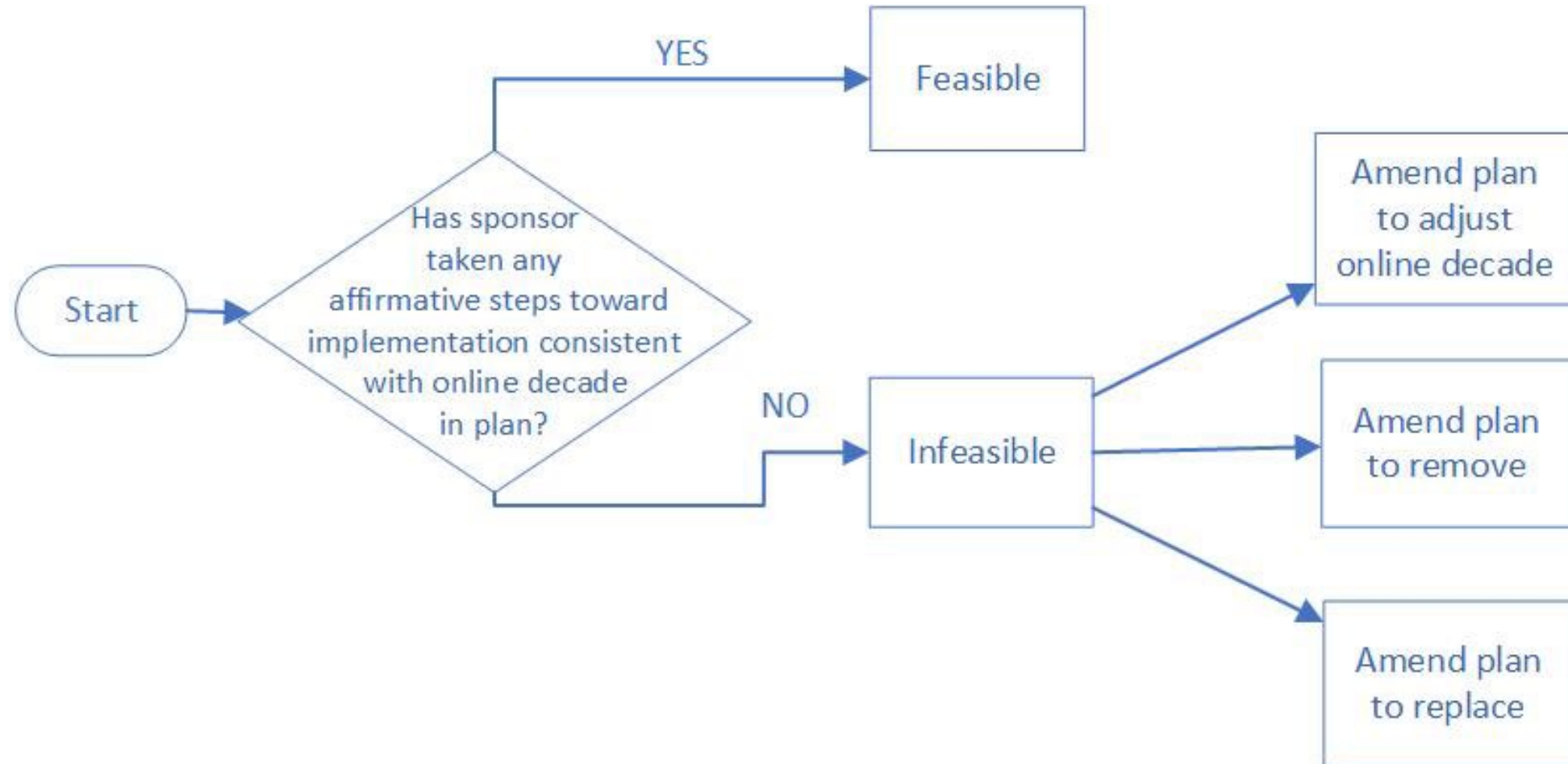
Infeasibility Process

Step 1: Identification of Potentially Infeasible WMS



Infeasibility Process (cont'd)

Apply the following steps to each identified, potentially infeasible WMS/WMSP:



Affirmative Steps

- Spending money on the strategy or project
- Voting to spend money on the strategy or project
- Applying for a federal or state permit for the strategy or project

Infeasibility Process (cont'd)

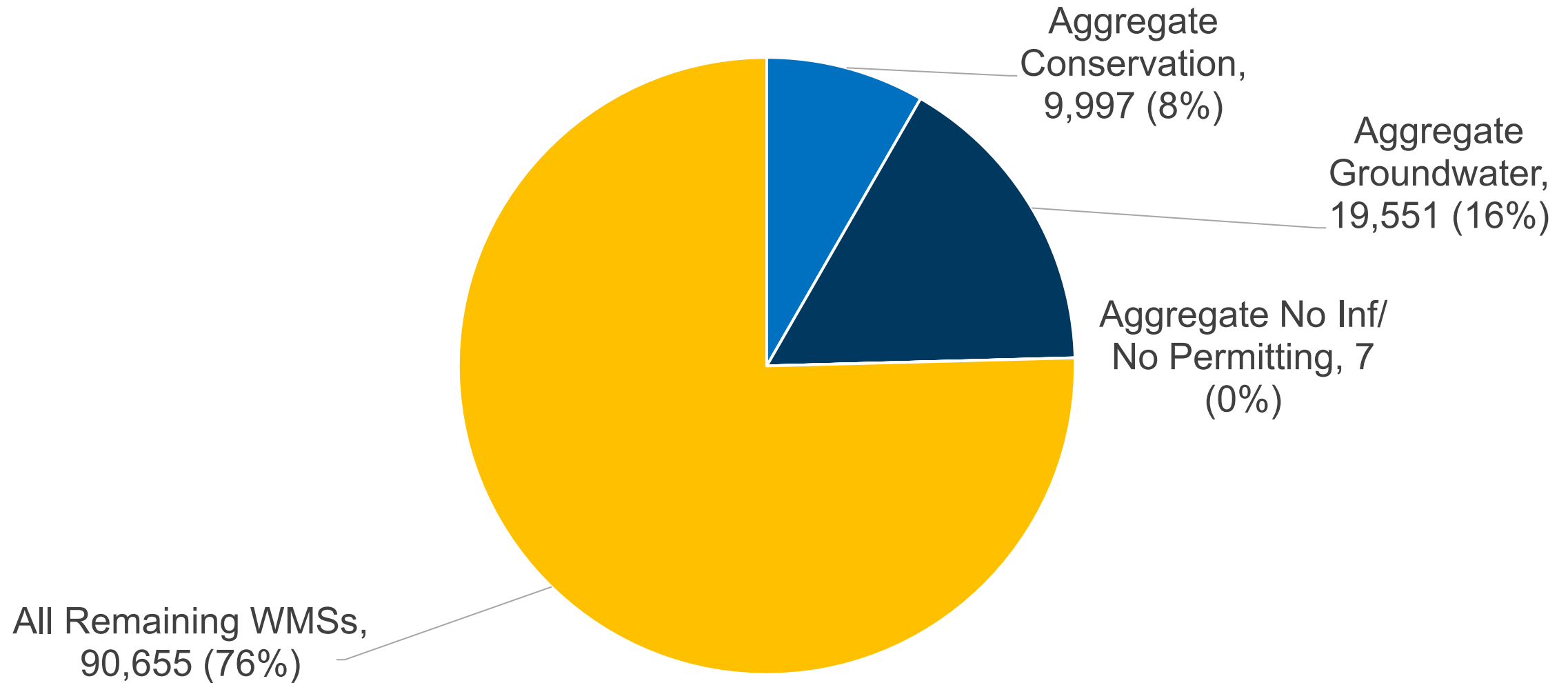
TWDB recognizes information may be difficult to obtain or may not be available for some WUG categories

- e.g., county-wide, aggregate WUGs with WMS/WMSP to be implemented by private parties

RWPG may therefore not be able to determine infeasibility for some strategies or projects.

- 85 in Region G

Proportions of Aggregate WMSs by Amount of Water (2020)

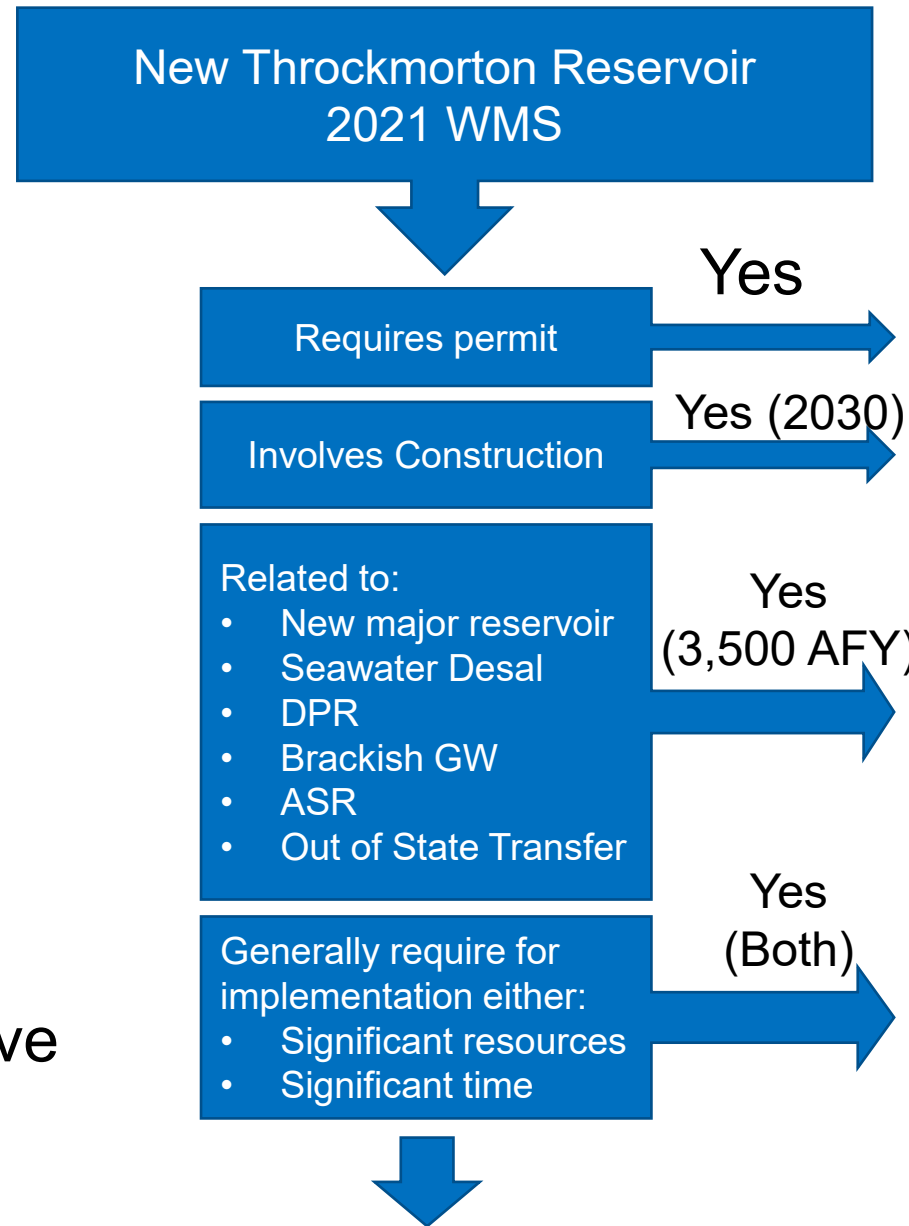


Walkthrough of Infeasibility Process with New Throckmorton Reservoir WMS

Step 1: Identification of Potentially Infeasible WMS

Per 2021 RWP:

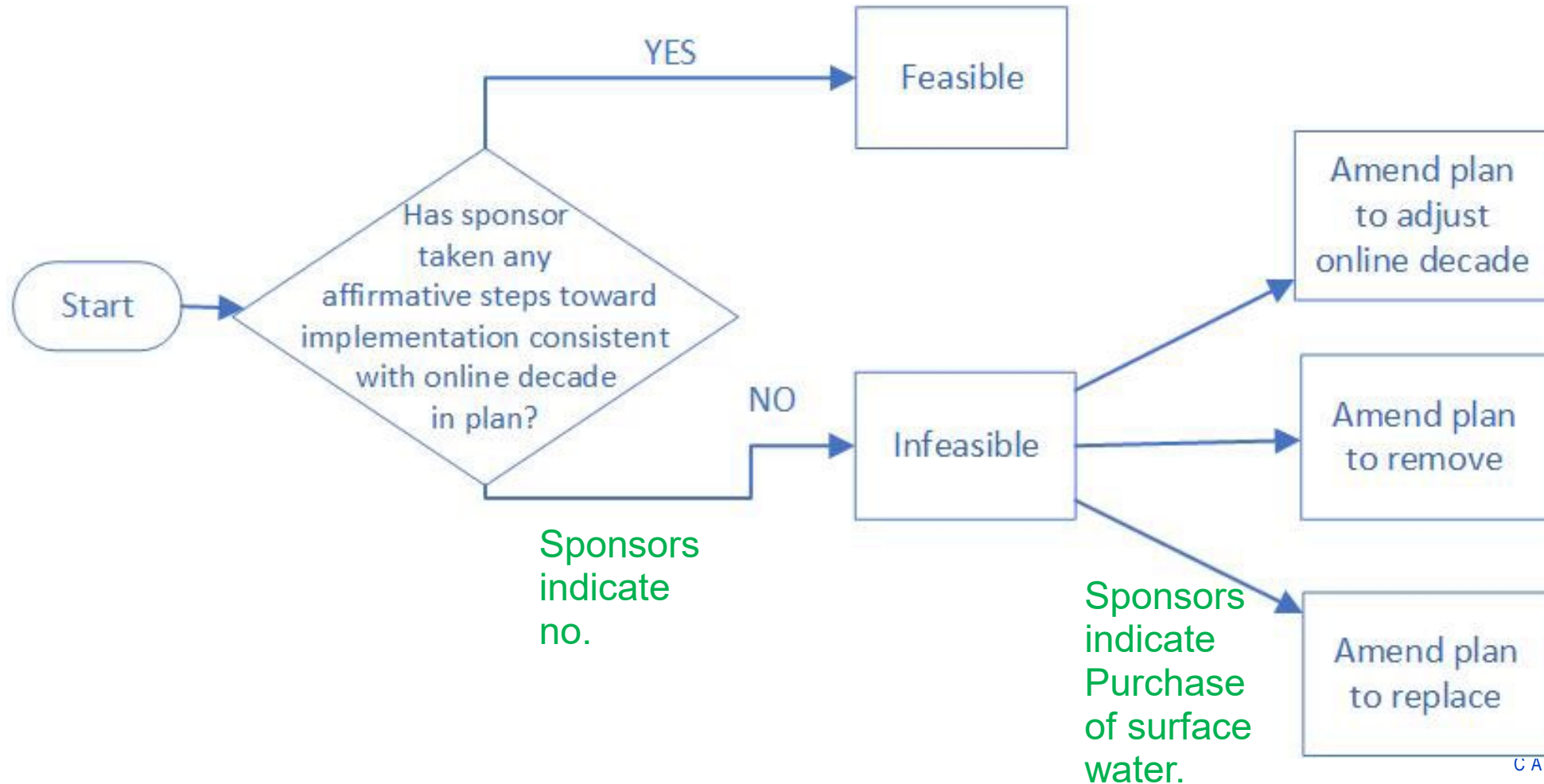
- City of Graham to receive 1,500 AF/YR starting in 2030
- City of Throckmorton to receive 2,000 AF/YR starting in 2030



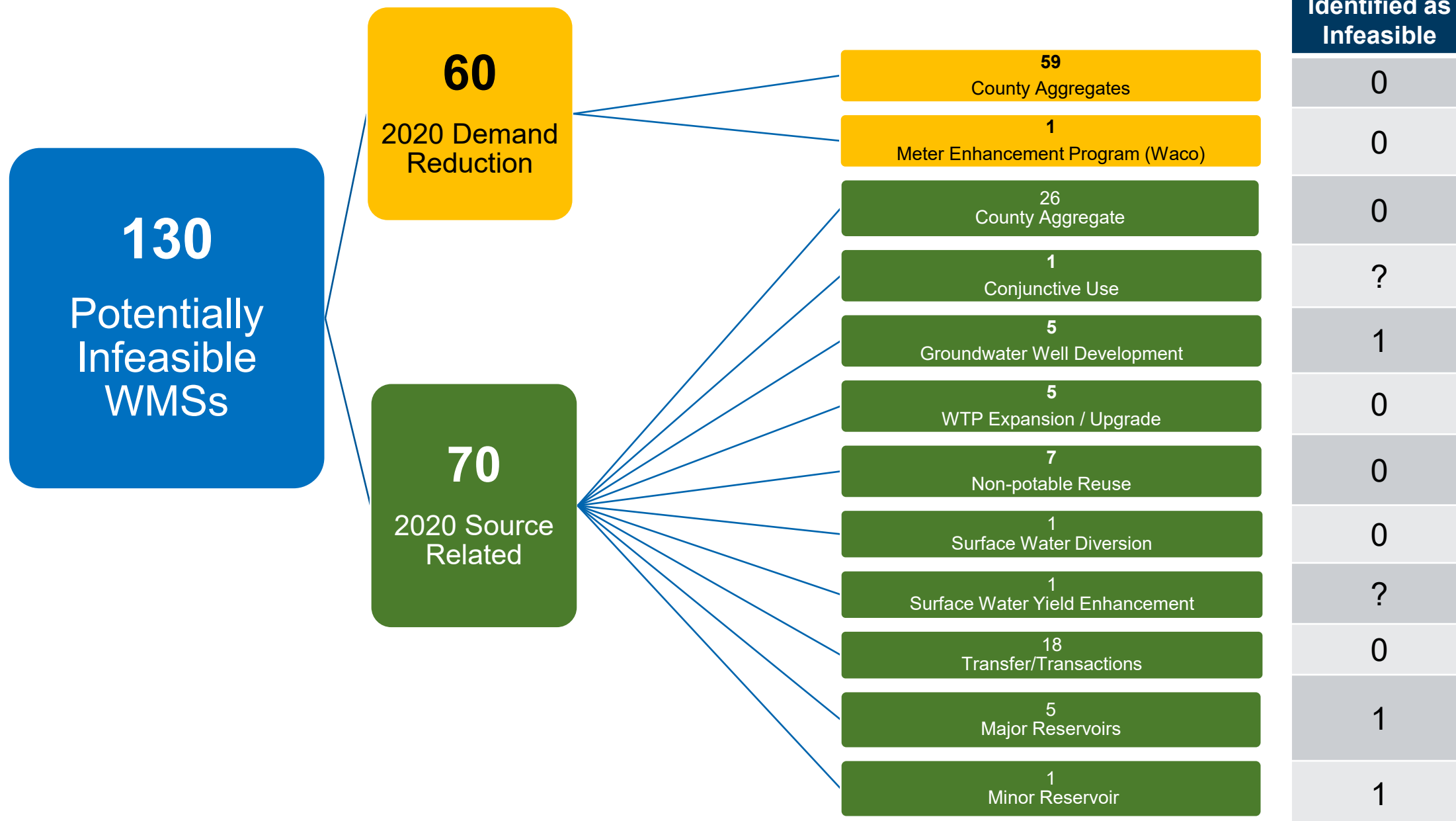
Potentially Infeasible WMS/P

Infeasibility Process (cont'd)

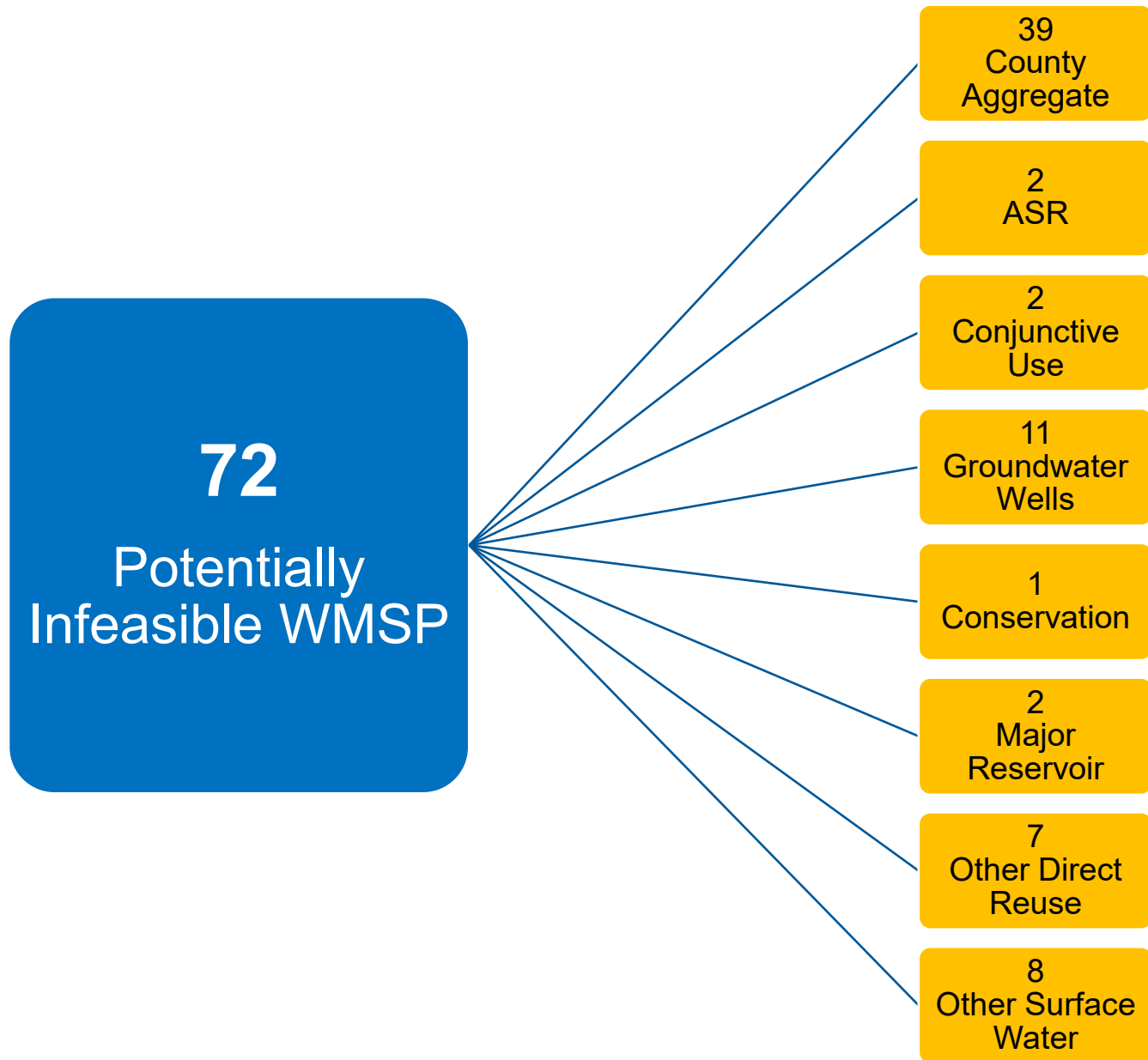
Apply the following steps to each identified, potentially infeasible WMS/WMSP:



Summary of Potential Infeasible 2020 WMS

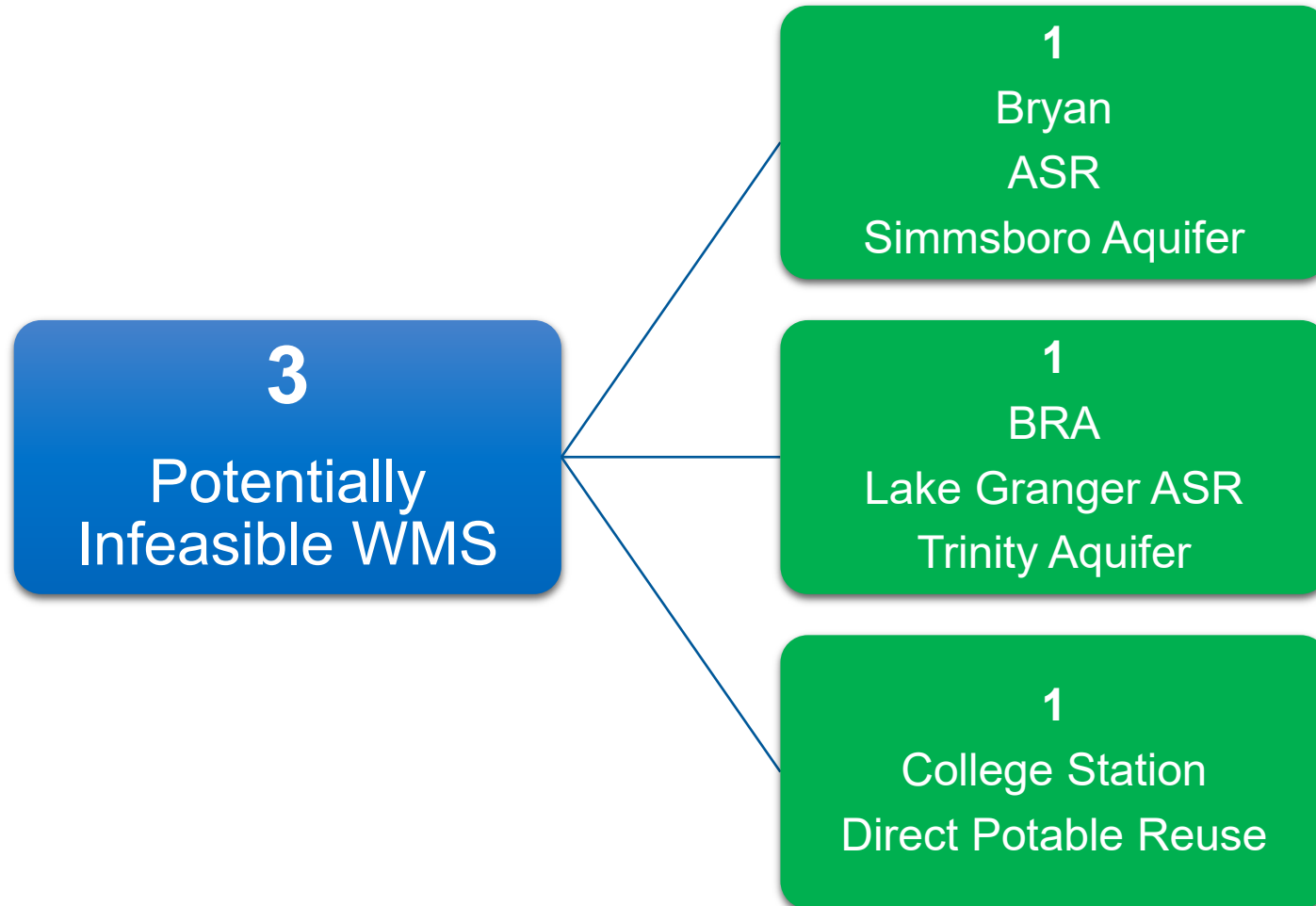


Summary of Potential Infeasible 2020 WMSPs



Number Identified as Infeasible	Remaining
0	-
0	1
0	1
2	7
0	-
0	1
0	1
0	4

Summary of Potential Infeasible 2030-40 WMS



Number Identified as Infeasible	Status
0	Sponsor has taken affirmative steps
0	Sponsor has taken affirmative steps
?	Remaining

Status

Preliminarily Infeasible

- 1 groundwater strategy (2 associated projects)
- 1 major reservoir (New Throckmorton)
- 1 minor reservoir (Coryell County OCR)

Potential changes

- Engagement with sponsors
- SOW Committee findings/recommendations

2021 Reservoir WMSs	Online
Brushy Creek Reservoir	2040
Cedar Ridge Reservoir	2030
NCTMWA Lake Creek Reservoir	2030
New Throckmorton Reservoir	2030
Turkey Peak Reservoir	2030
Coryell County OCR	2030

SOW Committee Path Forward

Reviewing Process

Threshold for Implementation

- On a schedule consistent with completion of implementation by the time the strategy or project is needed

Potential Recommendations on

- List of Identified Infeasible Strategies
- Begin major/minor amendment process

Expectations Regarding Potential Amendment of 2021 Plan

Ongoing coordination with sponsors to confirm responses and identify alternatives

- Potential ramifications

Address previously identified corrections:

- Correct capital cost for Williamson County groundwater WMS
- Correct typo on “Trinity Aquifer Development WMS - Palo Pinto County Irrigation”

Timing

- Possible March and May hearings/meetings
- Meet all notice, review, and comment period requirements
- Before June 4, 2024 deadline.

Requirements, Guidance, and Proposed Process:
Identifying Potentially Feasible Strategies
for 2026 Plan



Potentially Feasible Water Management Strategies

- Statutory and Rule Requirements
 - TWC §16.053(e)(5); and
 - 31 TAC §357.34(c)
- RWPGs must:
 - Consider, but are not limited to considering, 24 types of WMSs for all identified water needs
 - Conduct public meeting to discuss process/obtain input for identifying potentially feasible WMSs
- Technical Memorandum, IPP, and Final RWP must include:
 - Documented process used by the RWPG to identify potentially feasible WMSs;
 - List or table of all identified WMSs that were considered potentially feasible, to date, for meeting a need in the region per 31 TAC §357.12(b).
 - If no potentially feasible WMSs are identified or recommended for an identified water need, the RWP must document the reason.

Identifying and Evaluating WMSs

TWDB allows flexibility in selecting method



Criteria determined by Planning Group



Should receive public comment on proposed process



Should be an equitable and consistent evaluation and application of all potentially feasible WMSs for each water supply need.

31 TAC 357.34(c)

Potentially feasible water management strategies may include, but are not limited to:

- Expanded use of existing supplies including:
 - system optimization and conjunctive use of water resources,
 - reallocation of reservoir storage to new uses,
 - voluntary redistribution of water resources including contracts, water marketing, regional water banks, sales, leases, options, subordination agreements, and financing agreements, subordination of existing water rights through voluntary agreements,
 - enhancements of yields of existing sources, and
 - improvement of water quality including control of naturally occurring chlorides.

31 TAC 357.34(c) – cont'd

Potentially feasible water management strategies may include, but are not limited to:

- Conservation and drought management measures including demand management*.
- Reuse of wastewater.
- Interbasin transfers of surface water.
- Emergency transfers of surface water including a determination of the part of each water right for non-municipal use in the RWPA that may be transferred without causing unreasonable damage to the property of the non-municipal water rights holder in accordance with Texas Water Code §11.139 (relating to Emergency Authorizations).

** Considered but RWPG determined for 2021 Plan that reducing water demands during a drought as a defined WMS does not ensure that sufficient supplies will be available to meet projected demands and should not be identified as a “new source” of supply.*

31 TAC 357.34(c) – cont'd

Potentially feasible water management strategies may include, but are not limited to:

- New supply development including:
 - construction and improvement of surface water and groundwater resources,
 - brush control,
 - precipitation enhancement,
 - desalination,
 - water supply that could be made available by cancellation of water rights based on data provided by the Commission,
 - rainwater harvesting, and
 - aquifer storage and recovery.

Proposed 2026 Plan's Process for Identifying Potentially Feasible Strategies up for SOW Committee Consideration

Include strategies identified in previous plans

- Include recommended and alternative strategies from **2021 Plan**
- Include strategies evaluated, but not recommended in **2021 Plan**
- Include strategies evaluated in previous Plans that were not moved forward
- **Include statutory categories**

Identify draft needs and develop additional ideas to meet those needs

Maintain ongoing communication from local interests through the process

Proposed 2026 Plan's Process for Identifying Potentially Feasible Strategies

Results in an initial list of potentially feasible strategies

Additional WMSs are included if:

- local interests request them and
- the planning schedule and budget allow for the addition.

Investigate for Potential Infeasibility

- If strategy contemplates permitting and/or construction
- If strategy is near-term or necessitates significant time for implementation
- If the potential sponsor(s) have taken, or have indicated they will take, affirmative steps towards the strategy's implementation. Affirmative steps may include, but not be limited to:
 - Spending money on the strategy or project
 - Voting to spend money on the strategy or project
 - Applying for a federal or state permit for the strategy or project

Identify if strategy could potentially provide flood mitigation benefits

Identify if strategy contemplates use of the Brazos Alluvium

Summary of Path Forward

Consider recommendations on:

- Process to identify infeasible 2021 strategies and a list of potentially infeasible strategies
- Process to identify potentially feasible 2026 WMSs and list of WMSs identified to date
- Possible amendment

Nov/Dec mtg

Brazos G Water Planning

Item 9

Technical Consultant Presentation



WACO, TX OCT 20, 2023

2026 Planning Budget Progress

Task #	Task	Contract Amount	Expended to Date	% Complete
1	Planning Area Description	\$30,418	\$0	0%
2A	Non-Municipal Water Demand Projections	\$57,806	\$37,887.32	66%
2B	Population and Municipal Water Demand Projections	\$80,330	\$66,560.16	83%
3	Water Supply Analyses	\$189,999	\$378.49	0%
4A	Identification of Water Needs	\$43,143	\$0	0%
4B	Identification of Infeasible Water Management Strategies	\$33,955	\$0	0%
4C	Prepare and Submit Technical Memorandum	\$49,388	\$0	0%
5A	Identification of Potentially Feasible Water Management Strategies and Water Management Strategy Projects	\$32,514	\$0	0%
5B	Evaluation and Recommendation of Water Management Strategies and Water Management Strategy Projects	--	--	0%
5C	Water Conservation Recommendations	\$20,000	\$0	0%
6	Impacts of Regional Water Plan	\$20,000	\$0	0%
7	Drought Response, Activities & Recommendations	\$70,000	\$0	0%
8	Recommendations Regarding Unique Stream Segments and/or Reservoir Sites and Legislative & Regional Policy Issues	\$13,415	\$0	0%
9	Implementation and Comparison to the Previous Regional Water Plan	\$10,000	\$0	0%
10	Public Participation and Plan Adoption	\$282,470	\$79,079.95	28%
	TOTAL	\$933,438	\$183,905.92	20%

Today's Discussion

Item 9.1: Summary of Hydrologic Variance Request

- Methodology for determining surface water availability for existing sources and water management strategies

Item 9.2: Discussion and Action as Appropriate

- Submittal of Hydrologic Variance Request

Item 9.3: Consultant Report and Discussion

- Regional Population/Demand Summary
- Initial list of WWP/MWPs
- Interregional Coordination
- Path Forward

9.1

Source Availability, Water Supply, and Hydrologic Variance Request

Evaluating Source Availability

The amount of water that a user can depend on obtaining during drought of record conditions

- Reservoirs: Firm yield
- Run of river: Available monthly diversion during driest period of record

Evaluating Source Availability (cont.)

Based on infrastructure that is currently in place.

Based on the assumption that all senior downstream water rights are being fully utilized.

