REGION H
Water Planning Group

MEETING MATERIALS

July 1, 2020

Common Region H Terms and Conversion Factors

List of Abbreviations

COA	Certificate of Adjudication
CRU	Collective Reporting Unit
DCP	Drought Contingency Plan
DFC	Desired Future Condition
DOR	Drought of Record
EA	Executive Administrator
EPA	Environmental Protection Agency
FWSD	Fresh Water Supply District
GAM	Groundwater Availability Model
GCD	Groundwater Conservation District
GMA	Groundwater Management Area
GPCD	Gallons Per Capita Per Day
GRP	Groundwater Reduction Plan
IPP	Initially Prepared Plan
MAG	Modeled Available Groundwater
MPC	Master Planned Community
MUD	Municipal Utility District
MWP	Major Water Provider
PDSI	Palmer Drought Severity Index
PWS	Public Water Supply
RHWPG	Region H Water Planning Group
ROR	Run-of-River
RWP	Regional Water Plan
RWPA	Regional Water Planning Area
RWPG	Regional Water Planning Group
SWIFT	State Water Implementation Fund for Texas
SWP	State Water Plan
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TPWD	Texas Parks and Wildlife Department
TWC	Texas Water Code
TWDB	Texas Water Development Board
UCM	Unified Costing Model
WAM	Water Availability Model
WCID	Water Control and Improvement District
WCP	Water Conservation Plan
WMS	Water Management Strategy
WRAP	Water Rights Analysis Package
WUD	Water Utility Database
WUG	Water User Group
WWP	Wholesale Water Provider

Water Measurements

1 acre-foot (AF) = 43,560 cubic feet = 325,851 gallons

1 acre-foot per year (ac-ft/yr) = 325,851 gallons per year = 893 gallons per day

1 gallon per minute (gpm) = 1,440 gallons per day = 1.6 ac-ft/yr

1 million gallons per day (mgd) = 1,000,000 gallons per day = 1120 ac-ft/yr

Region H Water Planning Group
10:00 AM Wednesday
July 1, 2020
Publicly Accessible Webinar/Telephone Conference
(details below)

AGENDA

1. Call to order.
2. Introductions.
3. Review and approve minutes of February 5, 2020 meeting.
4. **Receive public comments on specific issues related to agenda items 5 through 12**. (Public comments limited to 3 minutes per speaker)
5. Accept the resignation of Ivan Langford as a voting member of the Region H Water Planning Group representing Water Utilities, declare a vacant position, and consider taking action to appoint a new voting member representing Water Utilities.
6. Receive presentation from Harris-Galveston Subsidence District on the Joint Regulatory Plan Review.
7. Receive update from Consultant Team regarding the schedule and milestones for the development of the 2021 Region H Regional Water Plan (RWP).
8. Receive update from Consultant Team regarding the Initially Prepared Plan public comment process and discuss potential revisions for the development of the Final 2021 Region H RWP.
9. Receive presentation from Consultant Team regarding Infrastructure Financing Survey distribution and collection of responses.
10. Review and take action to amend the budget for the development of the 2021 Region H RWP.
11. Receive report regarding recent and upcoming activities related to communications and outreach efforts on behalf of the Region H Water Planning Group.
12. Agency communications and general information.
13. **Receive public comments**. (Public comments limited to 3 minutes per speaker)
14. Next Meeting: August 5, 2020.
15. Adjourn.

HOW TO PARTICIPATE IN THE PUBLIC MEETING

Notice is hereby given to all interested members of the public that the Region H Water Planning Group will hold a public meeting **via webinar / telephone conference call** pursuant to Texas Government Code, Section 551.125, as amended, and as modified by the temporary suspension of various provisions thereof effective March 16, 2020, by the Governor of Texas in accordance with the Texas Disaster Act of 1975, all as related to the Governor's proclamation on March 13, 2020, certifying that the COVID-19 pandemic poses an imminent threat of disaster and declaring a state of disaster for all counties in Texas. The webinar will begin **at 10:00 a.m. on July 1, 2020** and is anticipated to conclude at noon. If you anticipate providing verbal comment at the public meeting and have email access, please contact **info@regionhwater.org** prior to the meeting to facilitate an accurate estimate of the number of speakers.

If you choose to participate via the webinar link below, you <u>WILL</u> have the opportunity to provide comments during the designated portion of the meeting.

Webinar Link: ***https://attendee.gotowebinar.com/register/2007194068556925197***

After registering, you will receive a confirmation email containing information about joining the webinar.

If you choose to participate via the GoToWebinar App, you <u>WILL</u> have the opportunity to provide comments during the designated portion of the meeting.

Please use Webinar ID: 593-617-355.

If you choose to participate in the meeting using the conference call number below, you will <u>NOT</u> have the opportunity to provide comments during the designated portion of the meeting. The conference call phone number is provided for <u>LISTENING PURPOSES ONLY</u>.

Telephone conference call phone number: (415) 655-0060 and the audio access code is 202-932-045.

All members of the public may participate in the meeting via webinar, Webinar App, or telephone conference call.

Persons with disabilities who plan to attend this meeting and would like to request auxiliary aids or services are requested to contact Cynthia Bowman at (936) 588-3111 at least three business days prior to the meeting so that appropriate arrangements can be made.

Agenda Item 3

Review and approve minutes of February 5, 2020 meeting.

REGION H
Water Planning Group

REGION H WATER PLANNING GROUP
MINUTES OF REGULAR MEETING
FEBRUARY 5, 2020

MEMBERS PRESENT: Gary Ashmore, David Bailey, John Bartos, Robert Bruner, Brad Brunett, Carl Burch, James Comin, Mark Evans, Bob Hebert, Art Henson, Jace Houston, Ivan Langford, Marvin Marcell, William Teer, Michael Turco, Kevin Ward, and Pudge Willcox.

DESIGNATED ALTERNATES: Alisa Max for John Blount, Mike Uhl for Glenn Lord, Veronica Osegueda for Yvonne Forrest, Ken Kramer for Carl Masterson, Zach Holland for James Morrison, and Jun Chang for Jimmie Schindewolf

MEMBERS ABSENT: W.R. Baker and Robert Istre.

NON-VOTING MEMBERS PRESENT: Lann Bookout

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1. CALL TO ORDER

The meeting was called to order at 10:00 a.m.

2. INTRODUCTIONS

There were no introductions.

3. REVIEW AND APPROVE MINUTES OF JANUARY 8, 2020

Mr. Brunett made a motion to approve the minutes of January 8, 2020. The motion was seconded by Mr. Langford and carried unanimously.

4. RECEIVE PUBLIC COMMENTS ON SPECIFIC ISSUES RELATED TO AGENDA ITEMS 5 THROUGH 12

There were no public comments related to agenda items 5 through 12.

5. DISCUSS AND ELECT OFFICERS AND MEMBERS OF THE EXECUTIVE COMMITTEE OF THE REGION H WATER PLANNING GROUP (RHWPG)

Mr. Taucer stated that the current members of the Executive Committee are Mark Evans, Chair; Marvin Marcell, Vice-Chair; Jace Houston, Secretary; Pudge Willcox and John Bartos. Mr. Hebert made a motion to re-elect the current officers and members. The motion was seconded by Mr. Langford and carried unanimously.

6. **RECEIVE UPDATE FROM CONSULTANT TEAM REGARDING THE SCHEDULE AND MILESTONES FOR THE DEVELOPMENT OF THE 2021 REGION H RWP.**

Mr. Taucer provided information related to the milestones for the development of the 2021 Region H Regional Water Plan by reviewing upcoming deadlines related to the Initially Prepared Plan ("IPP") public comment period and other dates related to same.

7. **RECEIVE UPDATE FROM CONSULTANT TEAM REGARDING THE SCHEDULE OF PUBLIC HEARINGS.**

Mr. Taucer explained the various requirements for the IPP public hearings. He provided tentative dates, times, and locations for same. Mr. Taucer explained that the Texas Water Development Board rules require only one public hearing, however it has been their practice to provide more convenient public hearing locations throughout the region (Montgomery County, Madison County, and Fort Bend County) to ensure public participation.

8. **DISCUSS AND TAKE ACTION ON APPROVAL OF PUBLIC HEARING SCHEDULE FOR PRESENTATION OF THE 2021 REGION H INITIALLY PREPARED REGIONAL WATER PLAN AND AUTHORIZE SAN JACINTO RIVER AUTHORITY AND THE CONSULTANT TEAM TO PREPARE AND MAIL NOTICES RELATED TO THE PUBLIC HEARINGS.**

Mr. Taucer provided a tentative schedule for the public hearings. Mr. Chang made a motion to approve the public hearing schedule for the presentation of the 2021 Region H Initially Prepared Regional Water Plan and authorize the San Jacinto River Authority and the consultant team to prepare and mail notices related to the public hearings. Mr. Bartos amended the motion to provide the consultant team the flexibility to alter the dates based upon venue availability, etc. The amendment and original motion were seconded by Mr. Ward and carried unanimously.

9. **REVIEW COMMENTS RECEIVED AND REVISIONS MADE TO THE DRAFT INITIALLY PREPARED PLAN.**

Mr. Taucer provided an overview of the various comments received and minor revisions made to the draft Initially Prepared Plan. He explained the addition of the Cedar Bayou Desalination Facility, the City of Houston Groundwater Expansion, the City of Houston GRP Transmission, the CWA Transmission Line, and the Lower Brazos Industrial Reuse projects. He then explained various adjustments made to the Brackish Groundwater Development, City of Houston Reuse, Neches-Trinity Water Purification Plant, Northeast Water Purification Plant, Southeast Transmission Line, and the West Water Purification System projects. Mr. Taucer provided information related to general adjustments which included drought of record for multi-region basins, the fine tuning of recent contracts, clarification of multi-region MWP summaries, and interregional concerns related to alluvial groundwater. Discussion ensued related to alluvial groundwater and it was determined that a joint committee of Region H and Region G should take place in the future to further discuss. Mr. Taucer provided an overview of the various changes to Volume 1 and Volume 2 of the IPP and reviewed the major deliverables.

10. CONSIDER AND ADOPT THE IPP AND APPROVE THE CONSULTANT TEAM TO PREPARE FINAL COPIES OF THE REVISED INITIALLY PREPARED PLAN AND SUPPORTING DOCUMENTATION AND SUBMIT TO TEXAS WATER DEVELOPMENT BOARD NO LATER THAN MARCH 3, 2020

Mr. Henson made a motion to adopt and approve the consultant team to prepare final copies of the revised IPP and supporting documentation and submit to the Texas Water Development Board no later than March 3, 2020. The motion was seconded by Mr. Marcell and carried unanimously.

11. RECEIVE REPORT REGARDING RECENT AND UPCOMING ACTIVITIES RELATED TO COMMUNICATIONS AND OUTREACH EFFORTS ON BEHALF OF THE RHWPG

Mr. Taucer provided information related to an upcoming Gulf Coast Water Conservation Symposium.

12. AGENCY COMMUNICATIONS AND GENERAL INFORMATION

Mr. Bookout stated that the SWIFT applications were due February 3, and that five were received from Region H.

13. RECEIVE PUBLIC COMMENTS. (PUBLIC COMMENTS LIMITED TO 3 MINUTES PER SPEAKER)

Ms. Susanne Allen and Mr. Erich Birch spoke about the seasonal lake lowering policy at Lake Conroe.

14. NEXT MEETING: JUNE 3, 2020

Mr. Evans announced that the next Region H Water Planning Group meeting would take place on June 3, 2020.

15. ADJOURN

Without objection, the meeting was adjourned at 11:10 a.m.

Agenda Item 5

Accept the resignation of Ivan Langford as a voting member of the Region H Water Planning Group representing Water Utilities, declare a vacant position, and consider taking action to appoint a new voting member representing Water Utilities.

REGION H
Water Planning Group

Agenda Item 5
Membership

Action:

1. Accept the resignation of Ivan Langford
2. Declare a vacant position
3. Appoint a new voting member representing Water Utilities

GCWA
Gulf Coast Water Authority

3630 Highway 1765 Texas City, Texas 77591 409.935.2438

May 20, 2020

Mr. Mark Evans, Chair
Region H Water Planning Group
c/o San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305

Dear Mr. Chairman:

I hereby submit my resignation from the Region H Water Planning Group as I no longer hold the position with Gulf Coast Water Authority to which I was initially nominated. While my tenure has been brief, I have thoroughly enjoyed participating in being a part of the development of the 2021 Regional Water Plan.

I further place into nomination for Region H's consideration, Mr. Brandon Wade, PE. – General Manager of Gulf Coast Water Authority to serve in the position I held. He is well qualified as you can see be his attached bio.

Sincerely,

Ivan Langford III

Cc: Brandon Wade, PE

Gulf Coast Water Authority

3630 FM 1765
Texas City, TX 77591
(409) 935-2438
www.gulfcoastwaterauthority.com

BRANDON WADE
GULF COAST WATER AUTHORITY GENERAL MANAGER/CEO

Brandon Wade brings more than 35 years of municipal experience to his role as Gulf Coast Water Authority General Manager and Chief Executive Officer.

Previously, Brandon served as GCWA Deputy General Manager; Pflugerville City Manager; Galveston Deputy City Manager, Director of Public Works and City Engineer; and Alvin Director of Community Development and City Engineer.

At GCWA, Brandon leads a staff of 75 to provide up to 200 million gallons of water a day to industrial, municipal and agricultural customers in Brazoria, Fort Bend and Galveston counties. In addition, the GCWA Thomas Mackey Water Treatment Plant, which has a daily capacity of 57 million gallons, provides drinking water to the majority of Galveston County communities.

Brandon holds a Master of Public Administration degree from the University of Houston and a Bachelor of Science degree in civil engineering from Texas Tech University.

Agenda Item 6

Receive presentation from Harris-Galveston Subsidence District on the Joint Regulatory Plan Review.

REGION H
Water Planning Group

2023 Joint Regulatory Plan Review

Region H Water Planning Group

1 July 2020

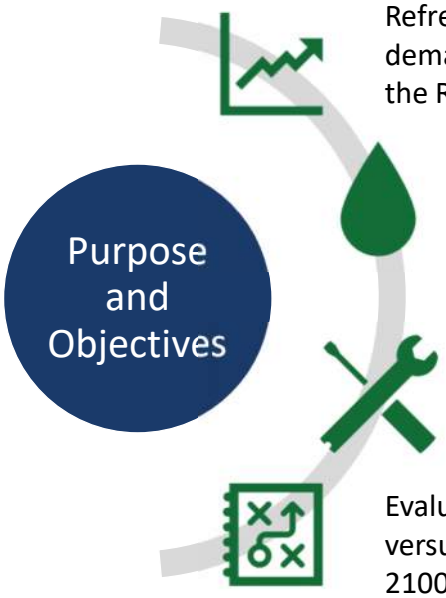
Project Sponsors and Collaborators

HARRIS-GALVESTON SUBSIDENCE DISTRICT

FORT BEND SUBSIDENCE DISTRICT

Texas Water Development Board

USGS science for a changing world



Refresh population and per-capita water demand projections within and surrounding the Regulatory Areas

Improve the understanding of future alternative source waters

Update and improve predictive tools

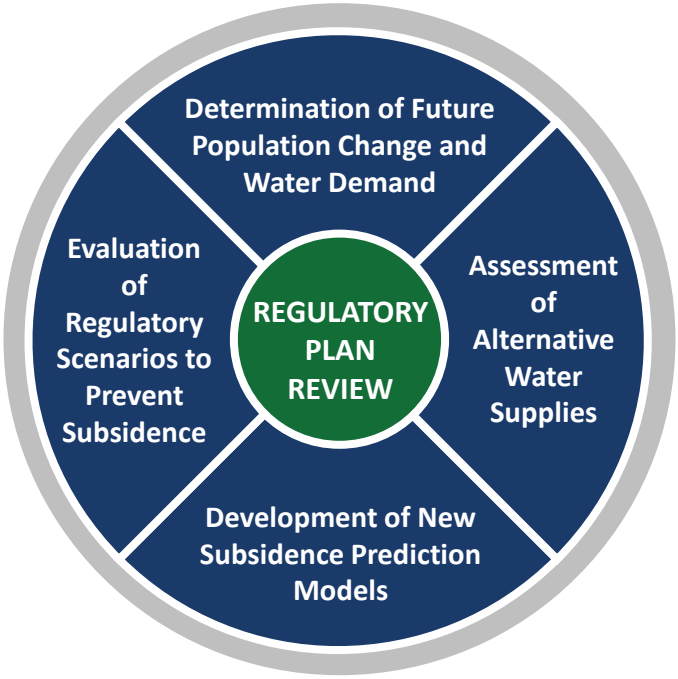
Evaluate regulatory and climatic scenarios versus the occurrence of subsidence through 2100

STAKEHOLDER PARTICIPANTS

- Regulated community
- Decision-makers
- Elected officials
- GMA 14 and GCDs
- River authorities
- Region H Water Planning Group
- Texas Water Development Board

Project Elements and Updates

Project Elements



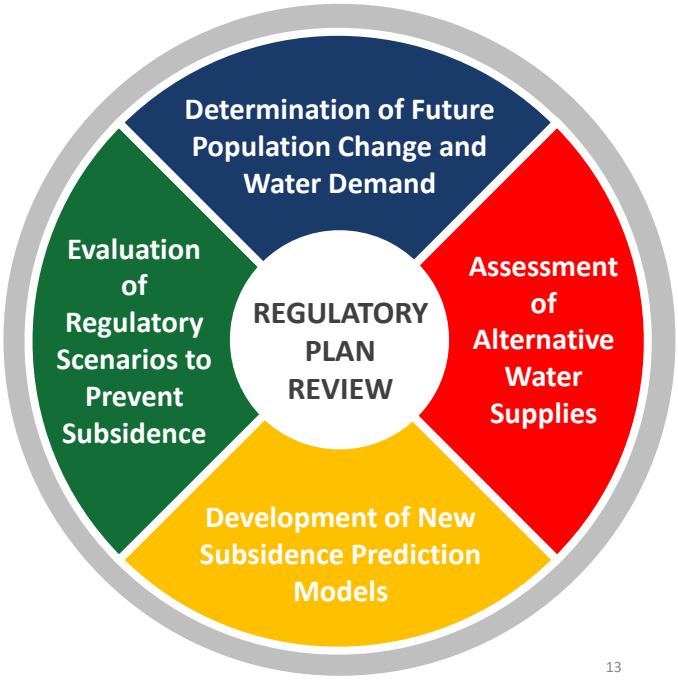
USGS science for a changing world

FREESE AND NICHOLS

HDR GROUND WATER CONSULTANTS metrostudy

INTERA GEOSCIENCE & ENGINEERING SOLUTIONS

KIT



PROJECT ELEMENTS

- 2013 Regulatory Plan Post Audit
- Alternative Water Supply Availability
- Projected Water Needs
- Modeling
- Water Use Scenario Development

2013 Regulatory Plan Post Audit

Background: Models are tools that help us understand cause and effect – primarily the relationship between groundwater pumping and subsidence

Evaluate process and data used to develop 2013 Regulatory Plan

Compare to observed water use and aquifer data

Identify lessons learned to apply and inform current round of planning

Evaluate Collected Data

- Pumping
- Water Levels
- Compaction
- Subsidence

2013 Regulatory Plan Post Audit

Where do model observations match and diverge from collected data?

Does modeling actual pumping reproduce observations?

How does actual pumping compare to forecast pumping?

What can we do differently to improve modeling and forecast use?