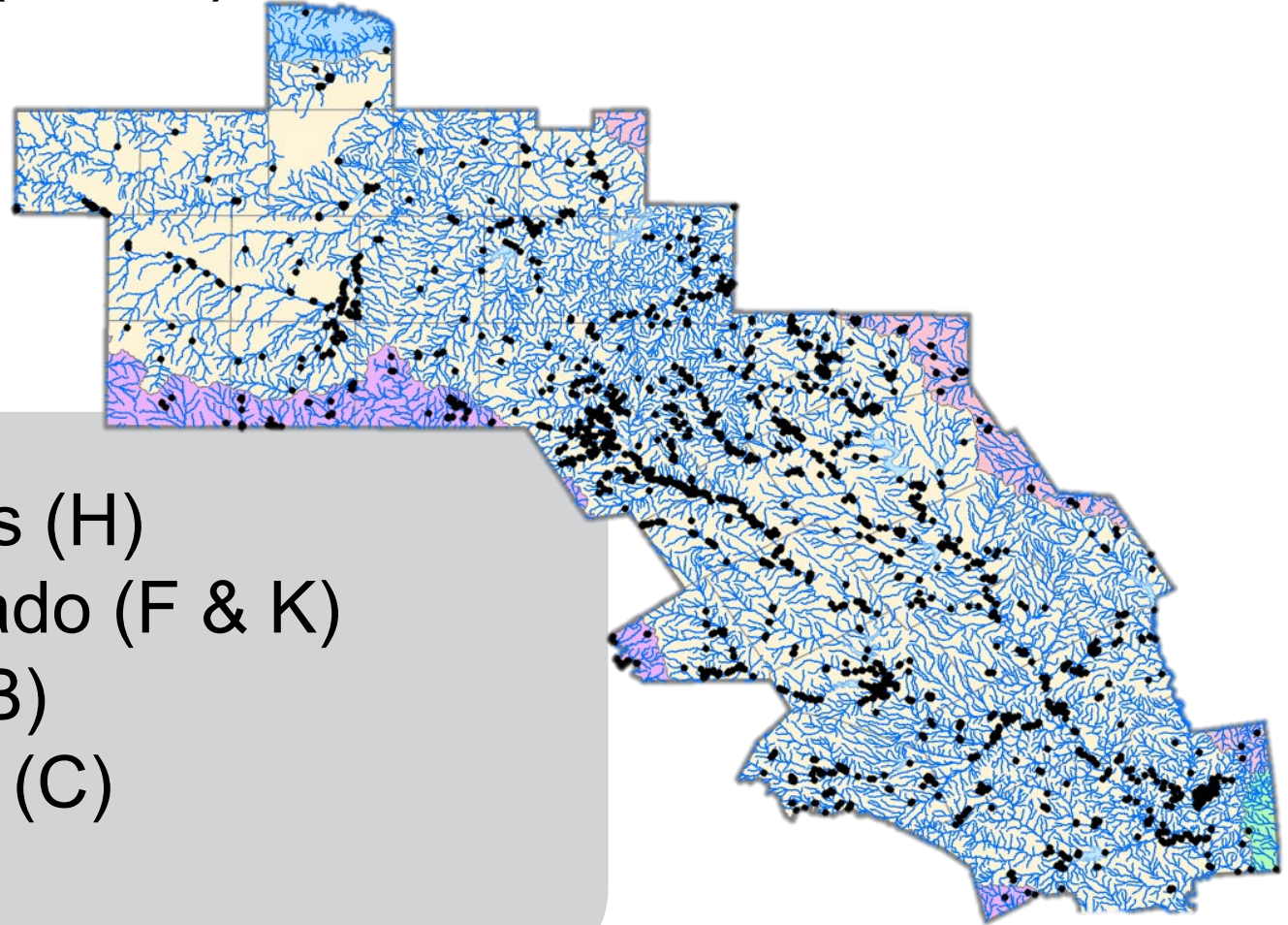
A properly issued water right is no guarantee of access to water.

Answers “How much water could each WUG currently rely on should there be a repeat of the drought of record?”

Water Availability Modeling (WAM)*

Brazos G River Basins

- Brazos (H)
- Colorado (F & K)
- Red (B)
- Trinity (C)



*As required by rule, latest TCEQ WAMs (Run 3) will be used.

Surface Water Sources to be Evaluated

Brazos Source Name	Brazos Source Name (Continued)	Colorado Source Name	Trinity Source Name
Abilene Lake/Reservoir	Millers Creek Lake/Reservoir	Clyde Lake/Reservoir	Alvarado Lake/Reservoir
Alcoa Lake/Reservoir	Moran Lake/Reservoir		Coolidge Lake/Reservoir
Anson North Lake/Reservoir	New Marlin City Lake/Reservoir		
Baird Lake/Reservoir	Palo Pinto Lake/Reservoir		
Cisco Lake/Reservoir	Pat Cleburne Lake/Reservoir		
City of Hamlin Lake/Reservoir	Squaw Creek Lake/Reservoir		
Clifton Lake/Reservoir	Stamford Lake/Reservoir		
Crawford Lake/Reservoir	Strawn Lake/Reservoir		
Daniel Lake/Reservoir	Sweetwater Lake/Reservoir		
Dansby Power Plant/Bryan Utilities Lake/Reservoir	Throckmorton Lake/Reservoir		
Eastland Lake/Reservoir	Tradinghouse Creek Lake/Reservoir		
Fort Phantom Hill Lake/Reservoir	Trammel Lake/Reservoir		
Gibbons Creek Lake/Reservoir	Twin Oak Lake/Reservoir		
Gordon Lake/Reservoir	Waco Lake/Reservoir		
Graham/Eddleman Lake/Reservoir	Wheeler Branch Off-Channel Lake/Reservoir		
Hubbard Creek Lake/Reservoir	Woodson Lake/Reservoir		
Kirby Lake/Reservoir	BRA System Operations Permit Supply		
Lake Creek Lake/Reservoir	Brazos River Authority Aquilla Lake/Reservoir System		
Lake Davis Lake/Reservoir	Brazos River Authority Little River Lake/Reservoir System		
Leon Lake/Reservoir	Brazos River Authority Main Stem Lake/Reservoir System		
Lytle Lake/Reservoir	Brazos Run-of-River		
McCarty Lake/Reservoir	Direct Reuse		
Mexia Lake/Reservoir	Indirect Reuse		

Regional Planning Rules for Water Availability

Surface Water must be evaluated using TCEQ WAM

- Unmodified Water Availability Model
- WAM for each river basin in the state

“Run 3” version – Full Authorization

- Version used for permitting surface water in Texas
- All water rights use their full authorized amount
- All applicable permit conditions, such as flow requirements, are met
- No return flows
- Uses original reservoir capacities

For regional planning purposes anticipated, sedimentation is a necessary modification performed by RWPGs

- This modification *does not* require a hydrologic variance
- Methodology for calculating sedimentation rate and revising reservoirs' area-capacity rating curves must be described in Tech Memo, IPP, and final adopted RWP

RWPGs can consider requesting a Surface Water Hydrologic Variance to modify the WAM Run 3

If using an alternative methodology and:

- Any criteria varies from base requirements; or
- If the methodology is expected to have significant effects on existing supply estimates

RWPG must ensure that any resulting estimates:

- Are reasonable for drought planning purposes; and
- Will reflect conditions expected in the event of near-term, actual drought conditions

What is Required of the RWPG for the submittal of the HVR?

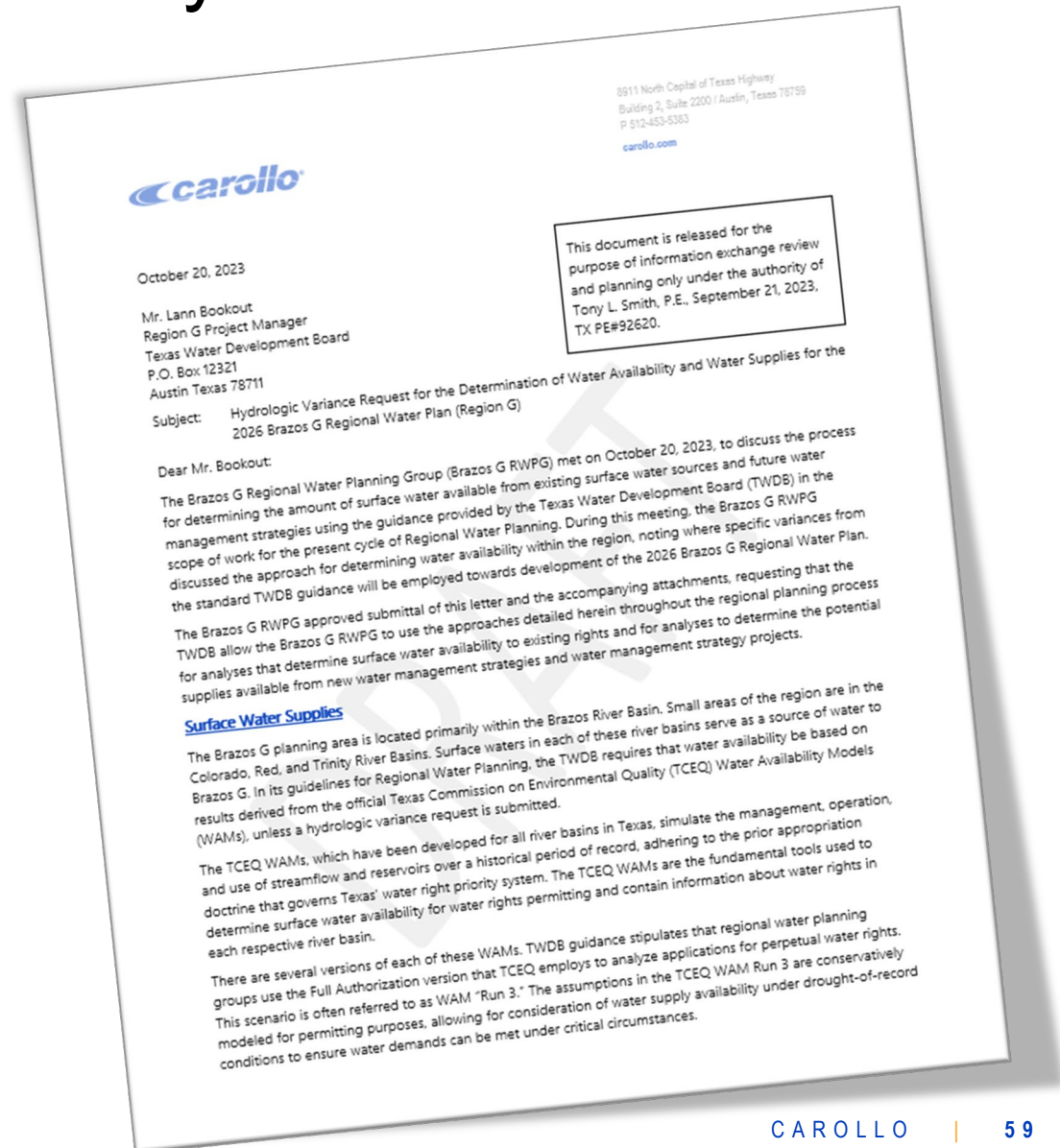
A completed surface water hydrologic variance request checklist for each river basin, along with any necessary supporting information.

Documentation of the submittal request being approved by the RWPG at a regular planning group meeting.

Hydrologic Variance Request Summary

Cover Letter Must:

- Document approval for submittal at public RWPG meeting
- Define approach for firm and safe yields
- Provide details for existing sources and strategies
- Where providers have studied DWDOR, consider potential impacts within Chapter 8 to inform legislative and regional policy recommendations.



WAMs

Basin	Version	POR
Brazos	October 1, 2023	1940-2018
Colorado	Region F and K	
Red River	Region B	
Trinity	Region C	

Requested Variances

Request	Similar to previous planning cycle?
<p>Separate individual BRA Contractual diversions from cumulative contractual diversions.</p> <ul style="list-style-type: none"> Brazos WAM Run 3 accumulates BRA's contracts within various reaches. Allocate the cumulative contractual diversions by reach to individual contract holders representing the specific WUGs and WWP's. Accounting of individual contract supply will be based on the supply available in the reach in which the contract diversion is located. 	<p>Yes (2021)</p>



¹ 31 Texas Administrative Code (TAC) §§ 357.10(14) and 357.32(c)

Requested Variances

Request

For evaluating existing reuse supplies, include return flows for existing surface water rights.