Lessons Learned

Project Elements

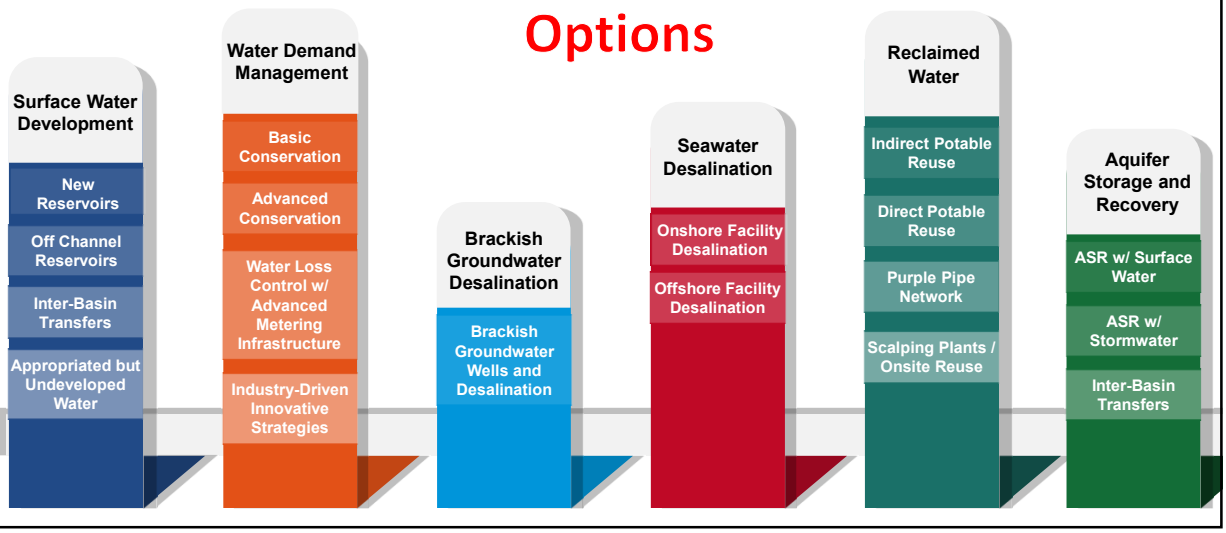
- 2013 Regulatory Plan Post Audit
- Alternative Water Supply Availability
- Projected Water Needs
- Modeling
- Water Use Scenario Development

Alternative Water Supply Availability

- Compile and characterize
  - Alternative water supplies
  - Availability for use by systems in the regulatory areas
- Supplies originating both within and outside the regulatory areas

ALTERNATIVE WATER SUPPLY AVAILABILITY

Identified 18 Options

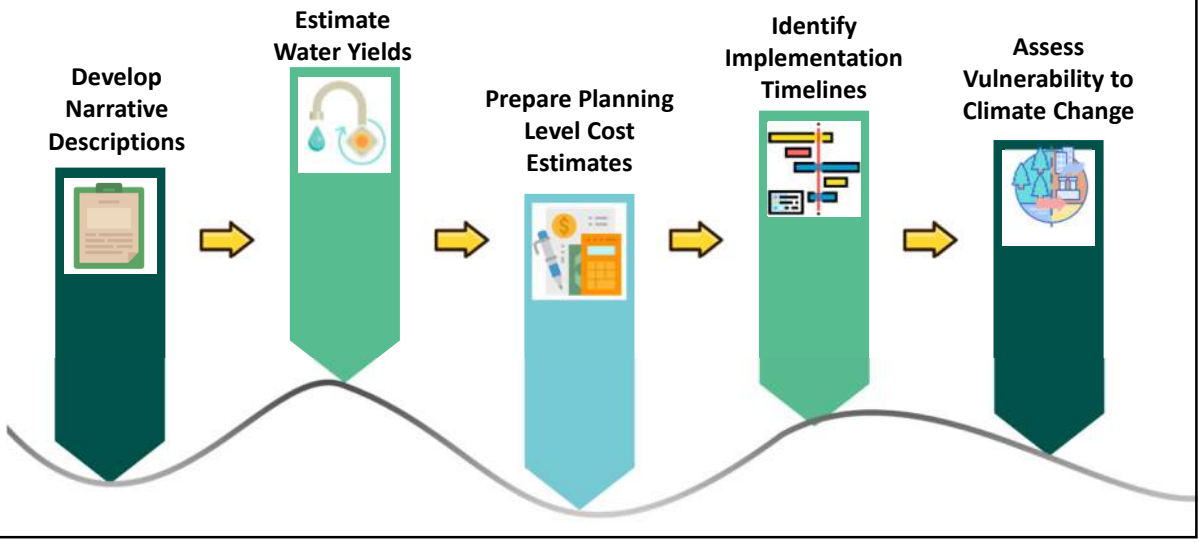


ALTERNATIVE WATER SUPPLY AVAILABILITY

Shortlisted Options

Alternative Water Supply Availability

Characterization of Shortlisted Options



Project Elements

- 2013 Regulatory Plan Post Audit
- Alternative Water Supply Availability
- Projected Water Needs
- Modeling
- Water Use Scenario Development

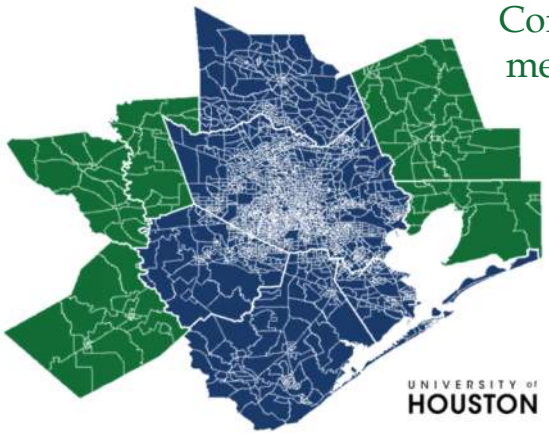
PROJECTED WATER NEEDS

Enhancements to 2013 Regulatory Plan Update methodology

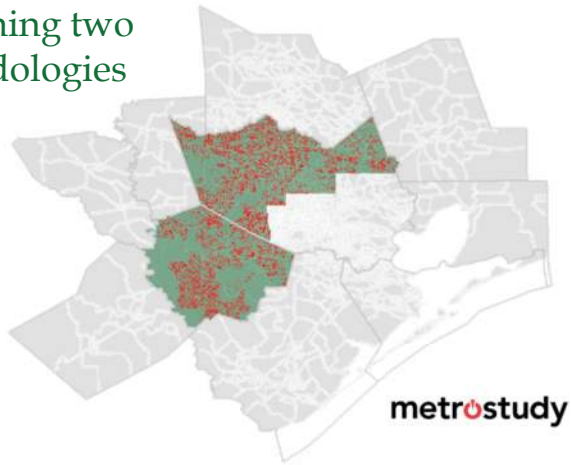
- Ten counties
- Evaluate single- and multi-family growth
- Refine industrial projections
- Water use data from stakeholders
- Various demand futures
- Projections to 2100

PROJECTED WATER NEEDS

Combining two methodologies



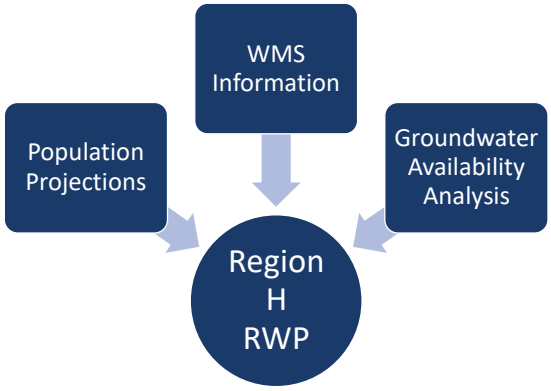
Small Area Model Houston (SAM-Houston)
Long-range, wide-area projections



Projected Development Methodology
Short-range, detailed projections

Projected Water Needs

- RWP urbanized county populations from RGUP
- Only time TWDB has allowed large-scale alternative
- Consistency in stakeholder and Regional planning
- Multiple benefits
  - High projection resolution
  - WMS data reference
  - Connection to GMA process



Projected Water Needs

Ongoing Coordination

Project Elements

- 2013 Regulatory Plan Post Audit
- Alternative Water Supply Availability
- Projected Water Needs
- **Modeling**
  - Groundwater Availability Modeling
  - Development of GULF 2023 Model
  - PRESS Assessment
- Water Use Scenario Development

Groundwater Availability Modeling

In Statute: Develop groundwater flow models for the major and minor aquifers of Texas.

Purpose: Tools that can be used to aid in groundwater resources management by stakeholders.

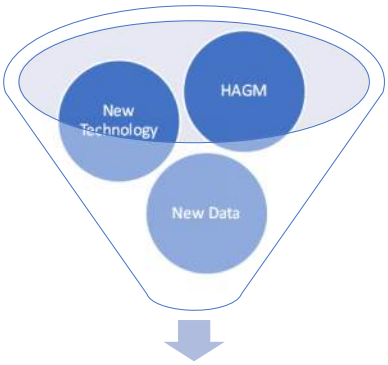
Public process: Stakeholder involvement during model development process.

Models: Freely available, standardized, thoroughly documented. Reports available over the internet.

Living tools: Periodically updated.

Texas Water Development Board

Development of GULF 2023 Model



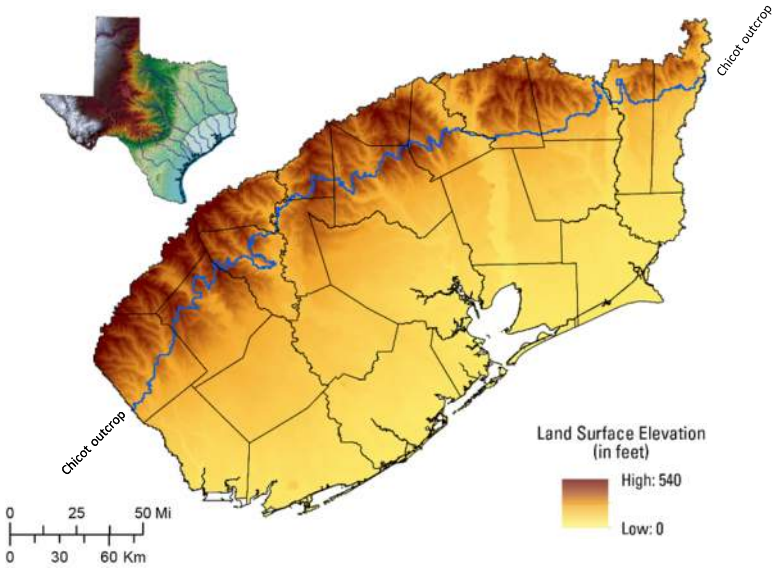
Gulf Coast **L**and Subsidence and Groundwater-**F**low Model (GULF 23)

USGS Objectives:

- Refined model for decision support
- Provide refinement to Coastal Lowlands (CLAS) model
- Regional to sub-regional scale
- Predictive climate scenarios
- Technical and QA assistance to Subsidence Districts

GULF 2023 Study Area

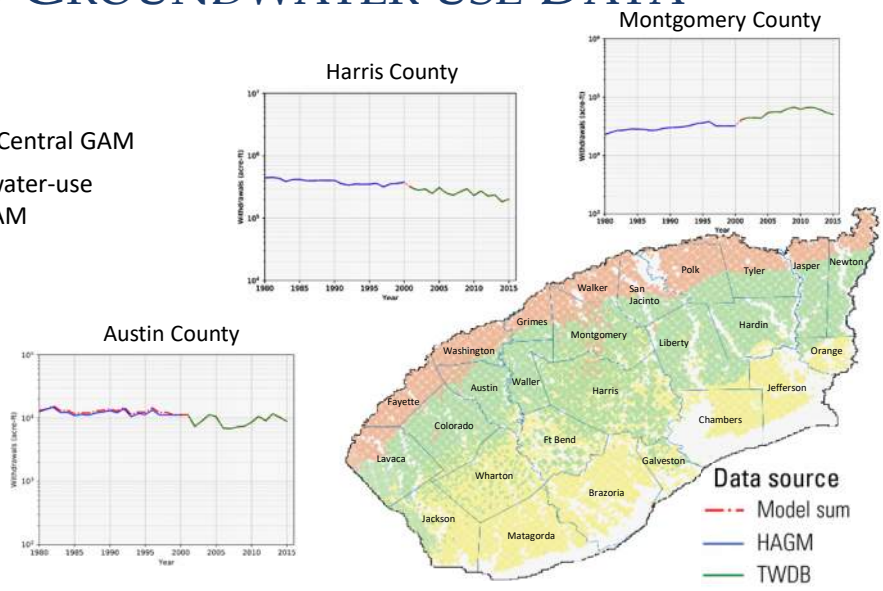
- Approximately 20,900 mi^2 of sand, silt, and clay across 26 counties
- Model Layers
  - 1) Alluvium and Beaumont Clay
  - 2) Chicot Aquifer
  - 3) Evangeline Aquifer
  - 4) Burkeville Confining Unit
  - 5) Jasper Aquifer



GULF 2023 GROUNDWATER USE DATA

Groundwater data:

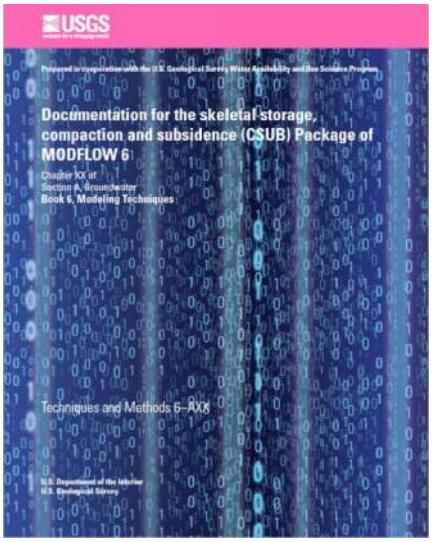
- 1897–1999: HAGM, Central GAM
- 2000–2018: TWDB water-use database, Central GAM



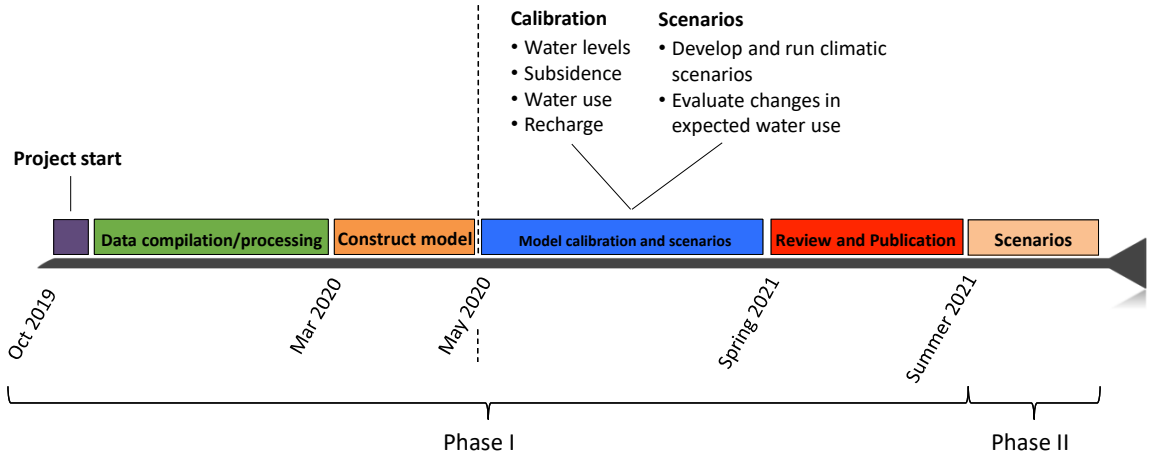
GULF 2023 SUBSIDENCE PACKAGE

Subsidence Package

- Newly formulated for the MODFLOW6 model code
- Can simulate groundwater-storage changes and compaction
  - Elastic and inelastic compaction
- Outputs simulated compaction separately for each model layer
- Using delay bed functionality for all subsidence in the GULF model
  - Allows the amount of delay to be driven by the clay thicknesses versus a pre-determined value



GULF 2023 TIMELINE

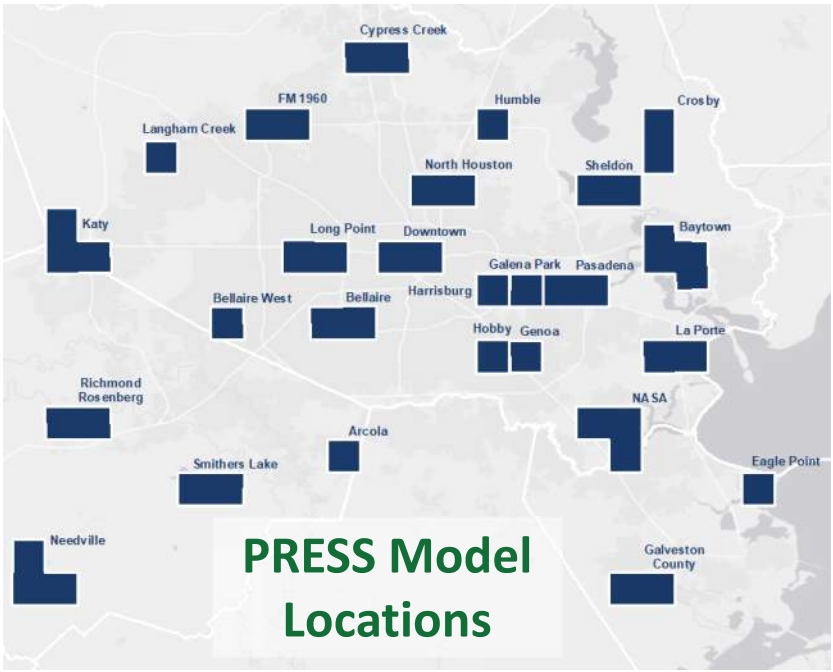


PRESS ASSESSMENT

What is PRESS?

Predictions
Relating
Effective
Stress to
Subsidence

Site-specific models used to assess subsidence.



Project Elements

- 2013 Regulatory Plan Post Audit
- Alternative Water Supply Availability
- Projected Water Needs
- Modeling
- Water Use Scenario Development

Water Use Scenario Development

Human Variables	Natural Variables	Regulatory Variables
Total Water Use	Hydrogeologic and Compaction Properties	Regulatory Area Boundaries
Water Use Distribution	Drought (short-term)	Conversion Timeline
Pumping in Neighboring Area	Climate (long-term)	Use of Credits
		Conversion Percentages
		Alternative Water Supply Availability

Water Use Scenario Development

Define and Evaluate Regulatory Scenarios

Develop Management Recommendations

Considerations:

- Expected subsidence impacts
- Identified risks and uncertainty
- Availability of alternative water supplies
- Feasibility of implementing proposed changes (if any)
- Stakeholder input

Schedule and Next Steps

	GULF 2023 Model	Projected Water Needs	Alternative Water Supplies	PRESS Assessment	Water Use Scenarios
2020	Model Conceptual Report	Methodology, Model Updates	Overview of Alternatives	PRESS Model Validation	
2021	Complete Model Update	Population and Demand Projections	Technical Characterization, Final Report		
2022		Direct Stakeholder Process, Final Projections			Scenario Development
2023				Scenario Testing	Scenario Testing, Recommendations

Upcoming Milestones

Q3 2020

- Post Audit Results
- Overview of Water Supply Alternatives
- PRESS Evaluation Results
- Projected Water Needs Methodology

Q4 2020

- GULF 2023 Conceptual Model Briefing

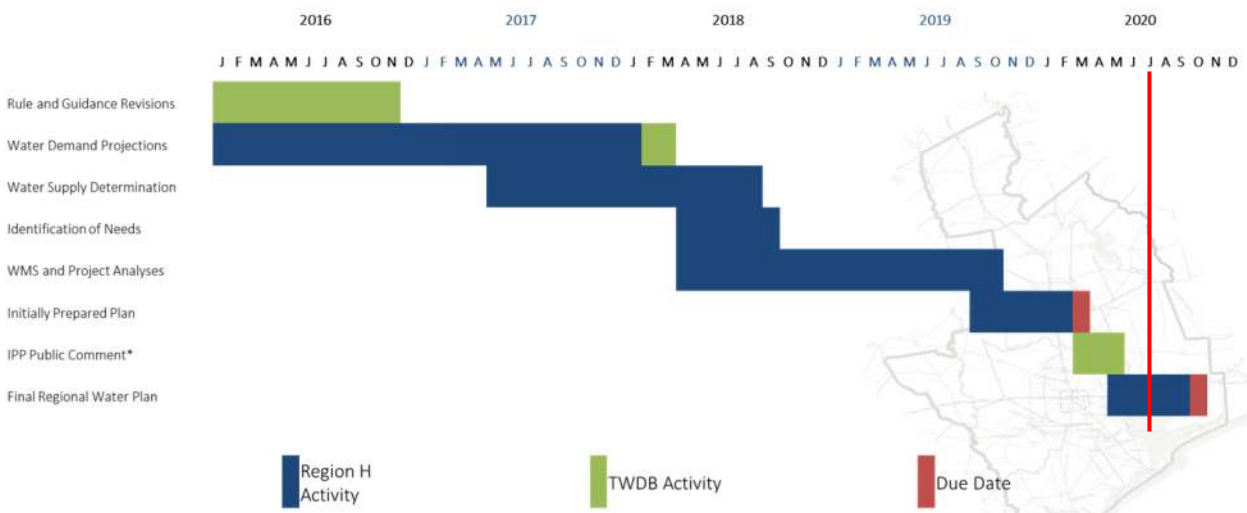
QUESTIONS AND ANSWERS

Agenda Item 7

Receive update from Consultant Team regarding the schedule and milestones for the development of the 2021 Region H RWP.

REGION H
Water Planning Group

Agenda Item 7
2021 RWP Schedule



*Region H accepts public comment throughout the planning cycle and at each RWPG and committee meeting.

Agenda Item 7
2021 RWP Schedule

Date	Scheduled Events/Tasks
07/2020	RWPG Meeting: Discuss comments to IPP
08/2020	RWPG Meeting: Discuss comments to IPP
09/2020	RWPG Meeting: Review / Approve Final Plan
10/2020	DUE DATE: Final Adopted Plan to TWDB

Agenda Item 7
2021 RWP Schedule

Post-IPP Revisions

- Sponsor comments
  - Adjustments to costs, capacity, etc.
  - New projects
  - Entity names
- Public and agency comment
- TWDB review
- RWPG Member comments

Agenda Item 7
2021 RWP Schedule

Project Prioritization

- Toward end of cycle
- Evaluation workbook updated
- New project request template on website

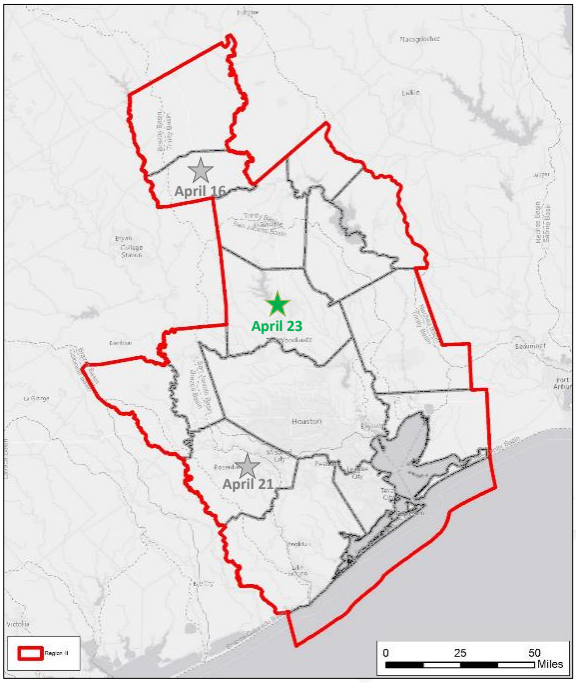
Agenda Item 8

Receive update from Consultant Team regarding the Initially Prepared Plan public comment process and discuss potential revisions for the development of the Final 2021 Region H RWP.