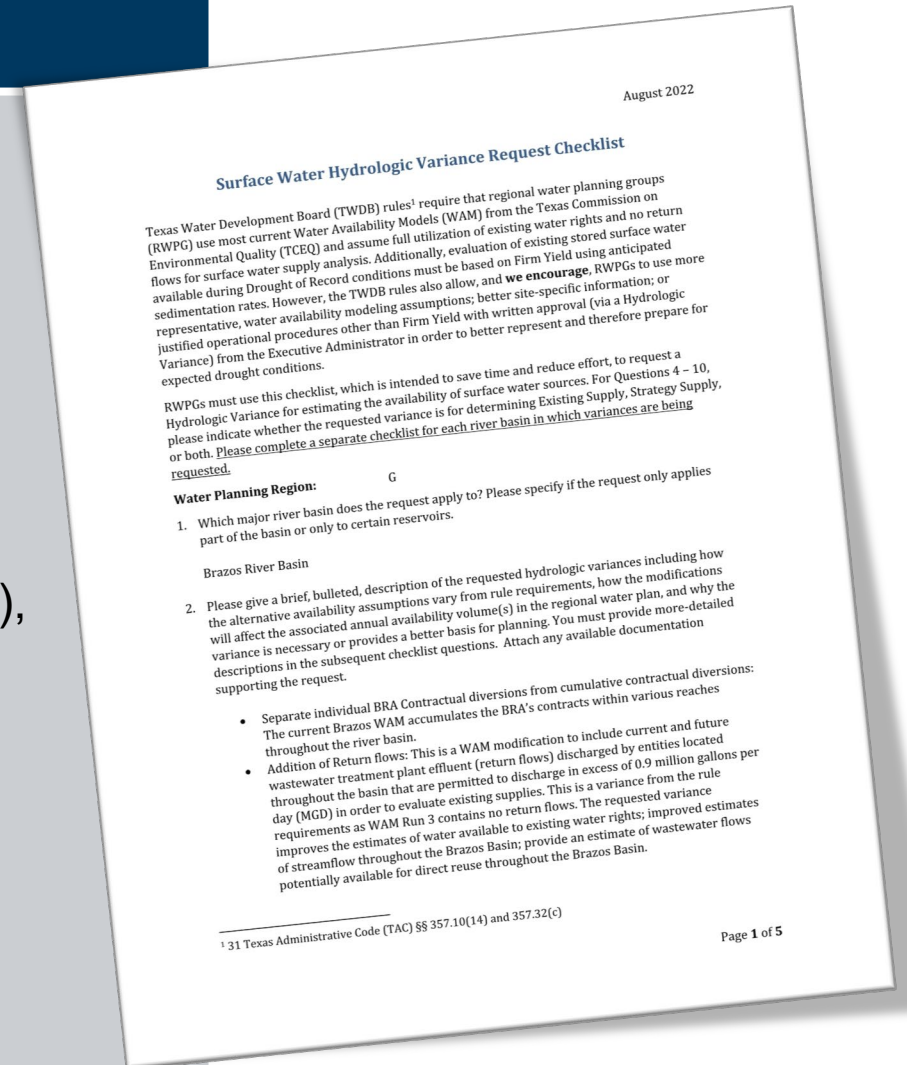
For evaluating indirect reuse WMS, include related return flows.

Consistent with TCEQ approach for evaluations of reuse permit applications.

- Modification to include current and future wastewater treatment plant effluent (return flows) discharged by entities located throughout the basin that are permitted to discharge in excess of 0.9 million gallons per day (MGD).
- Volumes modeled as the minimum discharge from the most recent 5 years of available historical discharge data.

Similar to previous planning cycle?

Yes (2021 and 2016), updated data



Requested Variances

Request

Inclusion of existing subordination agreements not already within WAM Run 3 for evaluation of existing and strategy supplies.

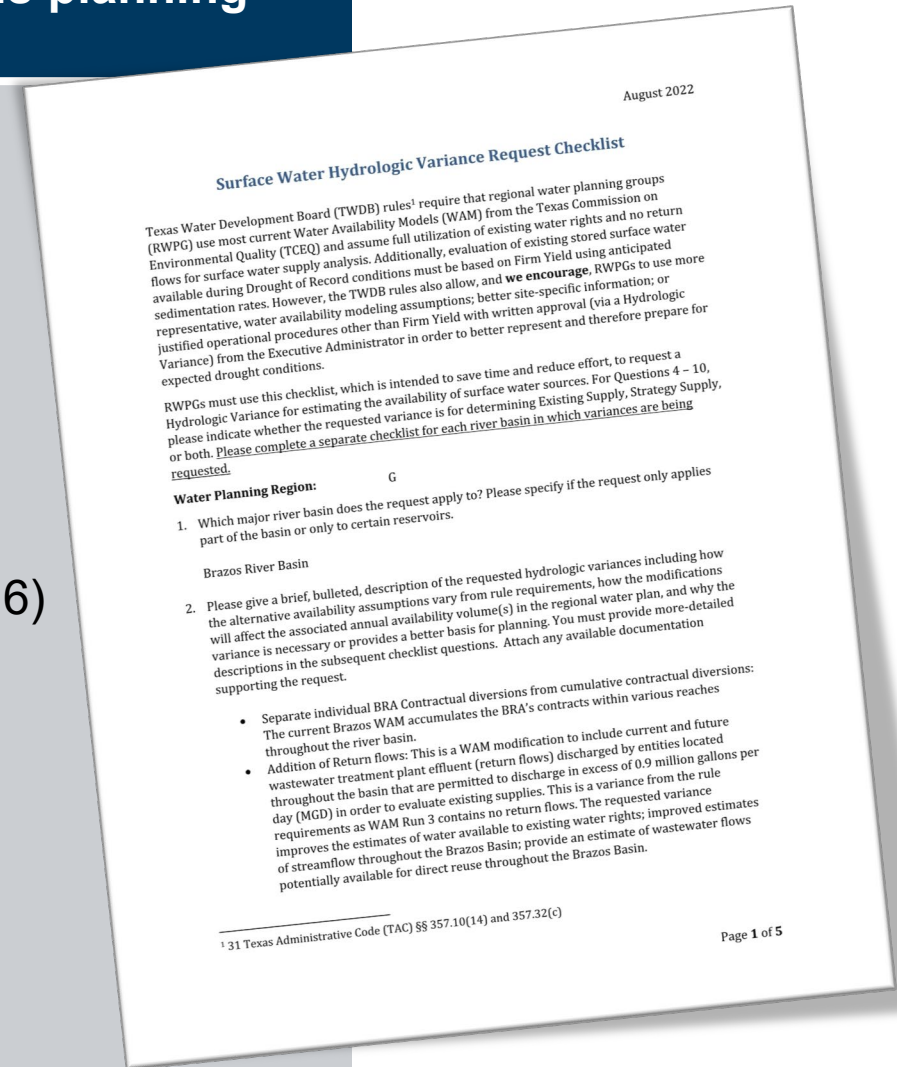
Include the following agreements:

- Possum Kingdom Reservoir water rights are subordinate to: Lake Alan Henry, the City of Stamford's California Creek pump-back operation into Lake Stamford, rights held by the West Central Texas Municipal Water District in Hubbard Creek Reservoir; and rights held by the City of Abilene to divert flows from the Clear Fork of the Brazos River into Lake Fort Phantom Hill.
- Lake Waco is subordinated to the City of Clifton's 1996 priority date water right.

Other subordination agreements will also be incorporated when identified during the planning process.

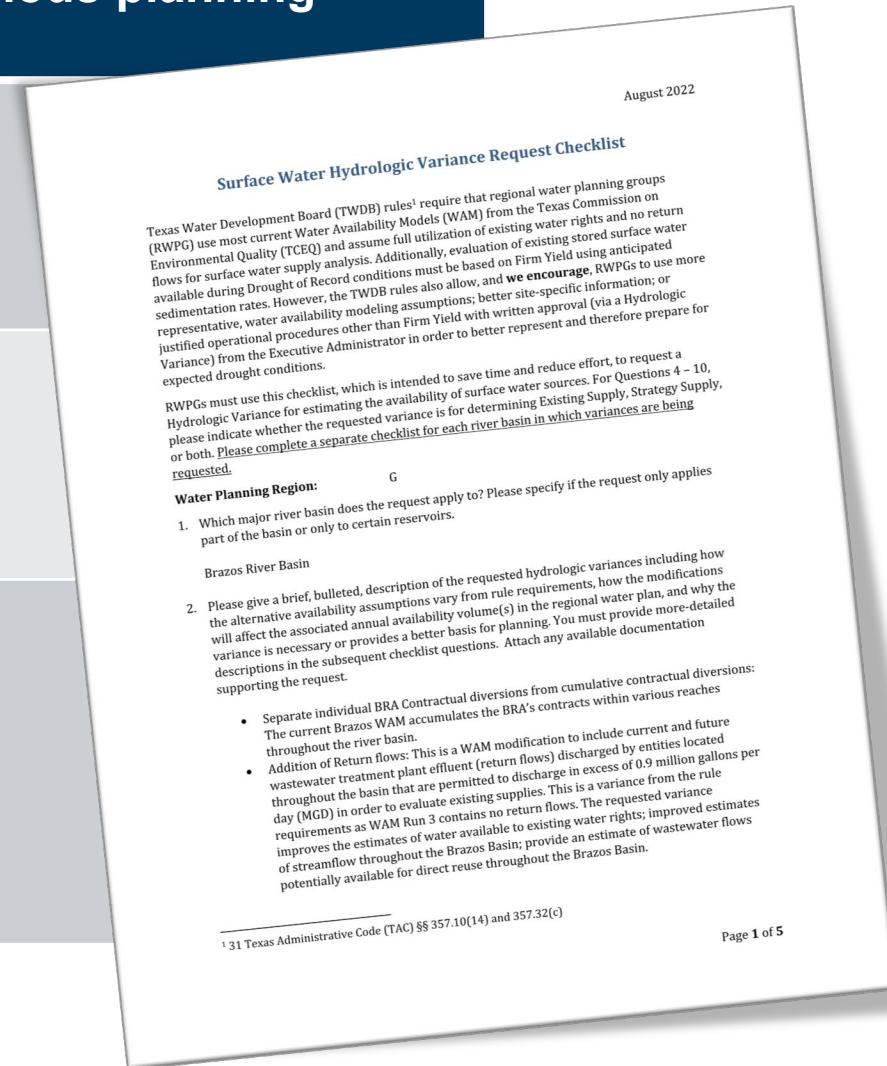
Similar to previous planning cycle?

Yes (2021 and 2016)



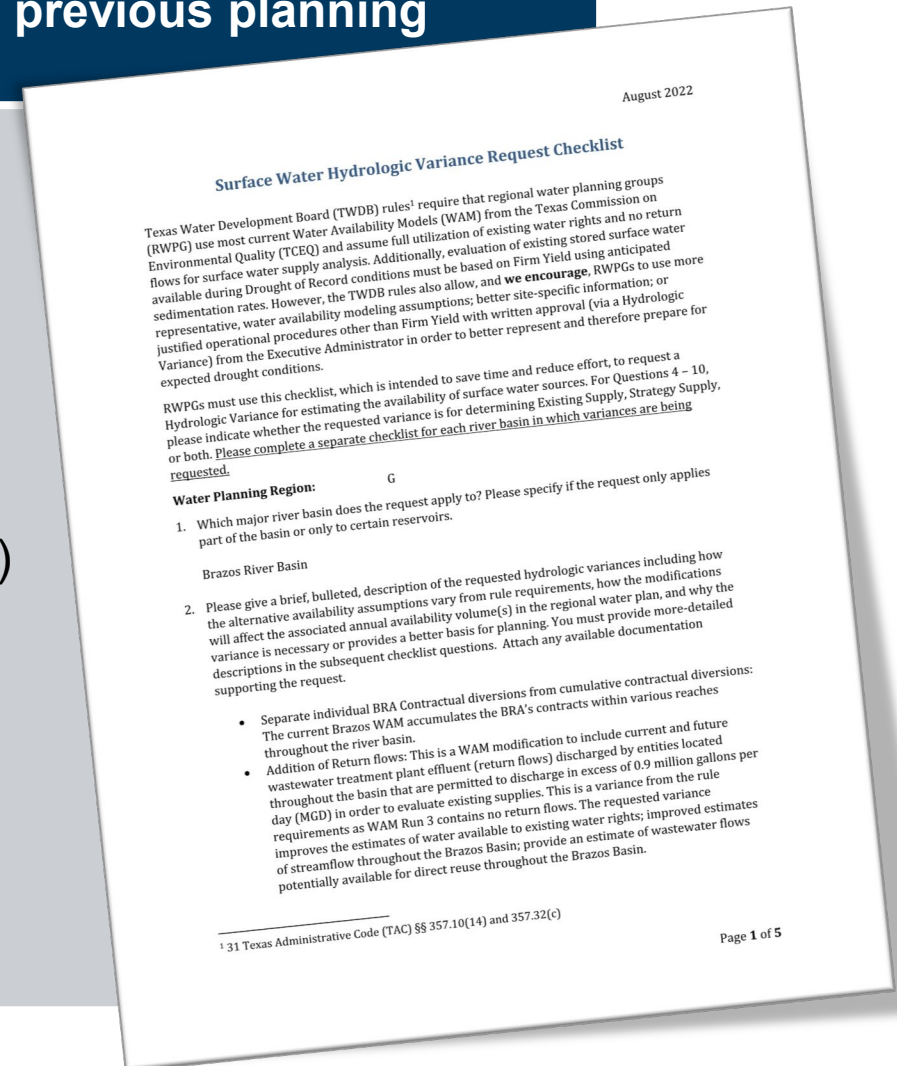
Requested Variances

Request	Similar to previous planning cycle?
<p>Represent BRA's Little River Reservoirs as a system (Belton, Georgetown, Granger, Proctor, and Stillhouse) where source availability is aggregate of individual source availabilities.</p>	<p>Yes (2021)</p>
<p>Represent BRA's main stem reservoirs as a system (Granbury, Limestone, Possum Kingdom, Somerville, and Whitney) where source availability is aggregate of individual source availabilities.</p>	<p>Yes (2021)</p>
<p>Requested variance to accurately reflect implementation of the BRA's System Operations permit. Annual source availability volumes will be modeled and analyzed in a manner consistent with the terms of the water right for both existing supplies and potential water management strategies.</p>	<p>Yes (2021)</p>



Requested Variances

Request	Similar to previous planning cycle?
<p>Update reservoir operating rules to work correctly under recent drought conditions.</p> <ul style="list-style-type: none"> The reservoir operating rules in the TCEQ WAM Run 3 is designed such that BRA's system of reservoirs operate optimally during the drought of the 1950s. These operating rules do not allow the system to operate optimally during the more recent drought. BRA has developed more recent operational rules allowing the reservoir system to operate optimally through both the 1950s and more recent drought periods. Incorporate these more recent operational rules into the model. 	<p>Yes (2021)</p>



Requested Variances

Request

Safe yield assumptions used where best reflective of reservoir operation.

1. Upstream of Possum Kingdom Reservoir (in the upper Brazos Basin) utilize 1-year and 2-year safe yields

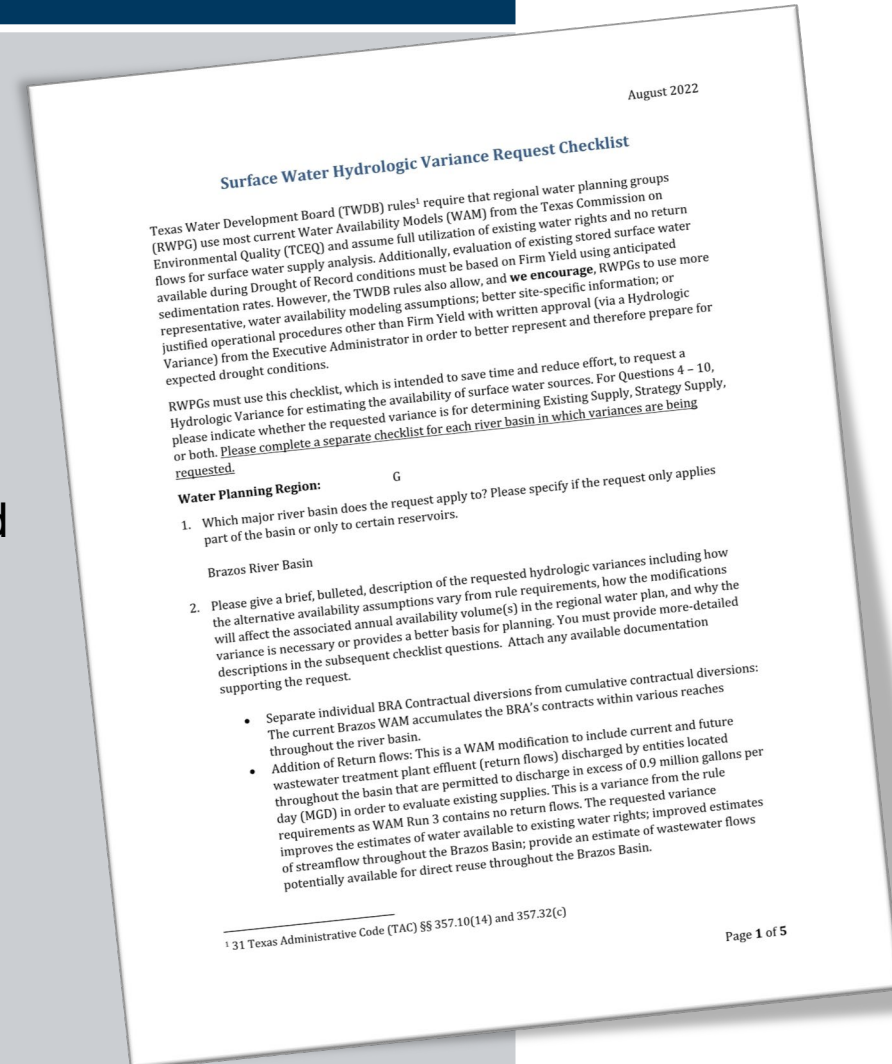
- 2-year Safe Yield: Fort Phantom Hill, Hubbard Creek.
- 1-year Safe Yield: Abilene, Cisco, Daniel, Graham-Eddleman, Kirby, Stamford, Sweetwater, Sweetwater_Trammel_RC4128, Lytle Lake, City of Hamlin Lake, Anson North, Woodson, Baird, McCarty, Moran, Bryson, and Millers Creek Reservoir.

2. Palo Pinto County Municipal Water District No. 1 operates Lake Palo Pinto on a percent storage reserve basis, which is approximately equivalent to a 0.5-year safe yield.

For reservoirs in which a safe yield is utilized as the basis for supply, Brazos G will also determine and report the firm yield, as required by TWDB guidance.

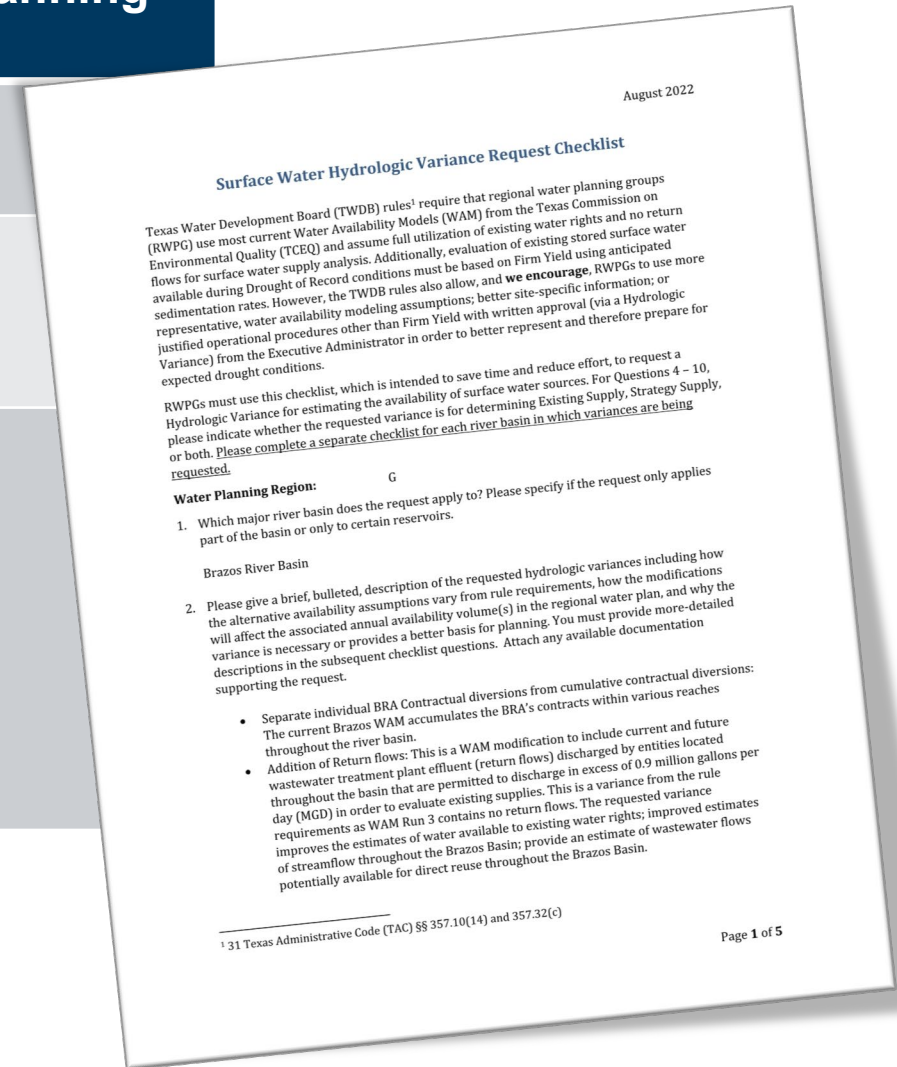
Similar to previous planning cycle?

Yes (2021 and 2016)



Requested Variances

Request	Similar to previous planning cycle?
Other corrections to the WAM that may be identified during review of the model.	No
Requesting modified WAM to reflect updated sedimentation effects on existing supply reservoir firm yields	Yes (2021 and 2016)
ASR evaluations will consider surface water availability as determined by the WAM compared to demand for the WUG/WWP, with the firm supply being the maximum demand that could be met assuming a repetition of the period of record drought.	No

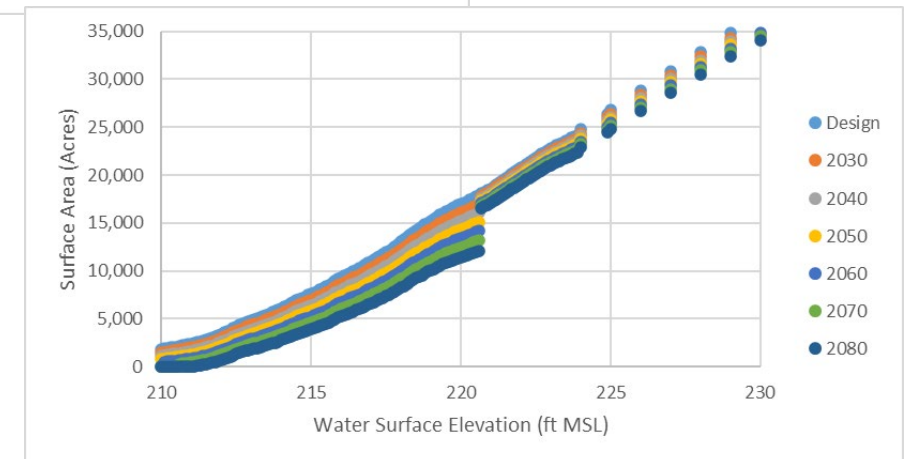
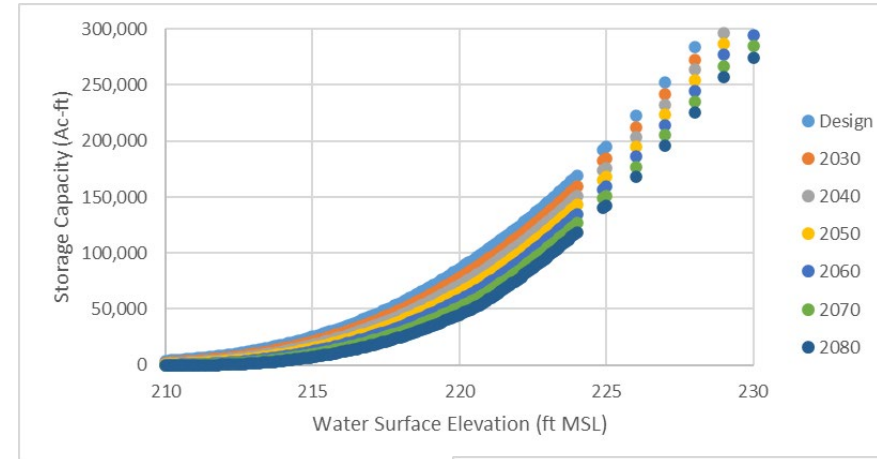


Sedimentation

- Reduces storage capacity over time.
 - Volumetric surveys allow for the derivation of rates and loadings of sediment to a reservoir.
 - Loading can be distributed to determine a revised relation of elevation/area/volume characteristics of the reservoir's storage.
- Sedimentation Methodology is:
 - Not required for Hydrologic Variance, but its inclusion is encouraged by TWDB.
 - Is required within Technical Memorandum, IPP, and final RWP.
 - Consistency with approach used for the purposes of the 2021 Region G Plan.