REGION H
Water Planning Group

Agenda Item 8
Comments and Revisions

- IPP Hearing Webinar
- Written comments
  - June 28th – Public comment
  - July 22nd – Agency comment
- Documented in RWP
- info@regionhwater.org
- Hon. Mark Evans, Chair, RHWPG
  c/o San Jacinto River Authority
  P.O. Box 329
  Conroe, Texas 77305-0329



Agenda Item 8
Comments and Revisions

Website


Email List

Press Release

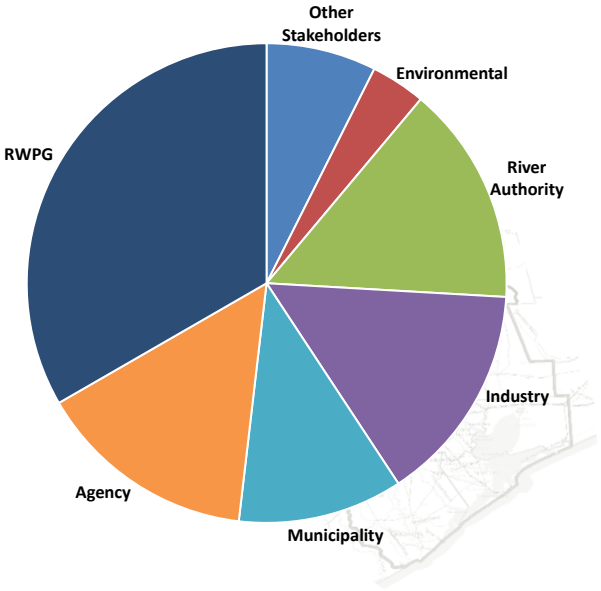

Door Posting


SOS Calendar


Texas Register

Agenda Item 8
Comments and Revisions

- April 23rd IPP Public Hearing
- Webinar format
  - Web link
  - Phone app
  - Call-in number
- 28 attendees
- No public comments
- Available on website



Agenda Item 8
Comments and Revisions

- TWDB
  - Level 1 Comments: 14
  - Level 2 Comments: 10
- Topics
  - Supply and WMS Availability
  - WMS Impacts
  - Project Cost and Financing
  - Minor Adjustments

Agenda Item 8
Comments and Revisions

- Supply and WMS Availability – Groundwater Clarifications

Comment	Preliminary Response
Specify methodology for non-relevant source availability	Summary table in Chapter 3
Document TWDB-required retention of 2017 SWP MAG for Montgomery County	Footnote to Appendix 3A-4
Consideration of potential DFC compatibility issues	Summary text in Chapter 3 regarding levels of usage

Agenda Item 8
Comments and Revisions

- Supply and WMS Availability – Reservoirs

Comment	Preliminary Response
Consider clarifying how projected rating curves are derived	Summary text in Chapter 3 describing sedimentation projection methodology
Consider noting Lone Star Lake would require new surface water appropriation	Clarification in corresponding WMS Tech Memo
Confirm an unmodified WAM Run 3 for Allens Creek or request variance	Clarify usage of *prior* WAM Run 3 and supporting analyses in corresponding WMS Tech Memo

Agenda Item 8
Comments and Revisions

- Supply and WMS Availability – Timing

Comment	Preliminary Response
Confirm 2020 strategies expected to be active by deadline	Confirmation in Chapter 5
Provide specific basis for surface water and conjunctive WMS	Clarification in Chapter 5 and WMS Tech Memos as appropriate
If timing adjustment is necessary, indicate if demand management will be used	N/A
The IPP includes WMS that come online before corresponding projects	Confirmation of allocations and clarification in Chapter 5 of WMS starting under existing facilities

Agenda Item 8
Comments and Revisions

- WMS Impacts

Comment	Preliminary Response
Clarify if e-flow needs were considered for ASR and Brazos saltwater barrier	Clarification in corresponding WMS Tech Memos
Clarify e-flow impacts for Freeport Desalination	Clarification in corresponding WMS Tech Memo
Include quantitative impacts analysis for agriculture	Clarify impacts statements in WMS Tech Memos
Ensure quantitative reporting of all required environmental factors for each technical evaluation	Add summary appendix to Chapter 5
Include assessment of impacts to flows of USS	Clarify impacts in Chapter 8 text

Agenda Item 8
Comments and Revisions

- Project Cost and Financing

Comment	Preliminary Response
Clarify recommendation for WMS with multiple cost options	Clarifications in corresponding WMS Tech Memos
Show components for consolidated capital costs	Clarifications in corresponding WMS Tech Memos
Confirm high WUG unit costs are correct and costs were considered in WMS recommendations	Brief explanation and acknowledgement in Chapter 5
Incorporate IFR results into final RWP	Chapter 9 text and appendices (survey in progress)

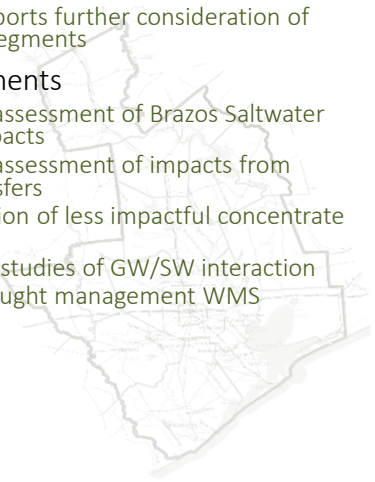
Agenda Item 8
Comments and Revisions

- Minor Adjustments

Comment	Preliminary Response
Correct minor typographic errors	Update appropriate sections
Clarify definition of existing supplies	Brief note in Chapter 3
Include secondary needs analysis in Chapter 4	Text in Chapter 4 clarifying and referencing Chapter 5 summary
Include Socioeconomic Impacts Report and unmet needs summary in Chapter 6	Move from Chapter 5 to Chapter 6
Include additional metadata in final GIS submittal	Incorporate metadata and bundle map packages

Agenda Item 8
Comments and Revisions

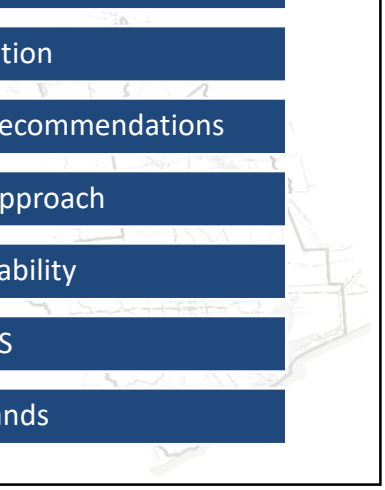
- Texas Parks and Wildlife
  - Quantitative Impacts
    - Continue to improve analysis as data becomes available
  - Species
    - Freshwater mussel population concerns
    - Consider updating to new federal and state listings
    - Consider recommendations related to invasive species
    - TPWD continued coordination with reservoir sponsors and BRA (system operation)
  - Recommendations Regarding Guidelines for WMS Evaluation
    - TPWD offers assistance but recognizes that analyses are project and category specific
    - TPWD eager to assist as studies become available
  - Unique Stream Segments
    - TPWD supports further consideration of potential segments
  - Other Comments
    - Increased assessment of Brazos Saltwater Barrier impacts
    - Increased assessment of impacts from water transfers
    - Consideration of less impactful concentrate disposal
    - Encourage studies of GW/SW interaction
    - Lack of drought management WMS



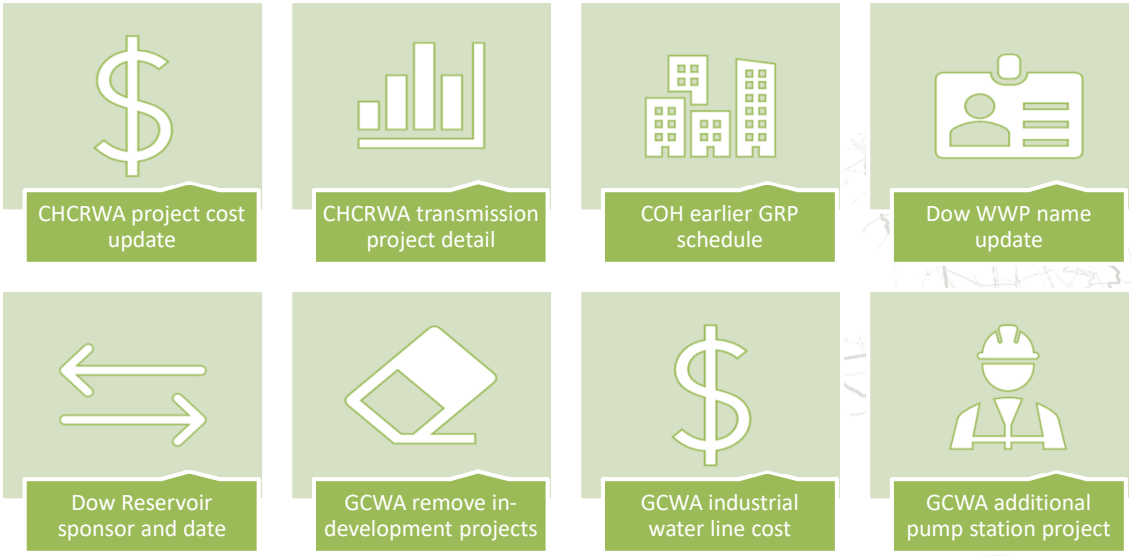
Agenda Item 8
Comments and Revisions

- Public Comments
  - Public Hearings - None
  - Mail - None
  - E-Mail
    - Sierra Club
    - Debra and Dale Joly
    - Dana Reed

2	Conservation and Water Loss
1	Drought Contingency
1	Environmental Impacts / Needs
1	Flood Mitigation
1	Legislative Recommendations
1	OneWater Approach
1	Source Availability
1	Surplus WMS
1	Water Demands



Agenda Item 8
Comments and Revisions



Agenda Item 8
Comments and Revisions

- From here…
  - Take input from RWPG
  - Incorporate into RWP
  - Prepare responses to comments
  - Adopt Final Regional Water Plan at September meeting
  - Submit Final Regional Water Plan

Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

Mr. Mark Evans, Chair
c/o North Harris County Regional Water Authority
P.O. Box 2342
Trinity, Texas 75862

Mr. Jace Houston
San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305

Re: Texas Water Development Board Comments for the Region H Regional Water Planning Group Initially Prepared Plan, Contract No. 1548301836

Dear Mr. Evans and Mr. Houston:

Texas Water Development Board (TWDB) staff have completed their review of the Initially Prepared Plan (IPP) submitted by March 3, 2020 on behalf of the Region H Regional Water Planning Group (RWPG). The attached comments follow this format:

- **Level 1:** Comments, questions, and data revisions that must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements; and,

- **Level 2:** Comments and suggestions for consideration that may improve the readability and overall understanding of the regional water plan.

Please note that rule references are based on recent revisions to 31 Texas Administrative Code (TAC) Chapter 357, adopted by the TWDB Board on June 4, 2020. 31 TAC § 357.50(f) requires the RWPG to consider timely agency and public comment. Section 357.50(g) requires the final adopted plan include summaries of all timely written and oral comments received, along with a response explaining any resulting revisions or why changes are not warranted. Copies of TWDB's Level 1 and 2 written comments and the region's responses must be included in the final, adopted regional water plan (*Contract Exhibit C, Section 13.1.2)*.

Standard to all planning groups is the need to include certain content in the final regional water plans that was not yet available at the time that IPPs were prepared and submitted. In your final regional water plan, please be sure to also incorporate the following:

a) Completed results from the RWPG's infrastructure financing survey for sponsors of recommended projects with capital costs, including an electronic version of the survey spreadsheet *[31 TAC § 357.44]*;

b) Completed results from the implementation survey, including an electronic version of the survey spreadsheet *[31 TAC § 357.45(a)]*;
c) Documentation that comments received on the IPP were considered in the development of the final plan *[31 TAC § 357.50(f)]*; and
d) Evidence, such as a certification in the form of a cover letter, that the final, adopted regional water plan is complete and adopted by the RWPG *[31 TAC § 357.50(h)(1)]*.

Please ensure that the final plan includes updated State Water Planning Database (DB22) reports, and that the numerical values presented in the tables throughout the final, adopted regional water plan are consistent with the data provided in DB22. For the purpose of development of the 2022 State Water Plan, water management strategy and other data entered by the RWPG in DB22 shall take precedence over any conflicting data presented in the final regional water plan *[Contract Exhibit C, Sections 13.1.3 and 13.2.2]*.

Additionally, subsequent review of DB22 data is being performed. If issues arise during our ongoing data review, they will be communicated promptly to the planning group to resolve. Please anticipate the need to respond to additional comments regarding data integrity, including any source overallocations, prior to the adoption of the final regional water plans.

The provision of certain content in an electronic-only form is permissible as follows: Internet links are permissible as a method for including model conservation and drought contingency plans within the final regional water plan; hydrologic modeling files may be submitted as electronic appendices, however all other regional water plan appendices should also be incorporated in hard copy format within each plan *[31 TAC § 357.50(g)(2)(C), Contract Exhibit C, Section 13.1.2 and 13.2.1]*.

The following items must accompany, the submission of the final, adopted regional water plan:

1. The prioritized list of all recommended projects in the regional water plan, including an electronic version of the prioritization spreadsheet *[31 TAC § 357.46];* and,
2. All hydrologic modeling files and GIS files, including any remaining files that may not have been provided at the time of the submission of the IPP but that were used in developing the final plan *[31 TAC § 357.50(g)(2)(C), Contract Exhibit C, Section 13.1.2, and 13.2.1].*

The following general requirements that apply to recommended water management strategies must be adhered to in all final regional water plans including:

1. Regional water plans must not include any recommended strategies or project costs that are associated with simply maintaining existing water supplies or replacing existing infrastructure. Plans may include only infrastructure costs that are associated with volumetric increases of treated water supplies delivered to water user groups or that result in more efficient use of existing supplies *[31 TAC § 357.10(39), § 357.34(e)(3)(A), Contract Exhibit C, Sections 5.5.2 and 5.5.3]*; and,

2. Regional water plans must not include the costs of any retail distribution lines or other infrastructure costs that are not directly associated with the development of additional supply volumes (e.g., via treatment) other than those line replacement costs related to projects that are for the primary purpose of achieving conservation savings via water loss reduction *[§ 357.34(e)(3)(A), Contract Exhibit C, Section 5.5.3]*.

Please be advised that, within the attached document, your region has received a comment specifically requesting that the RWPG provide the basis for how the RWPG considers it feasible that certain water management strategies will actually be implemented by January 5, 2023 (see Level 1, Comment 1), especially for projects with long lead times. This comment is aimed at making sure RWPGs do not present projects in their plans to provide water during the 2020 decade that cannot reasonably be expected to be online, *and provide water supply*, by January 5, 2023. For project types whose drought yields rely on *previously stored water*, the 2020 supply volume should take into consideration reasonably expected accumulated storage that would already be available in the event of drought. The RWPG must adequately address this Level 1 comment in the final, adopted regional water plan, which might require making changes to your regional plan.

Please provide the TWDB with information on how you intend to address all Level 1 comments well in advance of your adoption the regional water plan to ensure that the response is adequate for the Executive Administrator to recommend the plan to the TWDB Board for consideration in a timely and efficient manner. Your TWDB project manager will review and provide feedback to ensure all IPP comments and associated plan revisions have been addressed adequately. Failure to adequately address any Level 1 comment may result in the delay of the TWDB Board approval of your final regional water plan.

As a reminder, the deadline to submit the final, adopted regional water plan and associated material to the TWDB is **October 14, 2020**. Any remaining data revisions to DB22 must be communicated to Sabrina Anderson at Sabrina.Anderson@twdb.texas.gov by **September 14, 2020.**

If you have any questions regarding these comments or would like to discuss your approach to addressing any of these comments, please do not hesitate to contact Lann Bookout at (512) 936-9439 or Lann.Bookout@twdb.texas.gov. TWDB staff will be available to assist you in any way possible to ensure successful completion of your final regional water plan.

Sincerely,

Jessica Pena Zuba Digitally signed by Jessica Pena Zuba
Date: 2020.06.17 09:19:31 -05'00'

Date: 6/17/2020

Jessica Zuba
Deputy Executive Administrator
Water Supply and Infrastructure

Attachment

c w/att.: Mr. Philip Taucer, Freese & Nichols, Inc.

TWDB comments on the Initially Prepared 2021 Region H Regional Water Plan.

Level 1: Comments, questions, and data revisions that must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements.

1. Chapter 5 and the State Water Planning Database (DB22). The plan includes the following recommended water management strategies (WMS) by WMS type, providing supply in 2020 (not including demand management): seven *groundwater wells & other*, four *indirect reuse,* six *other direct reuse*, one *conjunctive use*, and 14 *other surface water*. **Strategy supply with an online decade of 2020 must be constructed and delivering water by January 5, 2023**.
    a) Please confirm that all strategies shown as providing supply in 2020 are expected to be providing water supply by January 5, 2023. *[31 § TAC 357.10(21); Contract Exhibit C, Section 5.2]*
    b) Please provide the specific basis on which the planning group anticipates that it is feasible that the *conjunctive use* and 14 *other surface water* WMSs will all actually be online and providing water supply by January 5, 2023. For example, provide information on actions taken by sponsors and anticipated future project milestones that demonstrate sufficient progress toward implementation. *[31 § TAC 357.10(21); Contract Exhibit C, Section 5.2]*
    c) In the event that the resulting adjustment of the timing of WMSs in the plan results in an increase in near-term unmet water needs, please update the related portions of the plan and DB22 accordingly, and also indicate whether 'demand management' will be the WMS used in the event of drought to address such water supply shortfalls or if the plan will show these as simply 'unmet'. If municipal shortages are left 'unmet' and without a 'demand management' strategy to meet the shortage, please also ensure that adequate justification is included in accordance with 31 TAC § 357.50(j). *[TWC § 16.051(a); 31 § TAC 357.50(j); [31 TAC § 357.34(i)(2); Contract Exhibit C, Section 5.2]*
    d) **Please be advised that, in accordance with Senate Bill 1511, 85th Texas Legislature, the planning group will be expected to rely on its next planning cycle budget to amend its 2021 Regional Water Plan during development of the 2026 Regional Water Plan, if recommended WMSs or projects become infeasible, for example, due to timing of projects coming online.** Infeasible WMSs include those WMSs where proposed sponsors have not taken an affirmative vote or other action to make expenditures necessary to construct or file applications for permits required in connection with implementation of the WMS on a schedule in order for the WMS to be completed by the time the WMS is needed to address drought in the plan. *[TWC § 16.053(h)(10); 31 TAC § 357.12(b)]*

2. Chapter 3, Section 3.2.4.3. The plan indicates that some non-relevant sources without modeled available groundwater (MAG) retained yields from the 2017 State Water Plan. Please specify which aquifers this applies to and include the methodology used to determine those estimates in the final, adopted regional water plan. *[Contact Exhibit C, Section 3.5.2]*

3. Chapter 4. Please include the secondary needs results for water user groups and major water providers in Chapter 4, at a minimum by reference to location elsewhere in the document, in the final, adopted regional water plan. *[31 TAC § 357.33(e)]*

4. Chapter 5 and DB22. The plan includes WMS projects that appear to come online after the related WMS is initially online providing supply. For example, the Missouri City GRP - Reuse WMS is reported to provide supply in 2020, however the related WMS project in DB22 does not come online until 2030. For WMS projects that are necessary for a strategy to deliver water, please ensure that the project is associated with the initial decade, or earlier decade, that the strategy is delivering supply. In the event that the resulting adjustment of the timing of WMSs in the plan results in an increase in near-term unmet water needs, please update the related portions of the plan and DB22 accordingly. *[31 TAC § 357.10(21); Contract Exhibit C, Section 5.2]*

5. Chapter 5. The plan appears to include qualitative impact information in the WMS evaluations and a quantitative analysis for impacts to agricultural resources does not appear to have been conducted. Please include a quantitative impacts analysis for agricultural resources for each WMS in the final, adopted regional water plan. *[31 TAC § 357.34(e)(3)(C)]*

6. Appendix 5A, Table 5A-3, pages 5-A-15 to 5-A-17. Table 5A-3 appears to include quantitative analysis of "Environmental Land & Habitat" and "Environmental Flows"; however, it is not clear if all of the required environmental factors were considered (environmental water needs, wildlife habitat, cultural resources, and effect of upstream development on bays, estuaries, and arms of the Gulf of Mexico). Please ensure that a quantitative reporting of all required environmental factors for each technical evaluation is included in the final, adopted regional water plan. *[31 TAC § 357.34(e)(3)(B)]*

7. Appendix 5B, page 5-B-SWDV-001-1. Please clarify whether the firm yield for the proposed Allens Creek Reservoir was estimated using the unmodified Brazos WAM RUN3. The firm yield appears to be based upon the permitted volume, however there is no approved hydrologic variance for estimating WMS yields for the region. If the yield was not calculated based on an unmodified WAM RUN3, please revise the yield, or submit a hydrologic variance request for future WMS supplies prior to the final, adopted regional water plan. *[Contract Exhibit C, Section 5.2.1]*

8. Appendix 5B. It is unclear if or how environmental flow needs were considered and if any adjustments were made in response to those needs during the development of the following WMSs: Aquifer Storage and Recovery (Appendix 5-B-GWDV-001) and

Brazos Saltwater Barrier (Appendix 5-B-OTHR-001). Please clarify how environmental flow criteria were considered in these strategy evaluations and document the information in the final, adopted regional water plan. *[31 TAC § 357.34(e)(3)(B); 31 TAC § 358.3(22); 31 TAC § 358.3(23)]*

9. Appendix 5B. The plan does not appear to present cost estimates broken out by project components (pipelines, pump stations, etc.) for all WMS evaluations, for example, but not limited to: CONV-002, CONV-003, CONV-004, CONV-006, CONV-009, CONV-010, CONV-011, CONV-014. Please present capital cost estimates for each project component for each WMS evaluated in the final, adopted regional water plan. *[31 TAC § 357.34(f); Contract Exhibit C, Section 5.5.1]*

10. Units costs reported in DB22 appear notably high in at least one planning decade for the following WMSs: Fort Bend WCID 2 GRP - Surface Water, Harris County MUD 122 ($104,577); Brackish Groundwater Supplies, Willis ($101,980); Missouri City GRP - Surface Water Expansion, Fort Bend County MUD 47 ($38,989, $43,234); New / Expanded Contract with SJRA, Panorama Village ($173,987); SJRA GRP - Groundwater Offset, Cut & Shoot ($76,350) and Pinehurst Decker Prairie WSC ($81,634); SJRA GRP - Participant Surface Water, Magnolia ($41,033) and Montgomery County MUD 15 ($43,225). Please confirm that the calculated unit costs are correct in DB22 and that costs were considered in WMS recommendations in the final, adopted regional water plan. *[31 TAC § 357.34(e)(2)]*

11. Chapter 6. Please include the TWDB Socioeconomic Impacts of Projected Water Shortages Report as an appendix to Chapter 6 rather than Chapter 5 in the final, adopted regional water plan. *[31 TAC § 357.40(a)]*

12. Chapter 6. Please include the summary of unmet water needs within Chapter 6 rather than Chapter 5 in the final, adopted regional water plan. *[31 TAC § 357.40(c)]*

13. Chapter 8. The plan does not appear to include a quantitative analysis of the impact of the plan on the unique stream segments previously designated by the Legislature. Please include an assessment on the flows important to the river or stream segment, as determined by the planning group, comparing current conditions to conditions with implementation of all recommended WMSs, in the final, adopted regional water plan. *[31 TAC § 357.43(b)(2)]*

14. Section 9.3, page 9-4. The plan states that the Infrastructure Financing Survey will be completed after completion of the survey by the TWDB. Please ensure the region completes the Infrastructure Financing Survey, using the template provided by the TWDB to the region, and include the survey in the final, adopted regional water plan. *[31 TAC § 357.44]*

Level 2: Comments and suggestions for consideration that may improve the readability and overall understanding of the regional water plan.

1. Chapter 3. Please consider adding a statement in Chapter 3 that clarifies existing supplies are supplies that are legally and physically available.

2. Section 3.2.4.2, Table 3-2, page 3-8. Montgomery County is identified as being located in Groundwater Management Area (GMA) 12; however, it is located in GMA 14. Please update Table 3-2 to list Montgomery County in GMA 14.

3. Chapter 3, Section 3.3.5. Please consider clarifying how the projected rating curves for each decade are derived.

4. TWDB analysis GAM Task 18-002 (11/28/18) conducted for the Technical Memorandum indicated that the availability from the Carrizo-Wilcox, Queen City, Sparta Aquifers and Yegua-Jackson Aquifers, Walker and Trinity counties may be physically incompatible with the GMA 12 DFCs in the Carrizo-Wilcox, Queen City, Sparta, and Yegua-Jackson in Lost Pines, Brazos Valley, and Mid-East Texas GCDs. Please consider noting how the planning group considered this information in the final plan.