Sedimentation (Cont'd)

- If no firm yield, that will be assumed throughout planning period.
- Where volumetric surveys are lacking, original area-capacity relations will be used.
- If those are unavailable, most recent area-capacity-elevation relation will be used as baseline.
- If volumetric survey is available, annual sediment rate will be calculated/cited, and loadings calculated for 2030 and 2080.
- Sediment distribution will use best fit (RMSE) of trapezoidal, conical, or Empirical Area Reduction Method to determine elevation/area/capacity relations.
- Owner requested method will be documented.
- Selected relations will then be used in WAM to calculate 2030 and 2080 firm yields.
- Intervening decadal firm yields will be linearly interpolated.



9.2

Consideration of Action to Approve Submittal of Hydrologic Variance Request

Discussion and Action as appropriate

Action

- Authorize the technical consultant to submit a hydrologic variance request to the TWDB on behalf of the Brazos G RWPG consistent with the information provided in this meeting and approve for the consultant to work with the Chair and Administrator to submit further revisions and make responses to revision requests by TWDB.

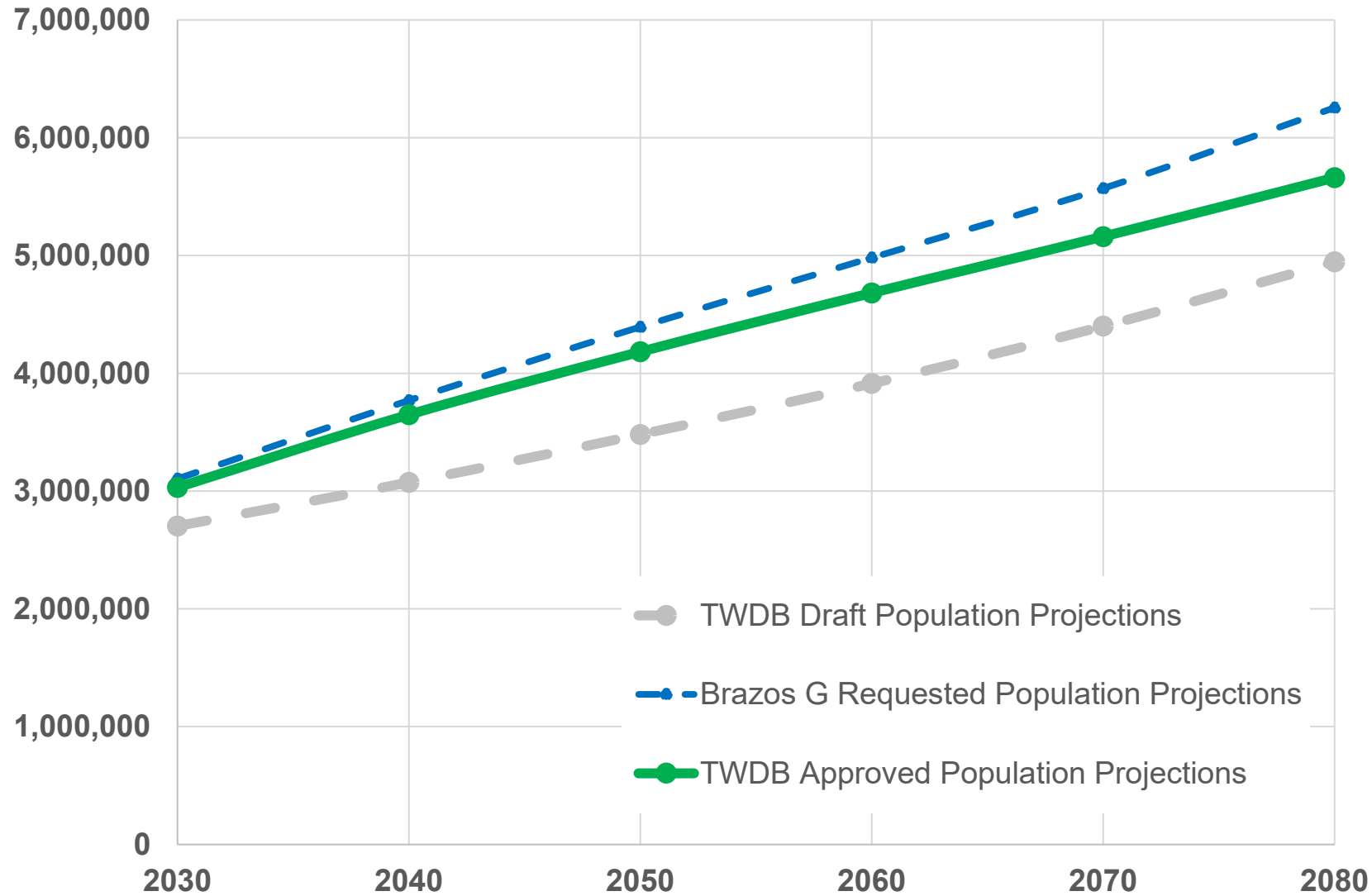
9.3

Regional Water Planning Update

Summary of Discussion Items

- Population and Demand Projections
- WWP/MWP List
- Interregional Coordination
- Path Forward

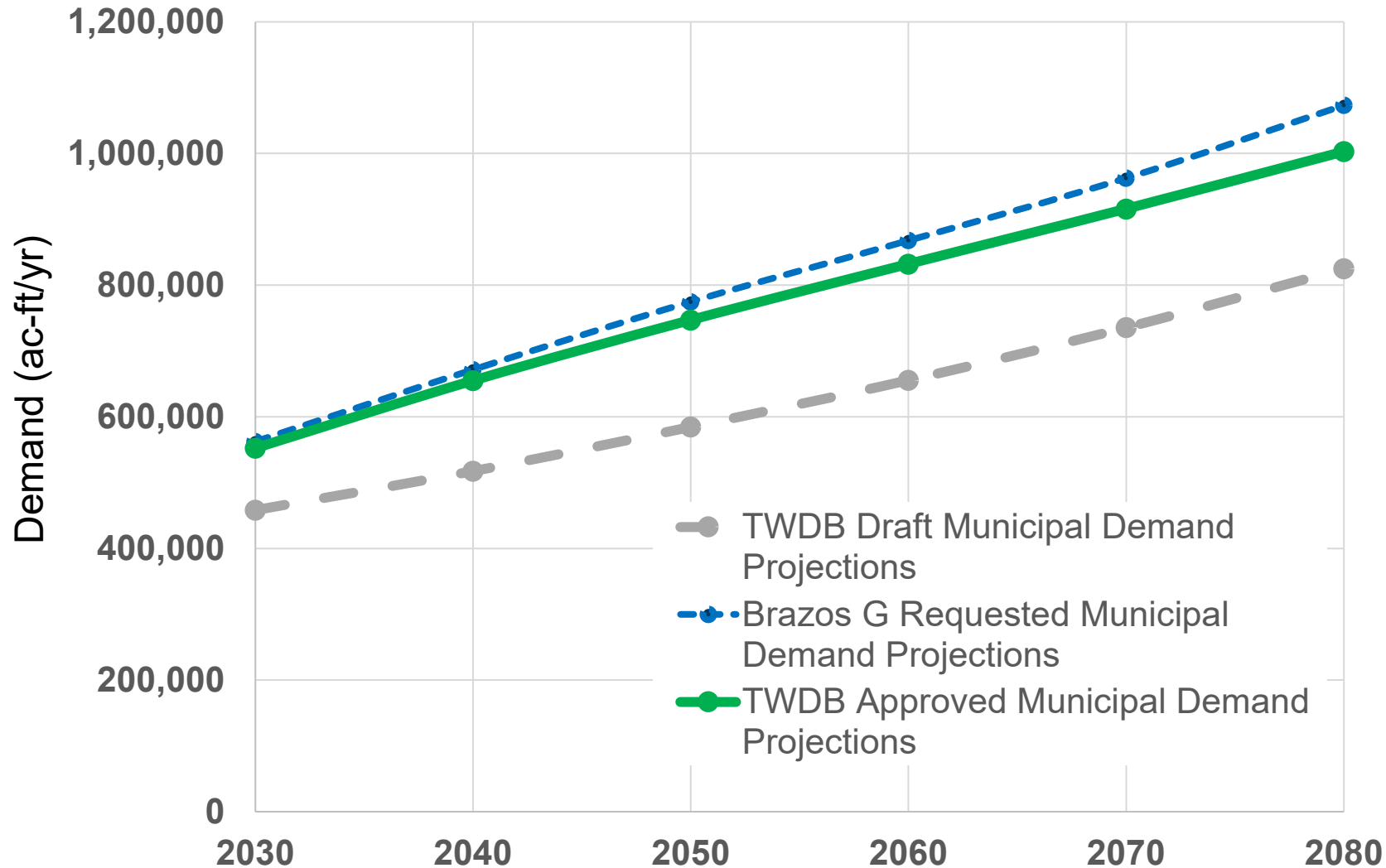
Population Projections



■ Differences between requested and approved:

- Bell
- Coryell
- Hill
- Johnson
- Lampasas
- Washington
- Williamson

Municipal Demand Projections



■ Differences between requested and approved:

- Bell
- Coryell
- Grimes
- Hill
- Johnson
- Lampasas
- McLennan (increase)
- Washington
- Williamson

Wholesale Water Providers (WWP)

31 TAC §357

- WWP – Must sell or deliver (or plan to sell or deliver) wholesale water at some point in the 50-year planning horizon.

RWPGs determine which WWPs to use in their plan development

Specific analysis and reporting requirements

Preliminarily Identified Wholesale Water Providers

Wholesale Water Provider
Aquilla WSD
Bell County WCID #1
Bluebonnet WSC
Brazos River Authority
Central Texas WSC
Eastland County WSD
FHLM WSC
North Central Texas MWA
Palo Pinto County MWD No. 1
Upper Leon MWD
Salt Fork Water Quality Corporation
West Central Texas MWD

Major Water Provider (MWP)

MWP are a subset of WUGs and WWPs

- Identified and designated by RWPG to be of particular significance to the region's water supply.

In 2021 Plan, MWPs were identified as:

- Any WWP that is not also a municipal WUG, or
- Any WUG with a total municipal demand in the Brazos G Area of at least 1,000 ac-ft/yr, including contractual sales to other municipal utilities.

MWPs with 2026 additions

Major Water Provider	Major Water Provider	Major Water Provider	Major Water Provider
439 WSC	College Station	Hutto	Round Rock
Abilene	Colorado River Municipal Water District	Jarrell-Schwertner	Salado WSC
Acton MUD	Copperas Cove	Johnson County SUD	Salt Fork Water Quality Corporation (SFWQC)
Alvarado	Corix Utilities Texas Inc	Jonah Water SUD	Somervell County Water District
Anson	Coryell City Water Supply District	Keene	Sonterra MUD
Aquilla WSD	Cross Country WSC	Kempner WSC	Southwest Milam WSC
Arlington	Dog Ridge WSC	Killeen	Stamford
Bell County WCID 1	Double Diamond Utilities	Lacy Lakeview	Steamboat Mountain WSC
Bell County WCID 3	Dublin	Lampasas	Stephenville
Bellmead	Eastland County WSD	Leander	Sweetwater
Belton	Fern Bluff MUD	Liberty Hill	Tarrant Regional Water District - via other WWP's
Bethesda WSC	FHLM WSC	Lower Colorado River Authority	Taylor
Bistone Municipal Water Supply District	Files Valley WSC	Mansfield	Temple
Bluebonnet WSC	Fort Cavazos*	Manville WSC	Texas A and M University
BRA	Fort Worth	Marlin	Texas State Technical College
Brandon Irene WSC	Gatesville	McGregor	Upper Leon Municipal Water District
Brenham	Georgetown	Mexia	Venus
Bruceville Eddy	Gholson WSC	Mineral Wells	Waco
Brushy Creek MUD	Giddings	Morgans Point Resort	Wellborn SUD
Bryan	Gordon	Mountain Peak SUD	West Central Texas MWD
Burleson	Graham	Navasota	Wickson Creek SUD
Cameron	Granbury	North Bosque WSC	Williamson County MUD 11
Cedar Park	Harker Heights	North Central Texas Municipal Water Authority	Williamson County WSID 3
Central Texas WSC	Hewitt	Palo Pinto County MUD No.1	Woodway
Cisco	Hilco United Services	Potosi WSC	
Cleburne	Hillsboro	Robinson	
Clifton	Huntsville	Rockdale	

* Formerly Fort Hood

Interregional Coordination

Ongoing coordination with Multiple Regions

Region B

- Utilizing modified WAM Run 3
- 1-year Safe yields
- Same as last round.