5. Appendix 3-A4, Table 3-A1, page 3-A4-1. The TWDB required that the MAG for Montgomery County would be carried over from DB17 due to the desired future condition petition. Please consider adding a footnote to Table 3-A1 noting such information since the MAG values for Montgomery County differ from the most recent MAG report for GMA 14.

6. Section 5.4.4, last sentence, page 5-14. Please replace the term "irritation" with "irrigation".

7. Appendix 5B. The WMS evaluation for Freeport Desalination (Appendix 5-B-SWDV-004), states that there is no impact on environmental flows due to location of intake and discharge, however the plan also states that the project may increase return flows to streams by approximately 50 percent of the potential project yield through municipal return flows. Please consider clarifying whether there will be instream flow impacts due to this apparent contradictory information, in the final, adopted regional water plan.

8. Appendix 5B. The plan in some instances appears to include multiple cost options for WMSs, for example CONV-008 and GWDB-002. Please consider clarifying in the text of the plan, which cost option is considered recommended and is represented in DB22.

9. Appendix 5B. For the WMS of Lone Star Lake (SWDV-006), please consider noting in the Permitting and Development section (page 5-B-SWDV-006-3) that a new appropriation of surface water would require water right permitting through the TCEQ.

10. The GIS files submitted for WMS projects do not include the minimum required metadata. Please include at a minimum, metadata about the data's projection, with the final GIS data submitted. *[Contract Exhibit D, Section 2.4.1]*

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Carter P. Smith
Executive Director

June 28, 2020

Hon. Mark Evans
Chair, RHWPG
c/o San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305-0329

Re: 2021 Region H Initially Prepared Regional Water Plan

Dear Honorable Mark Evans:

Thank you for seeking review and comment from the Texas Parks and Wildlife Department ("TPWD") on the 2021 Initially Prepared Regional Water Plan for Region H (IPP). Water impacts every aspect of TPWD's mission to manage and conserve the natural and cultural resources of Texas. Although TPWD has limited regulatory authority over the use of state waters, we are the agency charged with primary responsibility for protecting the state's fish and wildlife resources. To that end, TPWD offers these comments intended to help avoid or minimize impacts to state fish and wildlife resources. TPWD appreciates changes that were made to the 2016 Region H Regional Water Plan in response to our comments at that time.

TPWD understands that regional water planning groups are guided by 31 TAC §357 when preparing regional water plans. These water planning rules spell out requirements related to natural resource and environmental protection. Accordingly, TPWD staff reviewed the IPP with a focus on the following questions:

- Does the IPP include a quantitative reporting of environmental factors including the effects on environmental water needs and habitat?
- Does the IPP include a description of natural resources and threats to natural resources due to water quantity or quality problems?
- Does the IPP discuss how these threats will be addressed?
- Does the IPP describe how it is consistent with long-term protection of natural resources?
- Does the IPP include water conservation as a water management strategy?
- Does the IPP include Drought Contingency Plans?
- Does the IPP recommend any stream segments be nominated as ecologically unique?

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AUSTIN, TEXAS 78744-3291
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- Does the IPP address concerns raised by TPWD in connection with the 2016 Water Plan?

The population of Region H was approximately 6.8 million in 2015 and is expected to be over 11.7 million by 2070. Regional water supply, which was about 3.35 million acre-feet in 2020 is expected to decrease to 3.13 million acre-feet by 2070. The reduction in supply between 2020 and 2070 is the result of reduced reservoir yields due to sedimentation. In 2020, approximately 52 percent of the water use in Region H was for municipal supply. In addition, about two-thirds of the water supply in Region H is derived from surface water, while groundwater is a decreasing supply over the planning period.

The IPP includes a variety of proposed water management strategies (WMS), including development of conveyance infrastructure and contracts to more fully utilize existing supplies, development of groundwater resources within areas with sufficient groundwater availability, reuse, conservation, development of new surface water supplies, development of treatment infrastructure, and a number of other approaches. Potential water management strategies were evaluated in accordance with 31 TAC 357.34 and the Chapter 5 appendices include a technical memorandum outlining the evaluation performed for each proposed strategy.

Water conservation, the most environmentally benign WMS, is projected to meet 18.3 percent of the region's municipal demands by 2070 reflecting the region's continued emphasis on conservation efforts in the future. Water conservation is also an important strategy for meeting other future water needs. Chapter 5B provides a detailed discussion of conservation efforts, including baseline conservation, water loss reduction, and advanced conservation efforts.

As in previous plans Chapter 1 describes the natural resources in Region H and how water development projects threaten natural resources. Chapter 6 also discusses threats to natural resources. In addition, the Region H 2021 IPP includes quantitative information for impacts on natural resources from water management strategies. Specifically, the Region H IPP includes an assessment of the impact of water management strategies and projects on key water quality parameters in the state and impacts of moving water from agricultural and rural areas as well a discussion of how the IPP is consistent with the long-term protection of the state's water, agricultural and natural resources. TPWD encourages Region H to continue to improve the quantitative impact analysis as environmental information for WMS becomes available. TPWD is particularly concerned about declining freshwater mussel populations, reflected in the 2009 Texas Parks and Wildlife Commission's decision to list 15 species of freshwater mussels as threatened. In order to avoid adverse impacts to aquatic resources and potential civil and criminal liability, the department recommends entities coordinate with the department to develop a plan to avoid impacts to aquatic resources and, in some instances, relocate aquatic resources outside of the project area. There have been

recent updates (March 30, 2020) to the list of federal and state listed species and Species of Greatest Conservation need, including species in Region H counties. We recommend that you update Table 1.15 and Appendix 6-C with the latest information that is available at https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/.

Included in Chapter 8 of the IPP is the recommendation that the TWDB determine, in conjunction with the TCEQ and the Texas Parks and Wildlife Department (TPWD), which specific environmental studies and analyses are required for each category of water management strategy (i.e., new water right, new reservoir, etc.). Furthermore, the IPP recommends that guidance should be added to the Planning Guidelines, so that RWPGs can reflect the cost of those requirements in their budgets and scopes of work. TPWD staff are willing to assist in the review of water management strategies but cautions that determining the specific studies and analyses required for each category of management strategy may be difficult.

An overall review for the selected identified WMS was conducted based on text provided in the Region H IPP and are listed below. Please note, there are many variables that go into a given water management strategy and not all projects will have the same variables or requirements associated with them. The formulation of generic guidelines is further complicated by the ecological and hydrological variations that occur across the state of Texas. Some amount of site-specific information is needed to identify the required studies and analyses necessary to properly assess the environmental impacts of a given project. TPWD staff are eager to assist Region H in reviewing the specific studies and analyses as they become available.

- Brazos Saltwater Barrier – Limited impacts from the development of the Brazos Saltwater Barrier are discussed in the Region H IPP. Developing the Brazos Saltwater Barrier will potentially lead to changes in the upstream and downstream water quantity and quality, especially during times of drought. This could have a negative impact on the species and their habitat that utilize the area for their life cycle activities including but not limited to migration, feeding and spawning. TPWD recommends an assessment of the potential upstream and downstream environmental impacts such as changes water quality and quantity, ecosystem functions, and species life cycles.

- Water Transfers – The transfer of water, from ground water to surface water or from surface water source to surface water source has the potential to alter the water quality and change the water available in the area the water is extracted as well as the area the water is introduced, thus there is a potential to alter the life cycle of species, their associated habitats and the overall function of the ecosystem. The transfer of water also has the potential to introduce new or

invasive species into an area. The impacts of these changes to the environment can have effects on the recreational opportunities (i.e. anglers and boaters) and well as to the public water supply. TPWD recommends the IPP include an assessment of the potential environmental impacts from transferring water.

- TPWD agrees that utilizing the process of "dilution and discharge to deal with brine concentrated during treatment processes...can result in an elevated level of TDS in streams used as receiving waters as well as other quality impacts depending upon the quality of the groundwater source". TPWD recommends consideration of less impacting concentrate disposal methods (e.g. deep well injection) to minimize impacts to fish and wildlife resources.

- TPWD recognizes and agrees that increased groundwater pumping in the region can lead to land subsidence and exacerbate flooding and drainage problems. TWDB planning rules now require that groundwater supplies not exceed the Modeled Available Groundwater (MAG) values that were determined to meet the desired future conditions (DFCs) of the groundwater source. The adopted DFCs for the primary aquifers in Region H are aimed at combatting subsidence and not the restoration of springs or other manifestations of groundwater/surface water interactions. Generally, TPWD would like to see DFCs adopted to protect these features and their historical relationship. TPWD staff recognizes that there is insufficient data in many parts of the state to determine the extent, degree, and location of groundwater/surface water relationships, however TPWD staff encourages RWPGs to support studies to investigate the groundwater/surface water interactions within the region so that the relationship between these sources will be better understood as we continue to develop and manage water resources.

- Allens Creek Reservoir and the Dow Reservoir and Pump Station Expansion – Although less impacting than on-channel reservoirs, off-channel reservoirs still have the potential to cause loss of habitat for terrestrial, wetland, riverine and riparian species as well as cause a reduction and/or alteration of downstream habitat types for riverine, estuarine, riparian and wetland species. TPWD agrees that Allens Creek Reservoir will reduce the net flow within the basin and has the potential to inundate the habitats of species of concern including but not limited to the Whitefaced Ibis, Wood Stork, and Houston Toad which may require mitigation. TPWD looks forward to continued cooperation with project sponsors as mitigation plans are developed to address habitat issues as well as construction-related issues.

- BRA System Operation Permit - TPWD agrees that BRA System Operation Permit has the potential to impact flows into the Brazos River Estuary and the Columbia Bottomlands. Furthermore, TPWD agrees that the BRA System Operation Permit may alter the hydrology of the system by reducing the peak flows in the lower Brazos River due to the increase in diversions. These

alterations can have an impact on the terrestrial, wetland, riverine and riparian species. TPWD looks forward to continued efforts working with the Brazos River Authority to minimize these impacts.

As in the previous planning cycles TPWD staff appreciates the time the planning group gave to evaluating whether to recommend stream segments as ecologically unique. TPWD continues to see importance in designating unique stream segments and will support Region H in this regard in the next planning cycle as TPWD staff believes there are remaining stream segments within the region that warrant designation. While TPWD does not have immediate plans to update the information for Ecologically Significant River and Stream Segments of Region H that was initially prepared by the department, we would support an update if Region H would find it beneficial in making a decision to recommend a river or stream segment as ecologically unique. New natural resources information is likely available for the river and stream segments the department has identified as well as for other segments not yet identified as candidates for the ecologically unique designation.

Region H is subject to floods as well as droughts, thus must plan for each. Region H uses the drought of record from the 1950s to evaluate the impacts of drought though it recognizes that the triggers and responses of drought conditions may fluctuate depending on the site and should be prescribed by project owners. Drought Contingency Plans (DCP) are discussed in Chapter 7 and elaborated on in Appendix 7-A. Approximately 253 new DCPs were received by the Region H in 2019. TPWD concurs with Region H and strongly supports the "development of robust DCPs ... in order to prolong supply availability and reduce impacts to water users and local economies". Region H, however, does not view DCPs as a strategy to meet future water needs and therefore does not include DCPs as a water management strategy.

TPWD recognizes the importance of water management strategies to provide a consistent and reliable source of water for the environment, recreation, and water supply especially in times of drought. By excluding drought management strategies as water management strategies, the impact of a drought on sustaining flows for species needs, recreational activities and public water supply cannot be fully assessed. Thus, it cannot be assumed that the Regional H plan will be protective of species, recreation, or water supply needs in times of drought.

TPWD requests the Region H IPP address invasive exotic species and their potential negative environmental impacts that may result from water management strategies that involve the transfer of water. The introduction of invasive exotic species can directly and/or indirectly impact native species, their habitats and associated ecosystem functions, recreational opportunities (e.g., anglers and boaters) and the public water supply and other water infrastructure negatively. In

particular, the zebra mussel is an invasive freshwater mollusk that could affect water management by clogging intake structures and fouling pipelines, resulting in increased maintenance needs and potentially hazardous conditions for workers. The presence of zebra mussels also raises concerns with the transfer of water from affected waterbodies that may require mitigation to prevent transfer of zebra mussels. The potential transport of zebra mussels and other invasive species via pipelines falls under Parks and Wildlife Code §66.007(n) and §66.0072(g) To prevent the transmission of invasive species TPWD recommends avoiding transport of water from water bodies where these species are known to occur, including rivers downstream of infested lakes. If this is unavoidable, effective mitigative measures should be considered and implemented for preventing the transfer of zebra mussels. As of June 23, 2020 zebra mussels have been found within the Region H boundaries in Lake Livingston. Please be advised TPWD regularly updates information on the TPWD website to clearly identify lakes with zebra mussels in Texas, as it is subject to change; this information can be found at:

https://tpwd.texas.gov/huntwild/wild/species/exotic/zebramusselmap.phtml.

TPWD recommends that the Region H IPP identify areas with infestations to prevent the spread of zebra mussels via water transfer and the negative impacts from invasive, exotic or nuisance species on the State's natural resources, economy, and recreation that would result from their introduction into new water bodies.

We appreciate the opportunity to provide these comments. While TPWD values and appreciates the need to meet future water supply demands, we must do so in a thoughtful and sound manner that ensures the ecological health of our state's aquatic and natural resources. If you have any questions, or if we can be of any assistance, please contact me at 512-389-8715 or Cindy.Loeffler@TPWD.Texas.gov.

Sincerely,

Cindy Loeffler

Cindy Loeffler
Chief, Water Resources Branch

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Comments of the Lone Star Chapter of the Sierra Club on the Region H 2021 Regional Water Plan Initially Prepared Plan (IPP) – Prepared and Submitted by Ken Kramer, Water Resources Chair, Lone Star Chapter – June 28, 2020

The Lone Star Chapter of the Sierra Club believes that the state and regional water planning process is an important tool in evaluating available water resources and developing a critical blueprint for meeting the anticipated future water needs of Texas and water users throughout the state. Individual water user groups make the ultimate decisions about whether and to what extent the water management strategies of regional water supply plans are implemented. However, the regional plans provide an overview that gives important context to those discrete decisions, and the planning process has the potential to recommend management strategies that could avoid duplication of efforts, waste of water resources, and negative impacts certain types of water development.

That is the lens through which the Sierra Club has reviewed and prepared comments on the 2021 Region H IPP. On the whole, we find the document to be an impressive compendium of current water supplies available to water user groups in the region, a detailed analysis of projected water demands, a thorough discussion of numerous proposed water management strategies, an informed discussion of important water topics such as drought management, and a source of well-reasoned proposals for advancing water conservation.

However, the Sierra Club believes that the 2021 Region H IPP falls short of the potential the planning process presents to avoid possibly duplicative water projects, maximize the use of demand management for meeting projected water needs, and address environmental water needs as well as consumptive water needs. We hope that the Region H planning process will continue to evolve in a way that better achieves that potential.

We are realistic in thinking that at this point in the fifth round of regional water planning, the likelihood of major modifications in the 2021 Region H IPP is low. These comments, which address what we see as both “the pros and cons” of the IPP, are primarily aimed at encouraging the evolution of the planning process in the region. Some of these comments, however, do suggest some minor tweaks in the IPP that could be made before final submittal of the 2021 Region H Water Plan to the Texas Water Development Board (TWDB), and we hope that these comments will be considered seriously.

Overview: Major Positive Features of the 2021 Region H IPP

(1) The Region H IPP identifies water loss in municipal water distribution systems as a significant problem ("real losses represent 15% of the total water input to the region"). A dramatic example of such water loss was the major water main break in Houston in February of this year. Thus, Region H recommends **Water Loss Reduction** as a water management strategy for all municipal WUGs with real losses of greater than 10% and calls upon those municipal water suppliers to reduce their real loss by one percent annually over the 2020-2070 planning period until they are at or below 10% real loss.

(2) The Region H Plan recommends **Advanced Conservation**, which includes a number of water use reduction measures, for municipal WUGs. Perhaps most important in this regard is that Region H recognizes that outdoor water use "is a major driver of overall municipal [water] demand" and thus recommends **mandatory outdoor watering restrictions (no more than twice per week) for all municipal WUGs (with the exception of The Woodlands, which already has those restrictions in place)**.

(3) The Region H Plan also identifies **Irrigation Conservation** as a major potential for saving water in the agricultural sector in the region (rice is the primary irrigated crop in Region H, produced to some extent in eight counties). If fully implemented, the recommended conservation measures could reduce rice irrigation water use to sufficiently cover all anticipated water needs from rice production over the course of the 50-year planning period. However, for a variety of reasons, the full potential is not likely to be reached and thus irrigated agriculture is one water use sector which the Region H plan identifies as having some "unmet needs" in certain areas over the 2020-2070 planning period.

(4) The Region H Plan propose **no new on-channel surface water reservoirs to meet additional water supply needs**. The only reservoir projects included in the Region H Plan are the long anticipated (but never quite pursued) off-channel Allens Creek Reservoir in southern Austin County and the expansion of an off-channel reservoir owned by Dow Chemical in Brazoria County. The latter project certainly warrants scrutiny in the permitting process, but some other water planning regions in Texas are calling for major on-channel water supply reservoirs with enormous negative environmental impacts. The 2021 Region H IPP does not do so.

Overview: Major Concerns about the 2021 Region H IPP

(1) The 2021 Region H IPP recommends **water management strategies that on a macro level would provide water supplies far in excess of the identified water needs of the region over the 50-year planning horizon.** For example, the Plan estimates that the region will need an additional 405,433 acre-feet of water per year by the decade that begins 2030, but the Plan recommends strategies that would provide 983,283 acre-feet of additional water supply each

year. We grant that approximately 75,000 acre-feet of that amount would be made available as a result of advanced conservation and water loss reduction and a potential additional 93,000 acre-feet would be through irrigation conservation). The Plan projects that the region will need an additional 883,136 acre-feet of water per year by the decade beginning 2070, but it recommends strategies that would provide for 1,947,784 acre-feet of additional water supply each year (in other words, ***more than double the amount needed***, although with roughly 278,000 acre-feet of that coming from the various conservation strategies).

To be fair, most of the water user groups in the region are not projected to have more supplies than needed by 2070, not all of the additional water supply projected will be proximate to the places needing the water or available for the types of uses in need of water, there are concerns by the Region H Planning Group that the manufacturing water use demands the Group was required to use are too low, and some proposed projects may never be built because they will not meet permitting requirements. Nevertheless, ***the scale of the difference between estimated needs and projected water volumes from proposed strategies is so large that ratepayers and taxpayers – especially in the City of Houston (which seeks to have 40% more water by 2070 than the total projected as needed) – should ask their water utility officials whether all of this water is really needed in the region over the next 50 years***. Moreover, there are other water user groups in Region H for which the plan projects even larger percentages of water in excess of projected needs over several decades, including the decade beginning in 2070. **Where is the incentive to conserve water if water supplies will be available in volumes so far above projected needs for decades to come?**

(2) **The Region H Water Plan continues to reject drought contingency measures as a water management strategy to reduce non-essential water uses during severe droughts until wetter periods return**. Each regional water plan is predicated on meeting water needs during a period as severe as the "drought of record" (in other words, the worst drought experienced during recorded history). For Region H, the "drought of record" was the multi-year drought of the 1950s. Drought is a recurring phenomenon in Texas, and climatic projections for the coming decades indicates that will continue to be the case.

The Texas Legislature has taken drought response seriously. As a result, state law requires retail water utilities above a certain size or meeting other criteria to develop contingency plans for coping with drought conditions, including reducing non-essential water uses as a drought worsens. In addition, the Legislature has mandated that these drought contingency plans be implemented in counties where the Governor has declared a disaster due to drought. In other words, the contingency plans should not just be paper documents to be put on a shelf or electronic documents to be stored in a computer.

Obviously, then, drought contingency plans are going to be implemented during a drought as severe as the "drought of record," reducing the volume of water being used during that period.

That reduction in volume offsets the need for additional supply equivalent to that volume. Therefore, implementation of a drought contingency plan does on a temporary basis what adoption of conservation measures does on an ongoing basis, and conservation is a key water management strategy in the Region H Plan. However, while giving lip service in Chapter 7 to the importance of drought contingency plans, the Region H Plan (unlike some other regional water plans) does not include implementation of those plans as a water management strategy.

(3) **While the 2021 Region H IPP does not recommend any new on-channel surface water reservoirs, it does include some other types of large water development projects as water management strategies that could have negative environmental consequences**. One example is the proposed "East Texas Transfer," which would move 250,000 acre-feet of water per year from the Toledo Bend Reservoir in the Sabine River Basin via canal and pipeline to diversion points in the Trinity and Brazos River Basins. While there are benefits to using water from an existing reservoir rather than constructing a new one, there are potential negative impacts on areas where the conveyance projects are built and possible impacts on environmental flows as a result of such a project.

(4) **The environment is a "water user group"** (or as environmental attorney Myron Hess often points out, "fish need water"), **but once again the Region H IPP does not specify a volume of water needed for instream flows in rivers and major tributaries in the region nor a volume of water needed for freshwater inflows into Galveston Bay during a drought as severe as the drought of record**. This omission continues to be a concern if for no other reason than the economic value of healthy rivers and a healthy bay to the region as a result of recreational, commercial, and other activities dependent upon those resources. If drought diminishes the instream flows and freshwater inflows that are required to maintain the health and the productivity of those resources, that will negatively affect the economic enterprises directly or indirectly tied to those resources. However, the socio-economic impacts of that "unmet need" during a drought as severe as the drought of record is not considered in the Region H IPP.

The original 2001 Region H Plan at least provided a number indicating a volume of water needed for freshwater inflows to Galveston Bay, based in part on the deliberations of a diverse stakeholder entity known as the Galveston Bay Freshwater Inflows Group (GBFIG). Even then, however, no water management strategy was recommended in that Plan to meet the projected needs of the Bay. Since that time, the topic of environmental water needs has not been addressed in any substantive way in subsequent Region H plans, except for occasional general discussions of the possible environmental impacts of a proposed water project to meet consumptive water needs of other water user groups.

We recognize, of course, that the Texas Water Development Board does not require regional water planning groups to consider the environment as a water user group, nor to our knowledge through this or previous rounds of regional water planning has any other planning

group included the environment as a water user group in their plans, much less proposed strategies to meet environmental water needs.

Some participants in the regional water planning process may be under the impression that the passage of Senate Bill 3 by the Texas Legislature in 2007, which established an environmental flow standard setting process for major river basins and their associated bay systems, may have obviated the need for regional water planners to concern themselves with environmental water needs. That is an erroneous impression.

Although originally conceived as identifying what amount of water remaining in rivers and streams would be needed to maintain a sound ecological environment for those river basins and their associated bay systems, and then reserving that amount of water for the environment, in reality the standard-setting process achieved no such result thus far in any bay/basin area. At best, the standards that were set potentially put some permit conditions on new water rights permits issued after 2007 to try to keep withdrawals under those permits from taking all of the water out of the rivers and streams which they otherwise might have withdrawn. That's not enough to meet environmental flow needs.

The Sierra Club encourages Region H to become a leader in assessing environmental water needs and proposing strategies for meeting those needs during the regional water planning process. There is some membership overlap between the Region H Water Planning Group and the stakeholder committee and science team for the Trinity & San Jacinto Basin / Galveston Bay area, and all of these entities could work together for a common purpose. Such an effort would be in keeping with the "One Water" concept of comprehensive water management, which is referred to positively in the Region H IPP Section 8.4.1 on "Regulatory and Administrative Recommendations."

Comments on Individual Chapters, Sections, and Selected Appendices of the Region H IPP

Chapter 1 – Description of Region

Chapter 1 provides a very thorough and highly useful compilation of information about Region H and the many factors that go into driving water use in the region. Among the notable insights from the discussion in this chapter are the following:

- "One third of the state's commercial fishing income and one half of the state's expenditures for recreational fishing come from Galveston Bay."
- From 2000 to 2015, the population of the region has grown from approximately 4.9 million to over 6.8 million.
- "In 2015, municipal uses accounted for 55 percent of the region's total reported water use, a substantial increase from 41 percent during the first RWP in 2000."

- "As demonstrated [in Table 1-15], real [water] losses represent approximately 13.3 percent of the total reported water input to the region, which is slightly higher than the statewide average of 12.4 percent. This data represents a real potential for the reduction - of water demand through leak detection and other practices aimed at increasing accountability."

Chapter 2 – Projected Population and Water Demands

Non-Population Water Demands

2.2.1.1 Irrigation

We agree with the approach taken by Region H in developing water demand projections for irrigated agriculture, which used the second-highest annual volume of irrigation water use from 2010 to 2015 and held demands "constant out to 2070 in the absence of any additional data representing long-term trends in agricultural production." Given the nature and economics of irrigated agriculture, and the heavy reliance of many producers on interruptible water supplies that is a reasonable methodology that does not overestimate water demands in this sector.

2.2.1.2 Livestock

We agree with the Region H Water Planning Group's decision to retain the livestock water demands developed by TWDB, which used estimates of livestock inventories from the Texas Agricultural Statistics Service, averaged water demands for the years 2010 through 2014, and then calculated demand through 2070.

2.2.1.3 Manufacturing

We believe that the Region H Water Planning Group has taken a reasonable approach to projecting manufacturing water demands, which is a slight variation on the draft projections from TWDB based on more localized information. However, we disagree with the Planning Group's comment that "the required assumption of constant manufacturing water demand after 2030 does not reflect the ongoing growth in the manufacturing section in Region H, and it is unlikely that reductions in water use per production unit will offset all growth in manufacturing."

At best, we think that statement does not consider the impacts that changes in the demand for fossil fuels and products derived from those sources that are underway and likely to accelerate in the future, which are likely to affect the type of manufacturing that has been traditionally important in Region H. Moreover, we believe that the statement undermines the innovation that is possible in the Region to reduce water use per unit of production. One thing that could

stifle that innovation is the provision of an overabundance of cheap water as a result of overbuilding water supply capacity in the region.

At the least, we recommend that the current statement in the Region H IPP questioning TWDB's required assumption about manufacturing water demands after 2030 be accompanied by another statement along these lines: "However, the RHWPG will continue to assess the impacts of changes in the industries that have traditionally fueled the Region H economy and the possibilities for innovation in various sectors to maintain or even reduce the levels of manufacturing water use in the region in coming decades."

2.2.1.4 Mining

Considering that levels of oil and gas activity due to shale production are not as relevant to Region H as they are in some other regions, retention of mining water demand projections from the 2016 Region H Water Plan for the present round of regional water planning is reasonable.

2.2.1.5 Steam Electric Power

We believe that the decision by the Region H Water Planning Group that "steam electric water demand projections should be based on the maximum historical use from the year 2010 through 2015 for each facility and summing the maximum values by county" may overestimate the consumptive water demands over the next 50 years from this sector. We strongly disagree with the statement: "The RHWPG further noted that the required assumption of constant steam electric water demand after 2020 does not reflect the ongoing growth in the electrical demands for the region."

We believe that the latter statement disregards the changes that are happening and are likely to accelerate in the sources of electric power generation over the coming decades. Wind and solar power are advancing in Texas at a steady pace, and the pace is likely to pick up speed. Since these sources of power do not have the water use requirements of coal and natural gas, e growth in electrical power is possible without corresponding growth in water demands. Moreover, there are potential "game changers" on the horizon that are likely to bring a higher rate of change away from natural gas toward less water-intensive renewable energy sources.

As reported in the Houston Chronicle on June 11, 2020: "Broad Reach Power, a Houston energy storage company…will install 15 utility-scale batteries at sites in Houston and Odessa to store electricity when it's cheap and sell it into wholesale power markets when prices jump." The article goes on to point out that: "Batteries are beginning to undercut one of the central features of natural gas-fired power plants: filling in for power produced by renewable generators when the sun isn't shining and the winds aren't blowing. Batteries can make renewable energy a reliable and steady source of power…."

More broadly, the Houston Chronicle article notes: “Renewables are growing so quickly that solar power is expected to generate 61 percent of new power capacity coming online in Texas between now and 2023, according to…the Electrical Reliability Council of Texas. Wind represents another 27 percent of new capacity. About 7 percent will come battery storage.”

On the other hand, the article points out: “Natural gas,…the source that has traditionally supplied about half the power capacity in Texas is expected to add only 5 percent of new capacity in the next three years.” This is a trend, not an aberration.

We suggest that the Region H Water Plan at the very least add a sentence to this section of the Plan that says something to the effect: “However, the RHWPG will monitor regional transitions in the sources of electrical power, especially trends toward less water-intensive sources, that may impact or even reduce projected water use in this sector over the 50-year water planning horizon despite anticipated growth in electrical demands.”

Population Water Demands

We agree with the decision in this round of regional water planning to align population water demand projects with utility-based water user groups rather than based on political boundaries. That decision makes it easier to link the regional water planning process with utility forecasting and planning and easier for a utility’s customers to evaluate how their utility’s decision-making does or does not correspond to the Region H Water Plan.

We also agree with retention of the per-capita water demand from the 2017 Region H Water Plan in the new Plan wherever that was possible, and we further agree with the per-capita water demand adjustment from the baseline to reflect anticipated conservation savings from plumbing code enforcement and the proliferation of water-efficient appliances (year 2070 reductions of approximately 9.5 percent from projected 2020 demands).

HOWEVER, WE ARE SURPRISED THAT THE PERCENTAGE GROWTH RATE IN PROJECTED WATER DEMANDS IS HIGHER THAN THE PERCENTAGE GROWTH RATE IN PROJECTED POPULATION.

Note: In 2.3.2 “Demand Projections” on page 2-6 of the Region H IPP, there appears to be an error that needs correction: what is stated as simply “population” demands should be “population water demands.”

Chapter 3 – Analysis of Current Water Supplies

Overall, we find this chapter to be an informative and thorough discussion of available groundwater and surface water supplies in Region H.

3.2 Groundwater Sources & Groundwater Availability

We agree in general with the decision by Region H to use "MAG Peak Factors" (Multipliers greater than 100% applied to MAG – Managed Available Groundwater – values to estimate dry-year availability) to characterize available groundwater supplies. Our agreement with the decision is based on the understanding that the MAG Peak Factors reflect current groundwater regulations and permits issued by local groundwater districts and do not adjust the long-term supply under "Desired Future Conditions" for the respective aquifers as a result of the joint planning process. Use of MAG Peak Factors in lieu of using MAGS to characterize available groundwater supplies prevents an underestimation of the contribution of those supplies to meeting current and future water demands, thus presenting a more realistic assessment of anticipated water supply needs.

3.3 Surface Water Sources and Surface Water Availability

The TWDB's First Amended General Guidelines for Regional Water Plan Development require that regional water plan estimates of surface water availability be based on what is termed Water Availability Model (WAM) "Run 3" – "full authorized diversion of current water rights with no return flows, which in our opinion likely underestimates the volume of water available in a planning region from surface water sources. Some previous versions of the Region H Water Plan based surface water availability in the region on a different WAM Run that realistically recognized that – as explained in this Region H IPP – "…not all [surface water] rightsholders attempt to divert their full permit amount every year and diversions for municipal and manufacturing users typically return a portion of diverted water to streams as treated wastewater effluent." We believe that this latter approach represents a more accurate representation of surface water availability.

If we understand the approach taken in this iteration of the Region H IPP, surface water availability is generally determined on the basis of Run 3 in the WAMs for the relevant portion of river basins in Region H, ***but*** that the Region H Planning Group in several instances used a modified version of the Run 3 WAM to reflect various factors, including but not limited to calculated firm annual yields, type of water right (for example, run-of-the-river rights), existing subordination agreements, and some return flows, and TWDB approved these modifications. Frankly, assessing whether the process followed by Region H to develop the final estimates of surface water availability in the region was valid is practically impossible for lay reviewers due to the complexity involved. However, we do agree with the decision not to rely exclusively on Run 3 but rather to modify the availability estimates based on real world factors.

In the future, however, if it is not possible in the final 2021 Region H IPP in this round of planning, it would be helpful to provide in some type of Figure a more visual representation of the differences in surface water availability estimates based on use of Run 3 without

modification and on use of Run 3 with modification for the various key factors reflecting real-world conditions, including especially any existing return flow agreements, even if not all of those factors are eventually included in the final estimates of surface water availability. Such a presentation would provide a clearer opportunity for lay reviewers to assess the validity of the decisions made to determine surface water availability and to understand better the relative impacts of those decisions.

3.4 Reuse Resources and Reuse Availability

The assumptions used by the Region H Water Planning Group to identify availability of water from reclaimed supplies appear to be reasonable, given the variable factors discussed in this section of the IPP and given the fact that reuse may be a relatively recent water source for a number of water user groups. Over a period of time, these estimates of availability from this source may become more precise with a longer history to use as the basis for calculations.

Chapter 4 – Analysis of Needs

See our comments on Chapter 11 related to comparison of needs in the 2016 Region H Plan and the 2021 Region H IPP.

Chapter 5 – Water Management Strategies

We agree in general with the three assumptions the Region H Water Planning Group made in evaluating the general Water Management Strategies: utilization of conservation by WUGs with a projected shortage before pursuit of other strategies to increase supply, development of groundwater until it is fully utilized (as long as the groundwater supply is not allocated in excess of regulations set by the relevant regulatory authorities), and the ability of WUGs receiving water from wholesale water suppliers to increase their contract amounts until the wholesale supplies are fully allocated (and conveyance through existing infrastructure wherever possible).

Our one caveat on these assumptions relates to the groundwater regulatory assumption and is specifically based on concerns about changes that have occurred at the Lone Star Groundwater Conservation District that might weaken regulatory protections for groundwater supplies in Montgomery County and allow greater pumping from those supplies than is prudent to protect the resource. Although the Region H IPP did not incorporate any changes to the previous regulatory system for those supplies because the situation was in flux, if those changes occur before adoption of the final plan, we would oppose any modifications in the plan that would support a larger volume of groundwater withdrawal in that area than previously anticipated.

5.4.2 Conservation / 5.4.3 Drought Management – See relevant comments above in the Overview and below under Chapter 5B and Chapter 7.

5.7 Remaining Unmet Needs

We support the recommendations of the Region H Water Planning Group on how to address the projected "unmet needs" of agricultural irrigation and livestock watering, which in Region H do not lend themselves to the types of Water Management Strategies recommended for other Water User Groups.

Chapter 5B – Conservation Recommendations

We very much appreciate the discussion of water conservation and the potential for water loss control and advanced conservation to address a significant part of the projected water needs in Region H in addition to the baseline conservation from implementation of plumbing code requirements and installation of higher efficiency appliances that is incorporated into the water demand projections. We agree with the challenges to implementation of water conservation practices discussed in this chapter and appreciate the recognition of the value of conservation information from various initiatives such as the Texas Living Waters Project, in which Sierra Club is a partner.

5B.2.11 Water Loss Reduction

We agree with the decision by the Region H Water Planning Group to propose that water utilities within the region that have "real" water losses greater than a certain threshold reduce the fraction of their demands attributable to real loss by a certain percent annually throughout the planning period until they reach that threshold. The finding by the Planning Group, based on the 2017 Water Loss Audits submitted to TWDB that "real losses represent over 15 percent of the total water input to the region" is very disturbing, especially given the magnitude and cost of water infrastructure projects being recommended for the region as part of other water management strategies.

Given that disturbing level of water loss, however, we believe that the recommendation on water loss control in the Region H Plan is not sufficiently aggressive to curb this tremendous waste of water. That recommendation is that water utilities with real losses greater than 10 percent reduce those real losses by one percent annually throughout the planning period or until they reach the threshold level of ten percent real loss. If this is the target for water loss reduction in the region, then the volume of water lost over the 50 year planning period will be staggering – and setting this target will give the false impression that it is perfectly fine for a water utility to waste one-tenth of its water production each year.

For example, the City of Houston in its 2019 Water Conservation Plan notes that its 5- and 10-year water loss reduction targets – expressed in gallons per capita per day and in total water loss percentage, which includes real and apparent losses – are in keeping with the 2016 Region

H Plan recommendation for water loss control, which the 2021 Region H IPP retains. However, that means that if the City reaches its 10-year target for water loss reduction, water loss will only be reduced from 24 to 22 gallons per capita per day and total water loss will only be reduced from 19% to 17%, likely perpetuating huge water losses by the City for decades.

Initially during this fifth round of regional water planning, the consultants for Region H developed a proposed target of 5% rather than 10% on real water loss while retaining the 1% per year rate of reduction. Our understanding is that the City of Houston and perhaps some other water utilities objected to the 5% target, and thus the 2021 Region H IPP reverted to the 10% target. We see this change as short-sighted. We recommend a more ambitious real water loss target of at least 7% and a rate of reduction of 2% per year for the duration of the planning period or until that 7% or lower target is reached. That is still a large volume of water loss but would represent real progress in reducing water waste in the region, and such a target is reported to have been achieved by some other water utilities in the state and in the nation.

5B.2.1.3 Advanced Conservation

We strongly support the package of Advanced Conservation measures that the Region H Water Planning Group is recommending for most municipal WUGs in Region H. We especially support and congratulate the Planning Group for focusing much of this package on measures to reduce outdoor water use (which the 2021 Region H Plan accurately describes as "a major driver of overall local municipal demand").

We appreciate the Region H Plan's use of the extensive research done for the Texas Living Waters Project's *Water Conservation by the Yard* report to demonstrate the potential for water savings from implementation of "no-more-than-twice-a-week" outdoor watering restrictions. Such restrictions have been put into practice successfully and effectively by cities such as Dallas and Fort Worth and (in Region H) by The Woodlands – and have received public acceptance.

We disagree, however, with the decision in the 2021 Region H IPP to incorporate estimates of water reductions only at "the lower end [2% of total municipal water demands per year] of the savings spectrum" identified in the *Water Conservation by the Yard*. The analysis done in the Texas Living Waters Project report calculated a range of a 2% to 7% reduction in annual municipal water demands from implementation of the outdoor watering restrictions, with the 7% high end based on not only the restrictions but active education about the benefits of those restrictions to water customers and water supplies and active enforcement of the measures by local officials.

We understand the reasoning behind not applying the upper end of the projected savings from outdoor watering restrictions – that different WUGs would implement the measure in different time frames, with variable levels of resources for education and compliance, and with varying

levels of customer compliance, especially in the early years of implementation. Therefore, we are not arguing for use of the high end (7%) savings from outdoor watering restrictions as the estimated savings for incorporation into the 2021 Region H Water Plan. However, we believe that it would be reasonable for Region H in this iteration of the regional water plan to adopt a higher estimate than 2% of savings in municipal water demands from outdoor watering restrictions, especially for the decade beginning 2030 – perhaps a 4%-5% savings estimate beginning in that decade and carrying through or even accelerating to 7% over the next 40 years.

We do note that Table 5B-3 ("Summary of Municipal Water Conservation Impacts by Decade") on page 5B-10 of the 2021 Region H Plan indicates that the % of Regional Water Plan net [municipal] demand projected to come from "Advanced Conservation" will grow from 2.7% in the decade beginning 2020 to 4.1% in 2030 and then progressively to 6.5% by the decade beginning 6.5%. Since outdoor watering restrictions are a significant part of the Advanced Conservation – although not all of the Advanced Conservation measures recommended, perhaps the 2021 Region H Plan is accelerating the percentage of savings from those outdoor watering restrictions over the 50-year planning horizon. If that is the case, then the text on page 5B-7 that implies that the % reduction is only 2% and does not indicate a higher percentage for subsequent years needs to be modified.

However, we find no indication in the Region H Project Analysis Technical Memorandum on "Advanced Conservation and Water Loss Reduction" (Appendix 5-B-CNSV-001) that the 2021 Region H IPP does progressively increase the estimated savings from outdoor watering restrictions over each decade of the 50-year planning horizon. Therefore, we encourage incorporating such progress into the 2021 Plan.

As the outdoor watering restrictions become more common and the public better educated and informed on their ability to maintain desired outdoor landscapes with lowered volumes and frequency of outdoor watering, the spread of these restrictions and customer compliance will accelerate. Indeed, some communities in Texas – Austin and Frisco – have already gone beyond the "no-more-than-twice-a-week" to "no-more-than-once-a-week" outdoor watering restrictions for landscapes using irrigation systems.

We note that the City of Houston – although it has not yet adopted outdoor watering restrictions – did include in its *Resilient Houston* plan issued in February of this year a commitment that: "The City will also further water conservation efforts by implementing a twice-per-week outdoor watering restriction…and developing an incentive program for homeowners, renters, businesses, and wholesale customers to help reduce overall water demand." [See Page 116 of *Resilient Houston* – available online – under the objective of "Holistically Manage Our Water Resources to be Climate Ready."] Obviously, City leaders have had to put a higher priority on other initiatives during the spring of 2020 in the midst of a

pandemic and in light of growing calls for efforts to end racial injustice. But we are confident that at the appropriate time the City – the largest WUG in Region H – will follow through on the intent to adopt outdoor watering restrictions, and – as the largest wholesale municipal water provider in Region H – set a standard for others to follow.

5B.2.2 Recommended Non-Municipal Conservation

We agree with and support the recommendation in the 2021 Region H Water Plan for irrigation conservation methods in agricultural production in the region, and we find the estimated potential savings from this strategy – a total of 93,562 acre-feet per year in all planning decades – to be a reasonable projection. We would encourage the Region H Water Planning Group in the upcoming round of regional water planning to revisit this topic to assess any likely changes in production levels or irrigation techniques or other factors that might affect water use in this sector over the next 50 years.

We have no objection in this round of regional water planning to not including industrial conservation recommendations in the 2021 Plan, given the requirement from TWDB that manufacturing water demands be held steady after 2030. However, we believe that the next round of regional water planning needs to focus more attention on ongoing and anticipated changes in the types of industrial activities prevalent in the region and the potential impacts of innovation on water use by the manufacturing sector.

5B.2.4 Current Conservation Efforts in Region H

We appreciate the fact that the 2021 Region H Water Plan includes a review of current water conservation efforts in the region and that 164 revised Water Conservation Plans from water systems in the region were examined to develop the data that formed the basis of that review. The details provided about the percentage of those water systems adopting various conservation Best Management Practices (BMPs) recommended by TWDB are especially informative. We do think that it would be helpful in the Plan to identify at least some of the municipal WUGs who have adopted certain BMPs and the number of BMPs that they have adopted.

For example, the updated (2020) Texas Water Conservation Scorecard – just released in June 2020 a few months after the release of the 2021 Region H IPP – notes that the City of Houston, the largest municipal WUG in the region, has only adopted (as of 2018) eight of the now more than 30 municipal water conservation BMPs recommended by TWDB. The other three largest municipal WUGs in Region H – League City, Pasadena, and Pearland – have, respectively, only adopted 10, five, and (?) conservation BMPs. (The question mark for Pearland is because the City did not submit its annual [water conservation] implementation report to TWDB for the year, 2018, on which the Scorecard data was based.) Providing this information gives more

context to the understanding of how much conservation is actually being put into practice in the largest municipal WUGs and the implications that has for how much, if any, the volume of water savings might be in the region from implementation of conservation BMPs, given the relative importance of these large water utilities to water use in Region H.

We note that the information in this subsection on "Current Conservation Efforts in Region H" might be placed in Chapter 11 in the discussion of implementation of Water Management Strategies – in this case, conservation – recommended in the previous regional water plan. However, there may be a "disconnect" between some of the conservation practices found in the region and whether or not they were actually recommended as Water Conservation Strategies in a Region H Water Plan. At the least, though, a reference in Chapter 11 to the information in 5B.2.4 would be appropriate.

Chapter 7 – Drought Response

We appreciate the wealth of information on drought and drought response provided in this chapter in the 2021 Region H IPP, which emphasizes the importance of developing and implementing drought contingency measures during dry periods. However, we continue to urge Region H not to dismiss the possibility of employing implementation of drought contingency measures as part of a suite of Water Management Strategies in a subsequent iteration of the regional water plan – or perhaps alternatively as a percentage reduction in projected future water demands in periods of drought as severe as the historic drought of record during the 1950s.

Some members of the Region H Water Planning Group have argued that the regional water planning statute and subsequent regulations preclude consideration of drought response as a strategy to manage water because the statutory goal of SB 1 was that the regional water planning groups each devise a regional water plan that provides:

> for the orderly development, management, and conservation of water resources and preparation for and response to drought conditions in order that sufficient water will be available at a reasonable cost to ensure public health, safety, and welfare; further economic development; and protect the agricultural and natural resources of that particular region.

Nothing in this mandate, however, precludes using the implementation of drought contingency measures to assure the availability of sufficient water "to ensure public health, safety, and welfare" and meet the other requirements of this statutory mandate. "Sufficient" water to

achieve the enumerated purposes does not mean that the same amount of water needs to be available each year nor does it mean volumes of water that users may "demand" or would like to have but rather the volume of water that is truly needed for these purposes. Given the advances in water conservation and efficiency over the past few decades and how those advances have shown that our society is able to achieve just if much, if not more, in the area of economic and other activities but to do so with lower per capita water use demonstrates the point. Cutting back on non-essential water uses during drought periods is not going to undermine the Texas economy, especially if water utilities act to develop effective drought contingency plans and begin implementing them early enough.