Region C

- Will utilize approved Brazos G WAM
- Anticipate coordination on allocations and WMSs

Region H

- Will utilize approved Brazos G WAM
- Anticipate coordination on allocations and WMSs

Region K

- Will utilize approved Brazos G WAM
- Anticipate coordination on allocations and WMSs

Region F

- Will utilize approved Brazos G WAM
- Amendment for Bronte to change Alt. WMS to Recommended (Edwards-Trinity, Pecos, GW in Nolan County)

Path Forward



Tentative Technical Memorandum Outline

1. TWDB DB27 Reports
2. Determination of Source Availability
 - a) Surface water
 - i. Hydrologic Models
 - ii. Versions and Dates
 - b) Groundwater
 - i. MAG Summary
 - ii. Methodology for non-MAG Availabilities
3. Potentially Feasible Water Management Strategies
 - a) Process
 - b) List
4. List of Infeasible 2021 Water Management Strategies
5. Public Comments

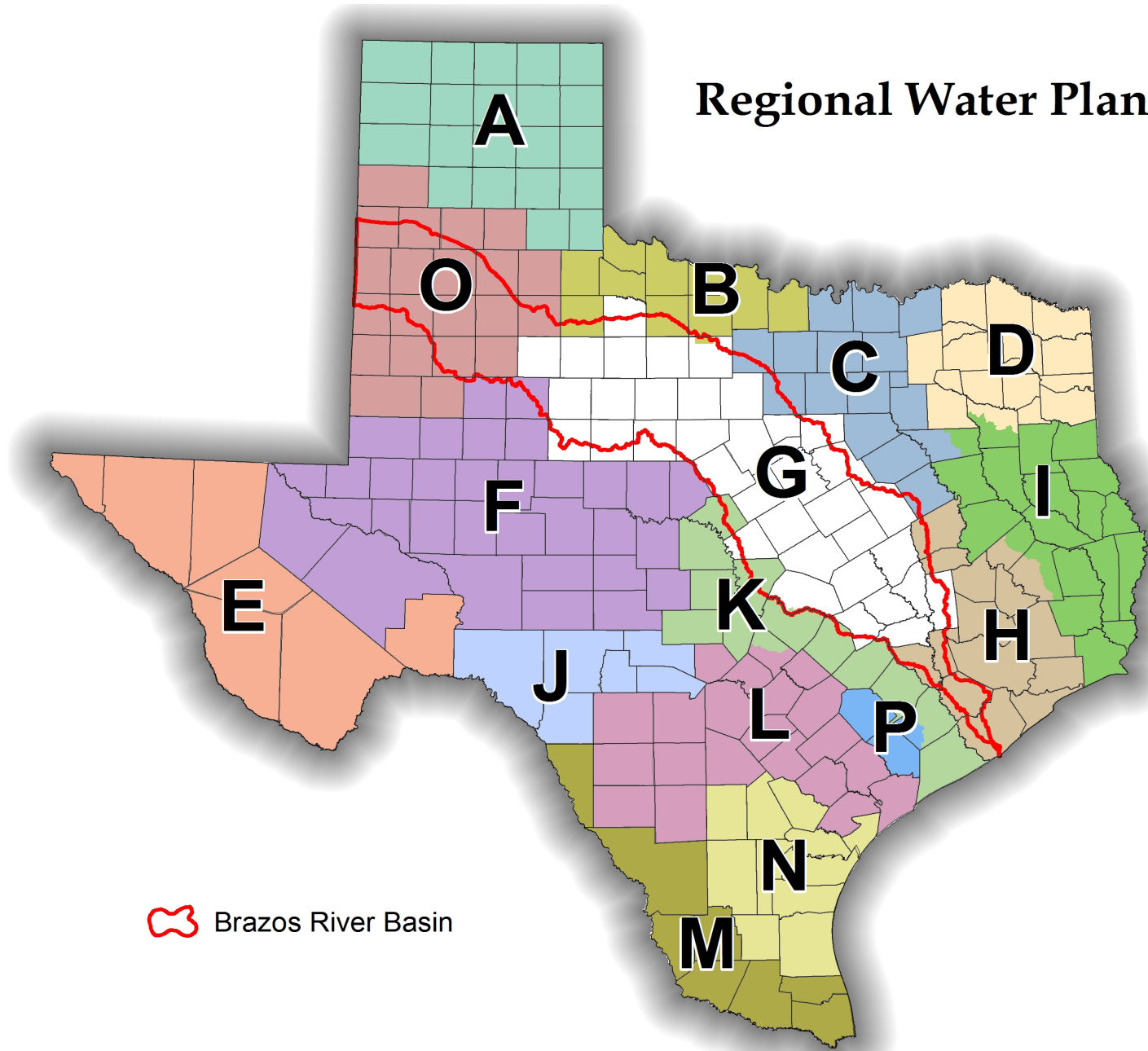
Tony L. Smith, P.E.
TLSmith@carollo.com





10. Report and possible discussion on updates from other regional water planning groups (Regions B, C, F, H, K, L & O)

Regional Water Planning Groups



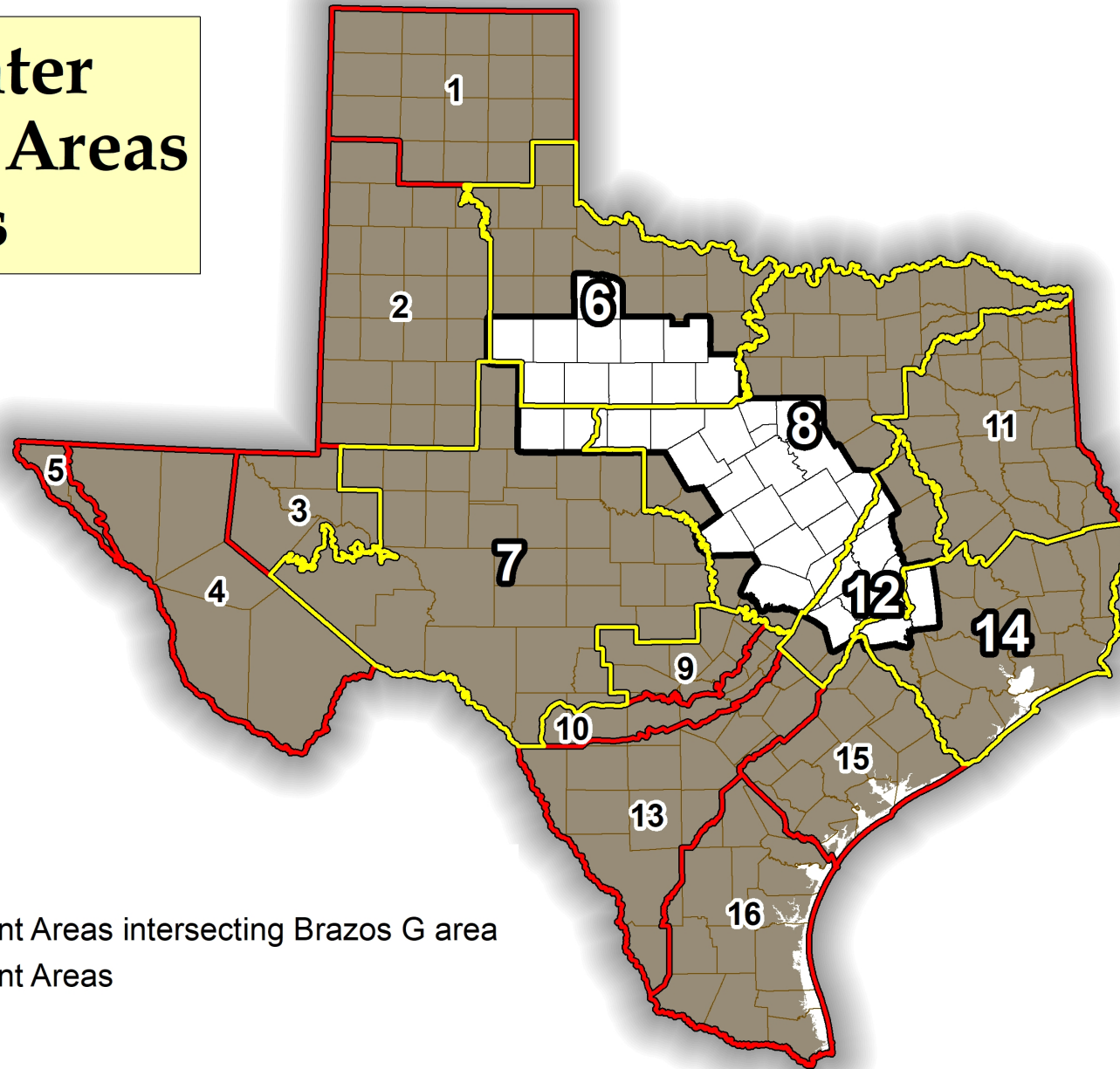
- A** Panhandle
- B** Region B
- C** Region C
- D** North East Texas
- E** Far West Texas
- F** Region F
- G** Brazos G
- H** Region H
- I** East Texas
- J** Plateau
- K** Lower Colorado
- L** South Central Texas
- M** Rio Grande
- N** Coastal Bend
- O** Llano Estacado
- P** Lavaca

 Brazos River Basin



11. Report and possible discussion on Groundwater Management Area (GMA) activities

Groundwater Management Areas of Texas



GMA's in Brazos G:
6, 7, 8, 12, 14

-  Brazos G Area
-  Groundwater Management Areas intersecting Brazos G area
-  Groundwater Management Areas

12. Report and possible discussion on agency communication and information. (TPWD, TDA, TSSWCB, BBASC, & Interregional Planning Council)





13. Discussion and possible action on report by Brazos G Administrator

13.1. Administrator Report

13.2. Finance Report – Summary of Administrative Tasks and Expenses

Brazos River Authority
Brazos G
From 07/01/23 Through 08/31/23

	Current Period	Life to date	Total Budget	Budget Variance	% Budget Remaining
Revenues					
State Grants	73,154	201,273	1,823,980	1,622,707	88.97%
Interest Income	-	-			
Total Revenues	73,154	201,273	1,823,980	1,622,707	88.97%
Reimbursable Expenditures					
Salaries	294	3,232			
Benefits	127	1,402			
Indirect Costs	29	323			
Other Expenditures					
Printing/Publishing ¹	156	4,783			
Public Information/Notices ²	-	2,373			
Total Other Expenditures	607	12,114	42,500	30,386	71.50%
Voting Planning Member Travel	701	5,254	25,500	20,246	79.40%
Subcontractor ³	71,847	183,906	1,755,980	1,572,074	89.53%
Total Reimbursable Expenditures	73,154	201,273	1,823,980	1,622,707	88.97%
Work in Kind					
Salaries/benefits	556	15,543			
Other	1,058	1,408			
Total Work in Kind	1,614	16,951			
Net Revenue over expenditures	(1,614)	(16,951)	-	-	

¹ Postage/copies

³ includes



14. Discussion and possible action on report from Brazos G Chair



**15. Consider Agenda Items and Date for the next Brazos G
RWPG public meeting**



16. Adjourn