The regional water planning statute does require regional planners to plan for the "drought of record" (the historic drought of the 1950s for most areas of the state, including Region H), and as noted earlier in our general comments, the Legislature has passed other legislation – including revisions to the planning statute – that emphasize its interest in responding to drought effectively. Among these legislative enactments, as previously noted, is a requirement that water utilities implement their drought contingency plans when the Governor has made a disaster declaration for their respective counties on the basis of drought conditions – which certainly is highly likely during a drought as severe as the historic drought of record. This scenario is a reality that regional water planning groups should not ignore.

Four of the 16 regional water planning groups have already taken the step of including drought management as one of their Water Management Strategies – Regions J (Plateau), K (Lower Colorado), L (South Central), and P (Lavaca). TWDB has approved the regional water plans for those regions that included drought management as a WMS, so there is no question that the state agency takes the position that incorporating a drought management WMS into a regional water plan is valid.

We understand the concerns that the Region H Water Planning Group has about uncertainties in the implementation of drought contingency plans that makes the Group hesitant to include drought management as a WMS. However, we are not asking nor expecting that somehow a drought management WMS would address all regional water needs during a time of drought, only that it would be part of the picture. The consultants to the Region H Water Planning Group had identified a scenario in which a certain amount of water – 32,865 acre feet (or some subset of that volume) – could be incorporated under certain circumstances as a drought management WMS, and we could support that limited and reasonable approach.

In addition, we believe that the Region H Water Planning Group should seriously evaluate possible recommendations to municipal WUGs in Region H to revamp their drought contingency plans to at least partially incorporate triggers such as the Palmer Drought Severity Index and the U. S. Drought Monitor data and not rely so heavily, in many instances, on triggers such as reservoir storage levels – potentially then beginning to implement initial stages of a

drought contingency plan early enough to help stretch water supplies longer over a drought period. The 2021 Region H Plan mentions these as information sources for preparing drought plans but not in the form of a specific recommendation for incorporating them into the plans to trigger various stages of implementation.

We also believe that Region H should encourage the development of similar drought contingency plans among municipal WUGs – a development that incorporation of triggers other than supply volumes – might allow in the region. We recognize the evaluation that the Region H consultants did of the drought contingency plans of a certain subset of retail water systems in the region and the targeted demand reductions in their drought plans "to identify potential unnecessary or counter productive variations in drought response measures which could impede effective drought response or cause confusion to the public regarding required drought contingency measures."

We do not necessarily disagree with the conclusions of this evaluation of a subset of systems on this one indicator that "clear indication of counterproductive drought planning was not observed." However, that is not really a firm declaration that there is no benefit to more collaboration and consistency among a larger number of municipal WUGs on their drought contingency plans, especially with regards to targets, types of drought response actions to be implemented by the public (for example, additional limitations on outdoor watering restrictions), and measures other than just percentage demand reductions at various stages. In a media market that reaches so much of the population in Region H, having greater consistency among retail public water systems in their drought contingency plans and implementation of drought response measures would likely have great value in boosting results.

Chapter 8 – Unique Stream Segments, Reservoir Sites, and Other Recommendations

8.4.1 Regulatory and Administrative Recommendations

We support the regulatory and administrative recommendations in the 2021 Region H IPP. We especially recognize the new recommendation regarding "OneWater" management and the need to identify [and hopefully address] the limitations of current planning approaches that may undermine this more comprehensive water management approach.

8.4.2 Legislative Recommendations

We support most of the legislative recommendations in the 2021 Region H IPP *with the exceptions* of those regarding "barriers" to interbasin transfers of surface water and "continued usage of the Rule of Capture as the basis for groundwater law…." There are statutory conditions on interbasin transfers that some people consider "barriers" but others see as important protections for the basins of origin and there are other factors that should be considered in

determining the advisability of interbasin transfers. The bottom line is that this legislative recommendation is too vague to garner support. With regard to the Rule of Capture, we feel that the current interpretations of the implication of that "rule" for landowner rights and for groundwater management does not adequately address the public interest in protecting a precious water resource that may be critical to people in an area other than the people who live on the surface over a portion of that resource.

Chapter 11 – Implementation and Comparison to Previous Regional Water Plan

11.2.1 Conservation Strategies

As noted in our comments on Chapter 5B, we believe that some of that information about current water conservation in Region H could be moved to this section of Chapter 11 but at the least should be referenced more specifically here. We believe, however, that it is premature to state that "It is assumed that municipal conservation practices have been implemented in Region H since the development of the 2016 RWP…" if that is a declaration that all of the recommended conservation strategies in the previous plan are being implemented by all of the relevant municipal WUGs in the region. We encourage Region H to undertake a more robust evaluation of the implementation of Advanced Conservation measures in the region for the next round of regional water planning, especially because the recommended restrictions on outdoor watering are such an important part of the recommended conservation in the 2021 Region H Plan.

11.3.2 Drought of Record, Modeling Assumptions, and Existing Source Supplies

We simply note as a sign of progress the higher volumes of projected water supply from reuse that are incorporated into the 2021 Region H IPP as compared to the 2016 Region H Water Plan.

11.3.3 WUG Supplies and Needs

We also note as a sign of progress in the region the lowered volume of projected WUG needs in the 2021 Region H IPP as compared to the 2016 Plan.

Conclusion

In conclusion, while we find much of value in the Region H IPP and many aspects of the Plan, and we support many of its recommended Water Management Strategies, we are concerned that the Region H IPP:

- proposes strategies that will result in volumes of water well in excess of not only "needs" (as defined in Texas water planning) but even projected demands,

- underestimates the potential for meeting a significantly higher percentage of water needs through conservation (although the Plan makes important recommendations to address outdoor watering and continues to promote water loss control),
- fails to take full advantage of the opportunity to incorporate the use of drought contingency plans to reduce water needs during drought, and
- does not adequately assess the environmental impacts of proposed Water Management Strategies in a way that affects the selections of Strategies to be included in the Plan.

We recognize that it is unrealistic to expect that the Region H Water Planning Group will make changes in the Plan at this point in the planning process to address those major concerns. However, the regional water planning process is an iterative process, and the 5-year review of planning inputs and reconsideration of potential Water Management Strategies has led to incremental improvements in the Region H water plans over the past 20 years. We hope that progress will continue and that the rate of progress will accelerate. With that context, the Lone Star Chapter of the Sierra Club encourages the Region H Water Planning Group in the next round of regional water planning, which will have the benefit of new information from the 2020 census, to do the following, among other things:

- evaluate the impacts that anticipated changes in the sources of electric power production will have on projected consumptive water use demands in the Steam-Electric Power sector in the region,
- explore the potential evolution of the mix of industrial activity in the region and the prospects for innovation in production of goods and water use by business and industry and how those factors are likely to shape water demands for the Manufacturing sector,
- critically examine whether the wide range of (and huge volumes of water from) the Water Management Strategies in the 2021 Region H Plan need to be included as recommended Strategies or whether some of those Strategies might more appropriately be considered as unnecessary or perhaps proposed as Alternative Water Management Strategies to be pursued if other higher ranked Strategies prove infeasible,
- evaluate more closely the extent to which recommended Water Loss Control and Advance Conservation strategies are actually being implemented by municipal WUGs in Region H and propose new legislative and/or regulatory initiatives to accelerate the adoption of these strategies by those WUGs,
- as a complement to the above, evaluate how to advance conservation in those WUGs where new water development projects coming online or projected for the future might dampen the incentives for water utilities to promote and implement conservation,
- study carefully how other regional water planning groups in Texas have been able to incorporate the implementation of drought contingency plans into their regional water plans either as Water Management Strategies or possibly as adjustments to projected water demands in a drought as severe as the historic drought of record,

- consider recommendations to municipal WUGs to modify their drought contingency plans and take a more regional approach to establishment of drought triggers, drought plan stages, and actions to be taken at different drought plan stages,
- establish a decision framework that allows the likely or potential environment impacts of possible Water Management Strategies to factor into the selection of recommended Strategies as part of a more comprehensive approach to water planning and management in the region, and
- monitor and closely coordinate the development of the 2026 Region H Water Plan with the preparation of the relevant regional flood plans in the new flood planning process getting underway this year, in order to achieve any synergies from both planning efforts, to avoid conflicts between the water plans and flood plans, and to advance a "One Water" approach to water management.

As always, the Lone Star Chapter of the Sierra Club stands ready to support and assist Region H in the evolution of the region water plan in the next round of planning. Thank you for the opportunity to submit these comments on the 2021 Region H IPP.

Philip Taucer

From: Debra Joly <jolydebra@gmail.com>
Sent: Wednesday, June 10, 2020 11:56 AM
To: info@regionhwater.org

External Email. Use caution when clicking links or opening attachments.

Hello,

I have been told there is a chance that the following legislation may occur. Flooding such as we had in Kingwood with Hurricane Harvey purely due to the release of the Conroe dam will continue to occur unless someone is held accountable. Please do what you can to prevent this kind of devastating event from happening again. There must be accountability.

On page 18 of the executive summary, there's an overview of the recommendation. It requests that "… the State consider legislation clarifying the liability exposure of reservoir operators for passing storm flows through water supply reservoirs."

Thank you.
Debra and Dale Joly
2019 Fairway Green Dr.
Kingwood TX 77339

Philip Taucer

From: Reed, Dana N <dreed3@CougarNet.UH.EDU>
Sent: Sunday, June 28, 2020 4:33 PM
To: info@regionhwater.org
Subject: Public Comments on Region H 2021 Initially Prepared Plan

Follow Up Flag: Follow up
Flag Status: Completed

Dear Judge Evans,

Thank you to the Region H Water Planning Group for your efforts on the 2021 Initially Prepared Plan. As a constituent of Region H and a Houston resident, I am interested in the plans for water provision in this region and opportunities for conservation to reduce water demands as our needs evolve in the future. Please accept the comments presented below:

(1) The introduction to Chapter 5B – Conservation Recommendations states that conservation is a prime project choice throughout Texas because of low costs and scalability, further noting, "As Water Management Strategies (WMS) grow more expensive over time, the avoided cost of developing new infrastructure projects becomes more attractive. This is made all the more attractive by the minimal environmental impacts brought about by conservation projects compared to other strategies." (page 5B-1, pdf page 185)" However in the Project Overview tables (Table ES-3, pdf page 33 and Table 5-5, pdf page 176), the costs for Advanced Conservation and Water Loss Reduction are shown to be in the range of $600/ac-ft in 2070 cost. These costs are significantly higher than those for large infrastructure projects like the West Purification Plant and Northeast Purification Plant expansions, which contradicts the statements highlighting the value of conservation. Further review of the calculation methods in Appendix 5-B-CNSV-001 – Adv. Municipal Conservation reveals that the costs demonstrated for conservation represent a total cost for offsetting a unit volume of water at the point of delivery. The costs of other water management strategies are not assessed at the point of delivery and will require a combination of different projects to deliver that same unit volume of water to the end user. Though the overview tables imply a direct comparison, it is misleading to measure the cost of municipal conservation against that of other water management strategies which must be combined with multiple projects to achieve the same objective. I suggest a modification of the tables to reflect the costs associated with treatment, transmission, and distribution that are avoided by implementation of conservation. An alternative to modifying the table is to add a comment preceding the table to highlight the fact that direct comparisons between the listed water management strategies are inappropriate in certain circumstances, especially with regards to conservation.

(2) Section 5B.1.1 (page 5B-2, pdf page 186) notes the challenges of understanding the effectiveness of water conservation on a per-capita basis. The Region H Water Planning Group may consider alternative methods to the top-down, per-capita method for assessing water demand reduction. Bottom-up water conservation assessment methods, including methods based on household end uses and individual land uses may provide a more accurate assessment of the potential water savings from conservation. As an example, Austin Water's Water Forward Integrated Water Resource Plan utilizes an end-use based model for water demand, which facilitates the estimation of savings from specific water conservation efforts. Even if bottom-up end-use or land-use based approaches are not feasible for estimating water savings from conservation on the regional water planning level, the report might encourage the use of such models for constituent water user groups in order to facilitate prediction and measurement of reductions due to conservation.

(3) OneWater management is mentioned twice in the Initially Prepared Plan's Regulatory and Administrative Recommendations (page ES-18, pdf page 40 and page 8-13, pdf page 265). While I am very supportive of this recommendation for the TWDB to work with water utilities and planners, I also see that the Region H Water Planning Group has a unique opportunity and responsibility to incorporate a OneWater management philosophy

at the regional planning level. I suggest that the regional water plan elaborate on the OneWater approach, including the following characteristics identified by the US Water Alliance: (a) Recognition that all water has value – including drinking water, wastewater, and stormwater, (b) Focus on achieving multiple benefits for the economy, environment, and society, (c) Approach with a systems mindset that incorporates the full water cycle and larger infrastructure systems, (d) Utilization of a watershed-scale decision-making that respects and responds to the natural ecosystem, geology, and hydrology, (e) Intervention with right-sized solutions for achieving the desired outcome, and (f) Reliance on partnerships and inclusion of all affected stakeholders (http://uswateralliance.org/sites/uswateralliance.org/files/publications/FINAL_US%20Water%20Alliance_Strategic%20Framework_2.12.2020.pdf, see pdf page 9). Additionally, the consideration of these OneWater tenets should be included along with the suggested water management strategies and incorporated in the strategy evaluation.

Again, many thanks for your efforts in preparing this 2021 Region H Water Plan and for your consideration of these comments.

Sincerely,

Dana Reed
Dreed3@cougarnet.uh.edu

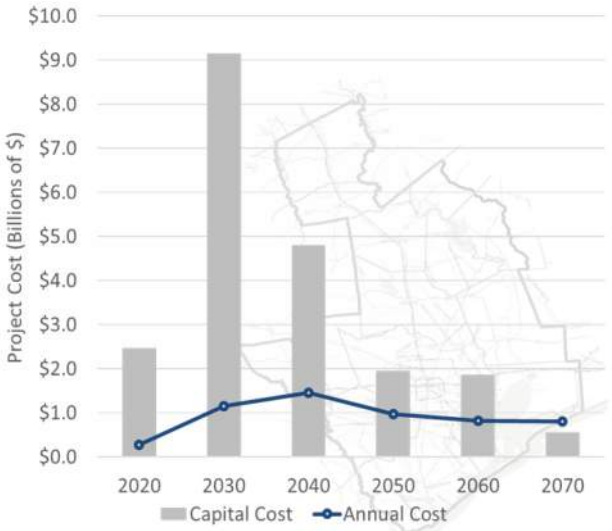
Agenda Item 9

Receive presentation from Consultant Team regarding Infrastructure Financing Survey distribution and collection of responses.

REGION H
Water Planning Group

Agenda Item 9
Infrastructure Finance

- 800+ projects
- ≈ $20.8 billion capital cost
- Majority in first half of plan horizon
- TWDB funding programs



Agenda Item 9
Infrastructure Finance

- Financing Survey
- Forms prepared by TWDB
- Distributed by RWPG
- Criterion for SWIFT eligibility

Water Management Strategy-Project Name:			**Project Total Capital Cost:**	
1) Planning, Design, Permitting & Acquisition Funding	Amount:	$	Year Needed:	
2) Construction Funding	Amount:	$	Year Needed:	
Total Anticipated State Funding Assistance		$		
3) Percent State Participation in Owning Excess Capacity			State Ownership:	

Agenda Item 9
Infrastructure Finance

- 374 recipients and 21 responses
- 73 projects
  - 8.9% by count
  - 28.4% by est. capital cost
- $5.5B+ in potential funding need
- ≈ 55% before 2030
- Includes major ongoing funding

Agenda Item 10

Review and take action to amend the budget for the development of the 2021 Region H RWP.

REGION H
Water Planning Group

Agenda Item 10 Budget

- Budget Reallocation
- Change by task
- Same overall total
- Same expense budget
- Additional reallocation at end of RWP

Scope Task		Current	Proposed	Change
100	RWPA Description	$ 24,694.00	$ 21,621.00	$ (3,073.00)
02A0	Non-Pop Demands	$ 37,385.00	$ 50,418.00	$ 13,033.00
02B0	Pop Demands	$ 80,371.00	$ 80,371.00	$ -
300	Supply	$ 127,997.00	$ 127,997.00	$ -
04A0	ID Needs	$ 23,332.00	$ 23,332.00	$ -
04B0	ID WMS	$ 60,943.00	$ 60,943.00	$ -
04C0	Tech Memo	$ 36,647.00	$ 36,647.00	$ -
05A0	WMS	$ 963,695.00	$ 963,695.00	$ -
05B0	Water Conservation	$ 81,615.00	$ 78,925.00	$ (2,690.00)
600	Impacts of RWP	$ 80,355.00	$ 73,085.00	$ (7,270.00)
700	Drought Response	$ 109,918.00	$ 109,918.00	$ -
800	Recommendations	$ 10,212.00	$ 10,212.00	$ -
900	WIF Report	$ 33,590.00	$ 33,590.00	$ -
1000	Adoption	$ 296,820.00	$ 296,820.00	$ -
1100	Implementation	$ 56,430.00	$ 56,430.00	$ -
1200	Prioritization	$ 46,822.00	$ 46,822.00	$ -
TOTAL		**$ 2,070,826.00**	**$ 2,070,826.00**	**$ -**

Agenda Item 10 Budget

- Task 5A Consolidation
- Adjust conservation and expanded groundwater
- Remaining funds to post-IPP task
- More flexible for RWPG
- Simplify budgeting

Scope Task		Current	Proposed	Change
5A01.1	WMS Planning Database	$ 49,600.00	$ 49,424.00	$ (176.00)
5A02.1	Update & Reallocation	$ 72,000.00	$ 71,097.00	$ (903.00)
5A03.1	Cost Updates	$ 113,700.00	$ 100,125.00	$ (13,575.00)
5A04.1	Contractual Transfers	$ 44,800.00	$ 44,121.00	$ (679.00)
5A05.1	Expanded Groundwater	$ 27,200.00	$ 29,035.00	$ 1,835.00
5A05.2	GRPs	$ 49,600.00	$ 49,110.00	$ (490.00)
5A05.3	ASR	$ 78,500.00	$ 69,045.00	$ (9,455.00)
5A05.4	Brackish Groundwater	$ 47,300.00	$ 46,923.00	$ (377.00)
5A06.1	Municipal Conservation	$ 42,200.00	$ 42,721.00	$ 521.00
5A06.2	Irrigation Conservation	$ 4,600.00	$ 5,069.00	$ 469.00
5A07.1	BRA System Operation	$ 20,200.00	$ 18,785.00	$ (1,415.00)
5A07.2	Interbasin Transfers	$ 60,600.00	$ 19,238.00	$ (41,362.00)
5A08.1	NEWPP Expansion	$ 36,900.00	$ 28,385.00	$ (8,515.00)
5A08.2	Other Facility & Storage	$ 130,300.00	$ 129,485.00	$ (815.00)
5A09.1	Regional Return Flows	$ 45,900.00	$ 45,668.00	$ (232.00)
5A09.2	WUG-Level Reuse	$ 21,900.00	$ 21,688.00	$ (212.00)
5A10.1	Post-IPP Revisions	$ 118,395.00	$ 193,776.00	$ 75,381.00
TOTAL		**$ 963,695.00**	**$ 963,695.00**	**$ -**

Agenda Item 10
Budget

Action:

Approve budget amendment for 2021 round of Regional Water Planning.

Agenda Item 11

Receive report regarding recent and upcoming activities related to communications and outreach efforts on behalf of the Region H Water Planning Group.

Agenda Item 11
Community Outreach

- AIChE South Texas Section
  May 7

Agenda Item 12

Agency communications and general information

REGION H
Water Planning Group

Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

TO: Board Members

THROUGH: Jeff Walker, Executive Administrator
Ashley Harden, General Counsel
Jessica Zuba, Deputy Executive Administrator, Water Supply & Infrastructure

FROM: Sarah Backhouse, Manager, Regional Water Planning

DATE: May 28, 2020

SUBJECT: Rulemaking relating to Regional Water Planning.

ACTION REQUESTED

Consider adopting amendments to 31 Texas Administrative Code (TAC) Chapter 357 relating to Regional Water Planning.

BACKGROUND

The Texas Water Development Board (TWDB) authorized publication of proposed amendments to 31 TAC Chapter 357 on February 13, 2020. The proposed amendments were published in the *Texas Register* on February 28, 2020, with a deadline to receive public comments by March 30, 2020.

The TWDB received comments from the Central Texas Water Coalition, Freese and Nichols, Inc, and HDR Engineering, Inc. on proposed amendments to Chapter 357. By statute, the Board is required to respond to timely submitted comments and, if warranted, modify the proposed rules. The Executive Administrator has determined that two changes were warranted to Chapter 357 as a result of the public comments. The adoption preamble includes the Board's response to comments and changes in the final language considered for adoption are outlined below as key issues.

KEY ISSUES

The proposed amendments will implement legislative changes from House Bill (HB) 807 from the 86th (R) Legislative Session and clarify rules to make them more understandable and uniformly applied.

In response to comments, a change was made in the final rule language of 31 TAC §357.11(k)(5). This change requires that during the current cycle, the Interregional

Planning Council's report will be due to the TWDB based on a date to be determined by the EA, and that during future state water planning cycles, the Interregional Planning Council's report will be due to the TWDB no later than one (1) year prior to the Initially Prepared Plan deadline. Final rule language of 31 TAC §357.45(b)(2) was also revised to clarify the requirements of the assessment of regionalization.

All comments received, and the responses, are summarized in the attachments to this memo as part of the rule adoption package.

RECOMMENDATION

The Executive Administrator recommends approval of this item in order to implement legislative requirements from the 86th (R) Legislative Session.

Attachment: Adoption of rule amendments for publication in the *Texas Register* - Chapter 357.

The Texas Water Development Board (TWDB) adopts amendments to §§357.10, 357.11, 357.21, 357.31, 357.33, 357.34, 357.42, 357.43, 357.45, relating to regional water planning. The proposal is adopted with changes as published in the February 28, 2020, issue of the *Texas Register* (45 TexReg 1317).

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED AMENDMENT.

The purpose of the amendments is to implement changes from House Bill (HB) 807, 86th (R) Legislative Session, and to clarify rules to make them more understandable and uniformly applied by regional water planning groups (RWPGs). The specific provisions being amended or added and the reasons for the amendments are addressed in more detail below.

SECTION BY SECTION DISCUSSION OF ADOPTED AMENDMENTS.

Subchapter A. General Information.

Section 357.10. Definitions and Acronyms.

The definition of Regional Water Planning Gallons Per Capita Per Day is added to clarify the term as used in regional water planning. This definition aligns with the Texas Water Development Board and Texas Commission on Environmental Quality guidance document *Guidance and Methodology for Reporting on Water Conservation and Water Use.*

The remaining sections in §357.10 are renumbered to accommodate the addition of §357.10(25).

Section 357.11. Designations.

Section 357.11(d)(7) is revised to expand the eligible participation of the small businesses interest category. The updated ranges are based on information collected by the U.S. Small Business Administration.

Section 357.11(d)(9) is revised to remove Palo Duro River Authority from the required river authority interest category. The authority of the Palo Duro River Authority was revised by HB 1920 during the 85th Legislative Session by the reclassification of the river authority to a local water district.

New section 357.11(k) is added to implement a change to Texas Water Code (TWC) §16.052 made by HB 807, 86th Legislative Session (relating to an Interregional Planning Council). The change requires that the Board appoint an Interregional Planning Council during each state water planning cycle. The Interregional Planning Council is to be considered a Governmental Body in accordance with Texas Government Code §551.001 and must conduct business in accordance with the Texas Open Meetings Act. The Interregional Planning Council is also considered a Governmental Body under Texas Government Code §552.003 and must follow the Texas Public Information Act.

Due to the timing of the current planning cycle, the deliverable date for the Council's report will be determined by the EA and will be no later than adoption of the 2022 State Water Plan. For state water plan cycles beginning with the 2027 State Water Plan, a deliverable date for the

Council's report will occur in advance of the Initially Prepared Plans to allow for consideration of recommendations by the RWPGs during development of their plans.

In future planning cycles, each RWPG will be required to submit an alternate along with their nomination(s). Alternates may assume all responsibilities of the appointed Council member, should the Council member not be able to serve during their term, without additional Board action. Interregional Planning Council nominees and their alternates must be current voting members of the RWPG.

The TWDB Board is required by statute to appoint the Council and, per statute, council members will only serve until the adoption of the next state water plan. Appointed Council(s) will have discretion in their voting procedures. Only current voting planning group members are eligible to be appointed to the Council and future nominations must include alternates when submitted to the TWDB. It is up to each RWPG how many nominations they wish to submit. The TWDB does not have geographic residential requirements pertaining to regional water planning group or Council membership.

Subchapter B. Guidance Principles and Notice Requirements.

Section 357.21. Notice and Public Participation.

Section 357.21(a) is revised to specify that the collection of certain information related to existing major water infrastructure facilities is excepted from the Public Information Act, Texas Government Code, Chapter 552.

Subchapter C. Planning Activities For Needs Analysis And Strategy Recommendations.

Section 357.31. Projected Population and Water Demands.

Section 357.31(f) is revised to clarify that Population and Water Demand projections shall be presented for each Planning Decade for Water User Groups (WUG) and that Water Demand projections associated with Major Water Providers will be presented for each Planning Decade by category of water use.

Section 357.33. Needs Analysis: Comparison of Water Supplies and Demands.

Section 357.33(d) is revised to clarify that the reporting requirements for the social and economic impacts of not meeting Water Needs are only required for WUGs.

Section 357.34. Identification and Evaluation of Potentially Feasible Water Management Strategies and Water Management Strategy Projects.

Section 357.34(e)(3)(A) is revised to correct a typographical error.

Section 357.34(g) is added to specify the RWPGs must document in their RWP why certain water management strategies were not recommended, a task that is already required of RWPGs by the contract scopes of work. These strategies include aquifer storage and recovery, seawater desalination, and brackish groundwater desalination.

Section 357.34(h) is added to implement a change to TWC §16.053(e)(10) made by HB 807 (relating to Aquifer Storage and Recovery). The change requires that RWPGs assess the potential for aquifer storage and recovery to meet significant water needs in the planning area, as identified by the RWPG. RWPGs are to determine the threshold of significant needs, as it is critical to allow for a level of flexibility in planning approaches to maintain the bottoms up approach to planning. Each region has its unique circumstances that would contribute to what constitutes significant needs. Requiring the RWPGs to at a minimum provide their methodology for determining significant water needs allows for appropriate discussion in the state water plan.

Previous sections (g) and (h) are renumbered to (i) and (j), respectively.

Section 357.34(i)(3) is added to implement a change to TWC §16.053(e)(11) made by HB 807 (relating to Gallons Per Capita Per Day Goals). The change requires that RWPGs set specific gallons per capita per day goals for municipal WUGs in the planning region. The use of a drought water use condition (rather than an average water use condition) is adopted to align with the drought condition requirements under which RWPs are developed.

Subchapter D. Impacts, Drought Response, Policy Recommendations, and Implementation.

Section 357.42. Drought Response Information, Activities, and Recommendations.

Section 357.42(b) is revised to clarify language of drought assessments.

A new section 357.42(b)(1) is added to clarify considerations drought assessments should include.

A new section 357.42(b)(2) is added to implement a change to TWC §16.053(e)(3)(E) made by HB 807 (relating to Drought Response Strategies). The change requires that RWPGs identify unnecessary or counterproductive variations in drought response strategies in the planning region that may confuse the public or impede drought response efforts. Additional information will be provided in guidance.

Section 357.42(d) is revised to remove the requirement that the collection of information related to existing major water infrastructure facilities be collected in a closed meeting, to comply with Texas Open Meeting Act requirements and to clarify the minimum content required to be presented in the RWPs.

Section 357.43. Regulatory, Administrative, or Legislative Recommendations.

Section 357.43(b)(2) is revised to clarify that the RWPG shall assess the impact of the RWP on unique stream segments that have been designated by the legislature during a session that ends not less than one year before the required date of submittal of an adopted RWP to the Board, by any previous legislative session, or recommended as a unique river or stream segment in the RWP.

Section 357.43(d) is revised to implement a change to TWC §16.053(i) made by HB 807 (relating to Recommendations to Improve the Water Planning Process). The change specifies that RWPs may include recommendations the RWPG believes would improve the planning process.

Section 357.45. Implementation and Comparison to Previous Regional Water Plan.

Section 357.45(b) is added to implement a change to TWC §16.053(e)(12) made by HB 807 (relating to Regionalization). The change requires that the RWPGs assess the progress of regionalization in the planning area.

Previous section 357.34(b) is renumbered to (c).

REGULATORY IMPACT ANALYSIS DETERMINATION

The board reviewed the rulemaking in light of the regulatory analysis requirements of Texas Government Code §2001.0225, and determined that the rulemaking is not subject to Texas Government Code, §2001.0225, because it does not meet the definition of a “major environmental rule” as defined in the Administrative Procedure Act. A "major

environmental rule" is defined as a rule with the specific intent to protect the environment or

reduce risks to human health from environmental exposure, a rule that may adversely affect in a

material way the economy or a sector of the economy, productivity, competition, jobs, the

environment, or the public health and safety of the state or a sector of the state. The intent of the rulemaking is to implement legislative changes and provide greater clarity regarding the TWDB’s rules related to regional water planning.

Even if the rule were a major environmental rule, Texas Government Code, §2001.0225 still would not apply to this rulemaking because Texas Government Code, §2001.0225 only applies to a major environmental rule, the result of which is to: (1) exceed a standard set by federal law, unless the rule is specifically required by state law; (2) exceed an express requirement of state law, unless the rule is specifically required by federal law; (3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or (4) adopt a rule solely under the general powers of the agency instead of under a specific state law. This rulemaking does not meet any of these four applicability criteria because it: (1) does not exceed any federal law; (2) does not exceed an express requirement of state law; (3) does not exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; and (4) is not adopted solely under the general powers of the agency, but rather Texas Water Code §16.053. Therefore, this rule does not fall under any of the applicability criteria in Texas Government Code, §2001.0225.

TAKINGS IMPACT ASSESSMENT

The board evaluated this adopted rule and performed an analysis of whether it constitutes a taking under Texas Government Code, Chapter 2007. The specific purpose of this rule is to implement legislative changes and clarify existing rules to make them more understandable. The rule substantially advances this stated purpose by adding language related to legislative changes and clarifying existing language related to regional water planning.

The board's analysis indicates that Texas Government Code, Chapter 2007 does not apply to this rule because this is an action that is reasonably taken to fulfill an obligation mandated by state law, which is exempt under Texas Government Code, §2007.003(b)(4). The board is the agency that administers the regional water planning process in order to develop a state water plan.

Nevertheless, the board further evaluated this rule and performed an assessment of whether it constitutes a taking under Texas Government Code, Chapter 2007. Promulgation and enforcement of this adopted rule would be neither a statutory nor a constitutional taking of private real property. Specifically, the subject adopted regulation does not affect a landowner's rights in private real property because this rulemaking does not burden nor restrict or limit the owner's right to property and reduce its value by 25% or more beyond that which would otherwise exist in the absence of the regulation. In other words, this rule requires compliance with state law regarding the state water planning process. Therefore, the rule does not constitute a taking under Texas Government Code, Chapter 2007.

PUBLIC COMMENTS

The following written comments were received from the Central Texas Water Coalition (CTWC), Freese and Nichols, Inc. (FNI), and HDR Engineering, Inc. (HDR).

Comment

The CTWC commented that TWDB rules should provide additional guidance and structure on membership and operation of RWPGs. The CTWC provided recommendations on term limits, residency requirements, interest category requirements, teleconference allowances for committee meetings, and requirements for procurement of technical consultants.

Response

The TWDB notes that these comments are not in response to any specific proposed rule change, but rather the comment is requesting the addition of a new rules. No change has been made in response to this comment.

Regarding

Section 357.10. Definitions and Acronyms.

Comment

FNI commented that a formal definition of Regional Water Planning Gallons Per Capita Per Day is a welcome addition to Chapter 357. FNI recommends revising the proposed definition to include reclaimed water and seawater desalination used to meet municipal water demands in the calculation of Regional Water Planning Gallons Per Capita Per Day since the current planning cycle includes demands for reclaimed water and that interest in innovative supply approaches such as desalination has continued to grow.

Response

Municipal water demands developed by the TWDB do not include reuse or brackish groundwater sources. The proposed definition maintains consistency with the existing definition established by the TWDB and Texas Commission on Environmental Quality in consultation with the Texas Water Conservation Advisory Council. If guidance on definitions are updated in the future, stakeholder input will be solicited. No change has been made in response to this comment.

Regarding

Section 357.11. Designations.

Comment

CTWC commented that the proposed addition to §357.11(k) regarding the Interregional Planning Council lacks specificity on membership and nominations.

Response

Further clarification on membership and nominations for the Interregional Planning Council is provided in the "Section by Section Analysis." No changes have been made to the rule in response to this comment.

Comment

The CTWC questioned the timing feasibility of the first Interregional Planning Council to deliver their report to the TWDB by October 14, 2020. HDR commented that the proposed deadline for the Interregional Planning Council to submit its recommendation report to the TWDB six months prior to the Initially Prepared Plan deadline appears reasonable, however if the RWPGs are expected to evaluate and respond to the report, more time may be necessary.

Response

The Board agrees that additional time may be warranted for the Council to submit a report to the TWDB this cycle, and that additional time may be warranted for RWPGs to consider and respond to recommendations from the Council in future cycles. The adopted rule language for Section 357.11(k)(5) is revised to: *For the planning cycle of the 2022 State Water Plan, the Council's report shall be delivered to the Board by a date established by the EA, which will be no later than adoption of the 2022 State Water Plan. Beginning with the planning cycle for the 2027 State Water Plan and each planning cycle thereafter, the report shall be delivered to the Board no later than one year prior to the IPP deliverable date for the corresponding State Water Plan cycle, as set in regional water planning contracts.*

Comment

CTWC encouraged the TWDB to facilitate the Interregional Planning Council and identify and discuss issues to be addressed by the Interregional Planning Council.

Response

The Board acknowledges and appreciates this comment. No changes have been made in response to this comment.

Comment

FNI commented that it supports the proposed addition of Section 357.11(k) regarding the Interregional Planning Council. FNI commented that the new language clearly defines primary requirements while allowing the Council necessary flexibility in determining meeting schedules and report contents, which may vary within and among planning cycles.

Response

The Board acknowledges and appreciates this comment. No changes have been made in response to this comment.

Regarding

Section 357.34. Identification and Evaluation of Potentially Feasible Water Management Strategies and Water Management Strategy Projects.

Comment

CTWC requested the TWDB to explain why the proposed §357.34(g) allows each RWPG to set the threshold for significant identified water needs in the planning area and questioned how information that is not uniformly consistent be presented in the state water plan.

Response

Further clarification on significant identified water needs is provided in the "Section by Section Analysis." No changes have been made to the rule in response to this comment.

Comment

FNI commented that it supports the proposed addition to §357.34(g) and (h) regarding aquifer storage and recovery. FNI provided recommendations for future contract guidance and future grant funding.

Response

The Board acknowledges this comment. No changes have been made in response to this comment.

Comment

FNI commented that it supports the proposed addition to §357.34(i)(3) regarding gallons per capita per day goals.

Response

The Board acknowledges this comment. No changes have been made in response to this comment.

Regarding

Section 357.42. Drought Response Information, Activities, and Recommendations.

Comment

CTWC commented that they support the proposed addition to §357.42(b) regarding the identification of unnecessary or counterproductive variations in drought response strategies. CTWC commented that the proposed rule as written appears to apply only to municipal water user groups and requested that the proposed revisions are clarified to encompass all water user groups.

Response

The proposed rule does not limit RWPGs from identifying drought response strategies from non-municipal water user groups. No changes have been made in response to this comment.

Comment

FNI commented that the proposed addition to §357.42(b) regarding the identification of unnecessary or counterproductive variations in drought response strategies appears to set a reasonable minimum requirement and allows for RWPG flexibility.

Response

The Board acknowledges this comment. No changes have been made in response to this comment.

Regarding

Section 357.45. Implementation and Comparison to Previous Regional Water Plan.

Comment

FNI commented that it supports the proposed addition to §357.45(b) regarding an assessment of regionalization.

Response

The Board acknowledges this comment. No changes have been made in response to this comment.

Comment

HDR provided the following suggested revision to the proposed language in §357.45(b)(2) regarding an assessment of regionalization: “The number of implemented WMSs recommended in the previous RWP that have been implemented since the previously adopted RWP that serve more than one WUG,”.

Response

The Board agrees that clarification on this rule is warranted. The rule is revised in response to this comment to clarify that the regionalization assessment of implemented water management strategies (WMS) in the previously adopted plan is specific to recommended WMS in the previous plan. In response to this, the adopted rule language for Section 357.45(b)(2)) is revised to: *The number of recommended WMSs in the previously adopted RWP that serve more than one WUG and have been implemented since the previously adopted RWP; and*.

STATUTORY AUTHORITY

The amendment is adopted under the authority of §6.101, which provides the TWDB with the authority to adopt rules necessary to carry out the powers and duties in the Water Code and other laws of the State, and also under the authority of Water Code §§16.052 and 16.053.

This rulemaking affects Water Code, Chapter 16.

CHAPTER 357. REGIONAL WATER PLANNING

SUBCHAPTER A. GENERAL INFORMATION.

§357.10. Definitions and Acronyms.

The following words, used in this chapter, have the following meanings.

(1) Agricultural Water Conservation--Defined in §363.1302 of this title (relating to Definition of Terms).

(2) Alternative Water Management Strategy--A fully evaluated Water Management Strategy that may be substituted into a Regional Water Plan in the event that a recommended Water Management Strategy is no longer recommended.

(3) Availability--Maximum amount of raw water that could be produced by a source during a repeat of the Drought of Record, regardless of whether the supply is physically connected to or legally accessible by Water User Groups.

(4) Board--The Texas Water Development Board.

(5) Collective Reporting Unit--A grouping of utilities located in the Regional Water Planning Area. Utilities within a Collective Reporting Unit must have a logical relationship, such as being served by common Wholesale Water Providers, having common sources, or other appropriate associations.

(6) Commission--The Texas Commission on Environmental Quality.

(7) County-Other--An aggregation of utilities and individual water users within a county and not included in paragraph (42)(A) - (D) of this section.

(8) Drought Contingency Plan--A plan required from wholesale and retail public water suppliers and irrigation districts pursuant to Texas Water Code §11.1272 (relating to Drought Contingency Plans for Certain Applicants and Water Right Holders). The plan may consist of one or more

strategies for temporary supply and demand management and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies as required by the Commission.

(9) Drought Management Measures--Demand management activities to be implemented during drought that may be evaluated and included as Water Management Strategies.

(10) Drought Management Water Management Strategy--A drought management measure or measures evaluated and/or recommended in a State or Regional Water Plan that quantifies temporary reductions in demand during drought conditions.

(11) Drought of Record--The period of time when historical records indicate that natural hydrological conditions would have provided the least amount of water supply.

(12) Executive Administrator (EA)--The Executive Administrator of the Board or a designated representative.

(13) Existing Water Supply--Maximum amount of water that is physically and legally accessible from existing sources for immediate use by a Water User Group under a repeat of Drought of Record conditions.

(14) Firm Yield--Maximum water volume a reservoir can provide each year under a repeat of the Drought of Record using anticipated sedimentation rates and assuming that all senior water rights will be totally utilized and all applicable permit conditions met.

(15) Interbasin Transfer of Surface Water--Defined and governed in Texas Water Code §11.085 (relating to Interbasin Transfers) as the diverting of any state water from a river basin and transfer of that water to any other river basin.

(16) Interregional Conflict--An interregional conflict exists when:

(A) more than one Regional Water Plan includes the same source of water supply for identified and quantified recommended Water Management Strategies and there is insufficient water available to implement such Water Management Strategies; or

(B) in the instance of a recommended Water Management Strategy proposed to be supplied from a different Regional Water Planning Area, the Regional Water Planning Group with the location of the strategy has studied the impacts of the recommended Water Management Strategy on its economic, agricultural, and natural resources, and demonstrates to the Board that there is a potential for a substantial adverse effect on the region as a result of those impacts.

(17) Intraregional Conflict--A conflict between two or more identified, quantified, and recommended Water Management Strategies in the same Initially Prepared Plan that rely upon the same water source, so that there is not sufficient water available to fully implement all Water Management Strategies and thereby creating an over-allocation of that source.

(18) Initially Prepared Plan (IPP)--Draft Regional Water Plan that is presented at a public hearing in accordance with §357.21(d) of this title (relating to Notice and Public Participation) and submitted for Board review and comment.

(19) Major Water Provider (MWP)--A Water User Group or a Wholesale Water Provider of particular significance to the region's water supply as determined by the Regional Water Planning Group. This may include public or private entities that provide water for any water use category.

(20) Modeled Available Groundwater (MAG) Peak Factor--A percentage (e.g., greater than 100 percent) that is applied to a modeled available groundwater value reflecting the annual groundwater availability that, for planning purposes, shall be considered temporarily available for pumping consistent with desired future conditions. The approval of a MAG Peak Factor is not intended as a limit to permits or as guaranteed approval or pre-approval of any future permit application.

(21) Planning Decades--Temporal snapshots of conditions anticipated to occur and presented at even intervals over the planning horizon used to present simultaneous demands, supplies, needs, and strategy volume data. A Water Management Strategy that is shown as providing a supply in the 2040 decade, for example, is assumed to come online in or prior to the year 2040.

(22) Political Subdivision--City, county, district, or authority created under the Texas Constitution, Article III, §52, or Article XVI, §59, any other Political Subdivision of the state, any interstate compact commission to which the state is a party, and any nonprofit water supply corporation created and operating under Texas Water Code Chapter 67 (relating to Nonprofit Water Supply or Sewer Service Corporations).

(23) Regional Water Plan (RWP)--The plan adopted or amended by a Regional Water Planning Group pursuant to Texas Water Code §16.053 (relating to Regional Water Plans) and this chapter.

(24) Regional Water Planning Area (RWPA)--Area designated pursuant to Texas Water Code §16.053.

(25) Regional Water Planning Gallons Per Capita Per Day-- For Regional Water Planning purposes, Gallons Per Capita Per Day is the annual volume of water pumped, diverted, or purchased minus the volume exported (sold) to other water systems or large industrial facilities divided by 365 and divided by the permanent resident population of the Municipal Water User Group in the regional water planning process. Coastal saline and reused/recycled water is not included in this volume.

(26) Regional Water Planning Group (RWPG)--Group designated pursuant to Texas Water Code §16.053.

(27) RWPG-Estimated Groundwater Availability--The groundwater Availability used for planning purposes as determined by RWPGs to which §357.32(d)(2) of this title (relating to Water Supply Analysis) is applicable or where no desired future condition has been adopted.

(28) Retail Public Utility--Defined in Texas Water Code §13.002 (relating to Water Rates and Services) as "any person, corporation, public utility, water supply or sewer service corporation, municipality, Political Subdivision or agency operating, maintaining, or controlling in this state facilities for providing potable water service or sewer service, or both, for compensation."

(29) Reuse--Defined in §363.1302 of this title (relating to Definition of Terms).

(30) State Drought Preparedness Plan--A plan, separate from the State Water Plan, that is developed by the Drought Preparedness Council for the purpose of mitigating the effects of drought pursuant to Texas Water Code §16.0551 (relating to State Drought Preparedness Plan).

(31) State Drought Response Plan--A plan prepared and directed by the chief of the Texas Division of Emergency Management for the purpose of managing and coordinating the drought response component of the State Water Plan and the State Drought Preparedness Plan pursuant to Texas Water Code §16.055 (relating to Drought Response Plan).

(32) State Water Plan--The most recent state water plan adopted by the Board under the Texas Water Code §16.051 (relating to State Water Plan).

(33) State Water Planning Database--Database maintained by TWDB that stores data related to population and Water Demand projections, water Availability, Existing Water Supplies, Water Management Strategy supplies, and Water Management Strategy Projects. It is used to collect, analyze, and disseminate regional and statewide water planning data.

(34) Technical Memorandum--Documentation of the RWPG's preliminary analysis of Water Demand projections, water Availability, Existing Water Supplies, and Water Needs and declaration of the RWPG's intent of whether or not to pursue simplified planning.

(35) Unmet Water Need--The portion of an identified Water Need that is not met by recommended Water Management Strategies.

(36) Water Conservation Measures--Practices, techniques, programs, and technologies that will protect water resources, reduce the consumption of water, reduce the loss or waste of water, or improve the efficiency in the use of water that may be presented as Water Management Strategies, so that a water supply is made available for future or alternative uses. For planning purposes, Water Conservation Measures do not include reservoirs, aquifer storage and recovery, or other types of projects that develop new water supplies.

(37) Water Conservation Plan--The most current plan required by Texas Water Code §11.1271 (relating to Water Conservation Plans) from an applicant for a new or amended water rights permit and from any holder of a permit, certificate, etc. who is authorized to appropriate 1,000 acre-feet per year or more for municipal, industrial, and other non-irrigation uses and for those who are authorized to appropriate 10,000 acre-feet per year or more for irrigation, and the most current plan required by Texas Water Code §13.146 from a Retail Public Utility that provides potable water service to 3,300 or more connections. These plans must include specific, quantified 5-year and 10-year targets for water savings.

(38) Water Conservation Strategy--A Water Management Strategy with quantified volumes of water associated with Water Conservation Measures.

(39) Water Demand--Volume of water required to carry out the anticipated domestic, public, and/or economic activities of a Water User Group during drought conditions.

(40) Water Management Strategy (WMS)--A plan to meet a need for additional water by a discrete Water User Group, which can mean increasing the total water supply or maximizing an existing supply, including through reducing demands. A Water Management Strategy may or may not require associated Water Management Strategy Projects to be implemented.

(41) Water Management Strategy Project (WMSP)--Water project that has a non-zero capital costs and that when implemented, would develop, deliver, or treat additional water supply volumes, or conserve water for Water User Groups or Wholesale Water Providers. One WMSP may be associated with multiple WMSs.

(42) Water Need--A potential water supply shortage based on the difference between projected Water Demands and Existing Water Supplies.

(43) Water User Group (WUG)--Identified user or group of users for which Water Demands and Existing Water Supplies have been identified and analyzed and plans developed to meet Water Needs. These include:

(A) Privately-owned utilities that provide an average of more than 100 acre-feet per year for municipal use for all owned water systems;

(B) Water systems serving institutions or facilities owned by the state or federal government that provide more than 100 acre-feet per year for municipal use;

(C) All other Retail Public Utilities not covered in subparagraphs (A) and (B) of this paragraph that provide more than 100 acre-feet per year for municipal use;

(D) Collective Reporting Units, or groups of Retail Public Utilities that have a common association and are requested for inclusion by the RWPG;

(E) Municipal and domestic water use, referred to as County-Other, not included in subparagraphs (A) - (D) of this paragraph; and

(F) Non-municipal water use including manufacturing, irrigation, steam electric power generation, mining, and livestock watering for each county or portion of a county in an RWPA.

(44) Wholesale Water Provider (WWP)--Any person or entity, including river authorities and irrigation districts, that delivers or sells water wholesale (treated or raw) to WUGs or other WWPs or that the RWPG expects or recommends to deliver or sell water wholesale to WUGs or other WWPs during the period covered by the plan. The RWPGs shall identify the WWPs within each region to be evaluated for plan development.

§357.11. Designations.

(a) The Board shall review and update the designations of RWPAs as necessary but at least every five years, on its own initiative or upon recommendation of the EA. The Board shall provide 30 days notice of its intent to amend the designations of RWPAs by publication of the proposed change in the Texas Register and by mailing the notice to each mayor of a municipality with a population of 1,000 or more or which is a county seat that is located in whole or in part in the RWPAs proposed to be impacted, to each water district or river authority located in whole or in part in the RWPA based upon lists of such water districts and river authorities obtained from the

Commission, and to each county judge of a county located in whole or in part in the RWPAs proposed to be impacted. After the 30 day notice period, the Board shall hold a public hearing at a location to be determined by the Board before making any changes to the designation of an RWPA.

(b) If upon boundary review the Board determines that revisions to the boundaries are necessary, the Board shall designate areas for which RWPs shall be developed, taking into consideration factors such as:

(1) River basin and aquifer delineations;

(2) Water utility development patterns;

(3) Socioeconomic characteristics;

(4) Existing RWPAs;

(5) Political Subdivision boundaries;

(6) Public comment; and

(7) Other factors the Board deems relevant.

(c) After an initial coordinating body for a RWPG is named by the Board, the RWPGs shall adopt, by two-thirds vote, bylaws that are consistent with provisions of this chapter. Within 30 days after the Board names members of the initial coordinating body, the EA shall provide to each member of the initial coordinating body a set of model bylaws which the RWPG shall consider. The RWPG shall provide copies of its bylaws and any revisions thereto to the EA. The bylaws adopted by the RWPG shall at a minimum address the following elements:

(1) definition of a quorum necessary to conduct business;

(2) method to be used to approve items of business including adoption of RWPs or amendments thereto;

(3) methods to be used to name additional members;

(4) terms and conditions of membership;

(5) methods to record minutes and where minutes will be archived as part of the public record; and

(6) methods to resolve disputes between RWPG members on matters coming before the RWPG.

(d) RWPGs shall maintain at least one representative of each of the following interest categories as voting members of the RWPG. However, if an RWPA does not have an interest category below, then the RWPG shall so advise the EA and no membership designation is required.

(1) Public, defined as those persons or entities having no economic interest in the interests represented by paragraphs (2) - (12) of this subsection other than as a normal consumer;

(2) Counties, defined as the county governments for the 254 counties in Texas;

(3) Municipalities, defined as governments of cities created or organized under the general, home-rule, or special laws of the state;

(4) Industries, defined as corporations, partnerships, sole proprietorships, or other legal entities that are formed for the purpose of making a profit and which produce or manufacture goods or services and which are not small businesses;

(5) Agricultural interests, defined as those persons or entities associated with production or processing of plant or animal products;

(6) Environmental interests, defined as those persons or groups advocating the conservation of the state's natural resources, including but not limited to soil, water, air, and living resources;

(7) Small businesses, defined as corporations, partnerships, sole proprietorships, or other legal entities that are formed for the purpose of making a profit, are independently owned and operated, and have fewer than 500 employees or less than $10 million in gross annual receipts;

(8) Electric generating utilities, defined as any persons, corporations, cooperative corporations, or any combination thereof, meeting each of the following three criteria: own or operate for compensation equipment or facilities which produce or generate electricity; produce or generate electricity for either wholesale or retail sale to others; and are neither a municipal corporation nor a river authority;

(9) River authorities, defined as any districts or authorities created by the legislature which contain areas within their boundaries of one or more counties and which are governed by boards of directors appointed or designated in whole or part by the governor or board, including, without limitation, San Antonio River Authority;

(10) Water districts, defined as any districts or authorities, created under authority of either Texas Constitution, Article III, §52(b)(1) and (2), or Article XVI, §59 including districts having the authority to regulate the spacing of or production from water wells, but not including river authorities;

(11) Water utilities, defined as any persons, corporations, cooperative corporations, or any combination thereof that provide water supplies for compensation except for municipalities, river authorities, or water districts; and

(12) Groundwater management areas, defined as a single representative for each groundwater management area that is at least partially located within an RWPA. Defined as a representative from a groundwater conservation district that is appointed by the groundwater conservation districts within the associated groundwater management area.

(e) The RWPGs shall add the following non-voting members, who shall receive meeting notifications and information in the same manner as voting members:

(1) Staff member of the Board to be designated by the EA;

(2) Staff member of the Texas Parks and Wildlife Department designated by its executive director;

(3) Member designated by each adjacent RWPG to serve as a liaison;

(4) One or more persons to represent those entities with headquarters located in another RWPA and which holds surface water rights authorizing a diversion of 1,000 acre-feet a year or more in the RWPA, which supplies water under contract in the amount of 1,000 acre-feet a year or more to entities in the RWPA, or which receives water under contract in the amount of 1,000 acre-feet a year or more from the RWPA;

(5) Staff member of the Texas Department of Agriculture designated by its commissioner; and

(6) Staff member of the State Soil and Water Conservation Board designated by its executive director.

(f) Each RWPG shall provide a current list of its members to the EA; the list shall identify the interest represented by each member including interests required in subsection (d) of this section.

(g) Each RWPG, at its discretion, may at any time add additional voting and non-voting representatives to serve on the RWPG for any new interest category, including additional representatives of those interests already listed in subsection (d) of this section that the RWPG considers appropriate for water planning.

(h) Each RWPG, at its discretion, may remove individual voting or non-voting members or eliminate RWPG representative positions in accordance with the RWPG bylaws as long as minimum requirements of RWPG membership are maintained in accordance with subsection (d) of this section.

(i) RWPGs may enter into formal and informal agreements to coordinate, avoid conflicts, and share information with other RWPGs or any other interests within any RWPA for any purpose the RWPGs consider appropriate including expediting or making more efficient water planning efforts. These efforts may involve any portion of the RWPG membership. Any plans or information developed through these efforts by RWPGs or by committees may be included in an RWP only upon approval of the RWPG.

(j) Upon request, the EA will provide technical assistance to RWPGs, including on water supply and demand analysis, methods to evaluate the social and economic impacts of not meeting needs, and regarding Drought Management Measures and water conservation practices.

(k) The Board shall appoint an Interregional Planning Council during each state water planning cycle. The Interregional Planning Council will be subject to the following provisions:

(1) The Interregional Planning Council consists of one voting member from each RWPG, as appointed by the Board.

(2) Upon request by the EA, each RWPG shall submit at least one nomination for appointment, including a designated alternate for each nomination.

(3) Interregional Planning Council members will serve until adoption of the State Water Plan.

(4) The Interregional Planning Council, during each planning cycle to develop the State Water Plan, shall hold at least one public meeting and deliver a report to the Board. The report format may be determined by the Council. The report at a minimum shall include a summary of the dates the Council convened, the actions taken, minutes of the meetings, and any recommendations for the Board's consideration, based on the Council's work. Meeting frequency, location, and additional report content shall be determined by the Council.

(5) For the planning cycle of the 2022 State Water Plan, the Council's report shall be delivered to the Board by a date established by the EA, which will be no later than adoption of the 2022 State Water Plan. Beginning with the planning cycle for the 2027 State Water Plan and each planning cycle thereafter, the report shall be delivered to the Board no later than one year prior to the IPP deliverable date for the corresponding State Water Plan cycle, as set in regional water planning contracts.

SUBCHAPTER B. GUIDANCE PRINCIPLES AND NOTICE REQUIREMENTS.

§357.21. Notice and Public Participation.

(a) Each RWPG and any committee or subcommittee of an RWPG are subject to Chapters 551 and 552, Government Code. A copy of all materials presented or discussed at an open meeting shall be made available for public inspection prior to and following the meetings and shall meet the additional notice requirements when specifically referenced as required under other subsections. In accordance with Texas Water Code §16.053(r), certain information regarding water infrastructure facilities is excepted from the Public Information Act, Texas Government Code, Chapter 552. In addition to the notice requirements of Chapter 551, Government Code, the following requirements apply to RWPGs.

(b) All public notices required by this subsection shall comply with this section and shall meet the following requirements:

(1) These notice requirements apply to the following RWPG actions: regular RWPG meetings; amendments to the regional water planning scope of work or budget; population projection and Water Demand projection revision requests to the EA regarding draft projections; process of identifying potentially feasible WMSs for plans previous to the 2026 RWPs; meetings to replace RWPG members or addition of new RWPG members; submittal of request to EA for approval of an Alternative WMS substitution; declaration of implementation of simplified planning following public hearing on intent to pursue simplified planning; adoption of RWPs; and RWPG committee and subcommittee meetings.

(2) Published 72 hours prior to the meeting.

(3) Notice shall include:

(A) a date, time, and location of the meeting;

(B) a summary of the proposed action to be taken; and

(C) the name, telephone number, and address of the person to whom questions or requests for additional information may be submitted.

(4) Entities to be notified in writing include:

(A) all voting and non-voting RWPG members; and

(B) any person or entity who has requested notice of RWPG activities.

(5) Notice and agenda to be posted:

(A) On the website of the RWPG or host Political Subdivision. In lieu of posting the meeting notice and agenda on the website of the RWPG or host Political Subdivision, the notice and agenda may be provided, in writing, to the County Clerk of each county in the RWPA; and

(B) Texas Secretary of State website.

(6) Documents to be made available on the internet or in hard copy for public inspection prior to and following meeting include:

(A) Agenda of meeting; and

(B) Copies of all materials presented or discussed at the meeting.

(c) Notice under this subsection shall meet the following requirements:

(1) These notice requirements apply to the following RWPG actions: population projection and Water Demand projection revision requests to officially adopted Board projections; approval to submit Technical Memorandum; substitution of Alternative WMSs; process of identifying potentially feasible WMSs and presentation of analysis of infeasible WMSs or WMSPs for plans beginning with the 2026 plan; and minor amendments to RWPs.

(2) Notice of meetings under this subsection shall be published/postmarked on the internet and emailed or mailed to the public before the 14th day preceding the date of the meeting.

(3) Notice shall include:

(A) a date, time, and location of the meeting;

(B) a summary of the proposed action to be taken;

(C) the name, telephone number, and address of the person to whom questions or requests for additional information may be submitted; and

(D) information that the RWPG will accept written and oral comments at the meetings and information on how the public may submit written comments separate from such meetings. The

RWPG shall specify a deadline for submission of public written comments of not earlier than 14 days after the meeting.

(4) Entities to be notified in writing include:

(A) all voting and non-voting RWPG members;

(B) any person or entity who has requested notice of RWPG activities;

(C) each RWPG where a recommended or Alternative WMS being considered would be located; and

(D) for actions associated with infeasible WMSs or WMSPs, each project sponsor of a WMS or WMSP identified as infeasible.

(5) Notice and associated meeting agenda to be posted:

(A) On the website of the RWPG or host Political Subdivision. In lieu of posting the meeting notice and agenda on the website of the RWPG or host Political Subdivision, the notice and agenda may be provided, in writing, to the County Clerk of each county in the RWPA; and

(B) Texas Secretary of State website.

(6) Documents to be made available on the internet or in hard copy for public inspection prior to and following meeting include:

(A) Agenda of meeting; and

(B) Copies of all materials, reports, plans presented or discussed at the meeting.

(7) Public comments to be accepted as follows:

(A) Written comments for 14 days prior to meeting with comments considered by RWPG members prior to action;

(B) Oral and written public comment during meeting; and

(C) Written comments must also be accepted for 14 days following the meeting and all comments received during the comment period must be submitted to the Board by the RWPG.

(d) Notice under this subsection shall meet the following requirements:

(1) These notice requirements apply to the following RWPG actions: holding a preplanning public meeting to obtain public input on development of the next RWP; public hearings on declarations to pursue simplified planning, major amendments to RWPs; and holding hearings for IPPs.

(2) Notice shall be published in a newspaper of general circulation in each county located in whole or in part in the RWPA before the 30th day preceding the date of the public meeting or hearing.

(3) Notice of the public meetings and public hearings shall include:

(A) a date, time, and location of the public meeting or hearing;

(B) a summary of the proposed action to be taken;

(C) the name, telephone number, and address of the person to whom questions or requests for additional information may be submitted; and

(D) information that the RWPG will accept written and oral comments at the hearings and information on how the public may submit written comments separate from such hearings. The RWPG shall specify a deadline for submission of public written comments as specified in paragraph (9)(A) of this subsection.

(4) RWPGs shall make copies of the IPP available for public inspection at least 30 days before a public hearing required or held by providing a copy of the IPP in at least one public library in each county and either the county courthouse's law library, the county clerk's office, or some other accessible place within the county courthouse of each county having land in the RWPA and include locations of such copies in the notice for public hearing. For distribution of the IPP and adopted RWP, the RWPG may consult and coordinate with county and local officials in determining the most appropriate location in the county courthouse to ensure maximum accessibility to the public during business hours. Additionally, the RWPG may consult with local and county officials in determining which public library in the county can provide maximum accessibility to the public. According to the capabilities of the facility, the RWPG may provide the copy electronically, on electronic media, through an internet web link, or in hard copy. The RWPG shall make an effort to ensure ease of access to the public, including where feasible, posting the IPP on websites and providing notice of such posting. The public inspection requirement in this subsection applies only to IPPs; adopted RWPs are only required to be submitted to the Board pursuant to Texas Water Code, §16.053(i).

(5) Notice shall be mailed to, at a minimum, the following:

(A) Notification of all entities that are to be notified under subsection (c)(4) of this section;

(B) Each mayor of a municipality, located in whole or in part in the RWPA, with a population of 1,000 or more or which is a county seat;

(C) Each county judge of a county located in whole or in part in the RWPA;

(D) Each special or general law district or river authority with responsibility to manage or supply water in the RWPA based upon lists of such water districts and river authorities obtained from the Commission; and

(E) each Retail Public Utility, defined as a community water system, that serves any part of the RWPA or receives water from the RWPA based upon lists of such entities obtained from the Commission;

(F) each holder of record of a water right for the use of surface water the diversion of which occurs in the RWPA based upon lists of such water rights holders obtained from the Commission;

(G) for declarations of intent to pursue simplified planning, RWPGs with water supply sources, WMSs, or WMSPs shared with the RWPG declaring intent to pursue simplified planning; and

(H) for amendments associated with infeasible WMSs or WMSPs, each project sponsor of a WMS or WMSP identified as infeasible.

(6) Notice and associated hearing and meeting agenda shall also be posted:

(A) On the website of the RWPG or host Political Subdivision. In lieu of posting the meeting notice and agenda on the website of the RWPG or host Political Subdivision, the notice and agenda may be provided, in writing, to the County Clerk of each county in the RWPA;

(B) Texas Secretary of State website; and

(C) In the *Texas Register*.

(7) Documents to be made available on the internet or in hard copy for public inspection prior to and following meeting include:

(A) Agenda of meeting; and

(B) Copies of all materials presented or discussed at the meeting.

(8) The public hearing for the IPP shall be conducted at a central location readily accessible to the public within the regional water planning area.

(9) Public comments to be accepted as follows:

(A) Written comments submitted immediately following 30-day public notice posting and prior to and during meeting or hearing; and

(i) Until not earlier than 30-days following the date of the public hearing on a major amendment to an RWP or declaration of intent to pursue simplified planning.

(ii) Until not earlier than 60 days following the date of the public hearing on an IPP.

(B) Verbal public comments at the noticed meeting or hearing;

(C) Comments received must be considered as follows:

(i) Comments associated with hearings must be considered by RWPG members when declaring implementation of simplified planning, adopting an RWP or adopting a major amendment to an RWP.

(ii) Comments associated with a preplanning meeting must be considered prior to taking RWPG action.

(e) Notice under this subsection shall meet the following requirements:

(1) These notice requirements apply when an RWPG is requesting research and planning funds from the Board.

(2) Notice shall be published in a newspaper of general circulation in each county located in whole or in part in the RWPA at least 30 days prior to Board consideration of funding applications.

(3) Notice shall include the name and address of the eligible applicant and the name of the applicant's manager or official representative; a brief description of the RWPA; the purposes of the planning project; the Board's name, address, and the name of a contact person with the Board; a statement that any comments must be filed with the EA and the applicant within 30 days of the date on which the notice is mailed or published. Prior to action by the Board, the applicant must provide one copy of the notice sent, a list of those to which the notice was sent, the date on which the notice was sent, copies of all notices as published showing name of the newspaper and the date on which the notice was published.

(4) Notice shall be mailed to, at a minimum, the following:

(A) Each mayor of a municipality, located in whole or in part in the RWPA, with a population of 1,000 or more or which is a county seat;

(B) Each county judge of a county located in whole or in part in the RWPA;

(C) Each special or general law district or river authority with responsibility to manage or supply water in the RWPA based upon lists of such water districts and river authorities obtained from the Commission; and

(D) All other RWPGs.

(5) Notice shall also be posted on the website of the RWPG or host Political Subdivision.

SUBCHAPTER C. PLANNING ACTIVITIES FOR NEEDS ANALYSIS AND STRATEGY RECOMMENDATIONS.

§357.31. Projected Population and Water Demands.

(a) RWPs shall present projected population and Water Demands by WUG as defined in §357.10 of this title (relating to Definitions and Acronyms). If a WUG lies in one or more counties or RWPA or river basins, data shall be reported for each river basin, RWPA, and county split.

(b) RWPs shall present projected Water Demands associated with MWPs by category of water use, including municipal, manufacturing, irrigation, steam electric power generation, mining, and livestock for the RWPA.

(c) RWPs shall evaluate the current contractual obligations of WUGs and WWPs to supply water in addition to any demands projected for the WUG or WWP. Information regarding obligations to supply water to other users must also be incorporated into the water supply analysis in §357.32 of this title (relating to Water Supply Analysis) in order to determine net existing water supplies available for each WUG's own use. The evaluation of contractual obligations under this subsection is limited to determining the amount of water secured by the contract and the duration of the contract.

(d) Municipal demands shall be adjusted to reflect water savings due to plumbing fixture requirements identified in the Texas Health and Safety Code, Chapter 372. RWPGs shall report how changes in plumbing fixtures would affect projected municipal Water Demands using projections with plumbing code savings provided by the Board or by methods approved by the EA.

(e) Source of population and Water Demands. In developing RWPs, RWPGs shall use:

(1) Population and Water Demand projections developed by the EA that shall be contained in the next State Water Plan and adopted by the Board after consultation with the RWPGs, Commission, Texas Department of Agriculture, and the Texas Parks and Wildlife Department.

(2) RWPGs may request revisions of Board adopted population or Water Demand projections if the request demonstrates that population or Water Demand projections no longer represents a reasonable estimate of anticipated conditions based on changed conditions and or new information. Before requesting a revision to population and Water Demand projections, the RWPG shall discuss the proposed revisions at a public meeting for which notice has been posted in accordance with §357.21(c) of this title (relating to Notice and Public Participation). The RWPG shall summarize public comments received on the proposed request for projection revisions. The EA shall consult with the requesting RWPG and respond to their request within 45 days after receipt of a request from an RWPG for revision of population or Water Demand projections.

(f) Population and Water Demand projections shall be presented for each Planning Decade for WUGs in accordance with subsection (a) of this section and MWPs in accordance with subsection (b) of this section.

§357.33. Needs Analysis: Comparison of Water Supplies and Demands.

(a) RWPs shall include comparisons of existing water supplies and projected Water Demands to identify Water Needs.

(b) RWPGs shall compare projected Water Demands, developed in accordance with §357.31 of this title (relating to Projected Population and Water Demands), with existing water supplies available to WUGs and WWPs in a planning area, as developed in accordance with §357.32 of this title (relating to Water Supply Analysis), to determine whether WUGs will experience water surpluses or needs for additional supplies. Results shall be reported for WUGs by categories of use including municipal, manufacturing, irrigation, steam electric, mining, and livestock watering for each county or portion of a county in an RWPA. Results shall be reported for MWPs by categories of use including municipal, manufacturing, irrigation, steam electric, mining, and livestock watering for the RWPA.

(c) The social and economic impacts of not meeting Water Needs shall be evaluated by RWPGs and reported for each RWPA.

(d) Results of evaluations shall be reported by WUG in accordance with §357.31(a) of this title.

(e) RWPGs shall perform a secondary water needs analysis for all WUGs and WWPs for which conservation WMSs or direct Reuse WMSs are recommended. This secondary water needs analysis shall calculate the Water Needs that would remain after assuming all recommended conservation and direct Reuse WMSs are fully implemented. The resulting secondary water needs volumes shall be presented in the RWP by WUG and MWP and decade.

§357.34. Identification and Evaluation of Potentially Feasible Water Management Strategies and Water Management Strategy Projects.

(a) RWPGs shall identify and evaluate potentially feasible WMSs and the WMSPs required to implement those strategies for all WUGs and WWPs with identified Water Needs.

(b) RWPGs shall identify potentially feasible WMSs to meet water supply needs identified in §357.33 of this title (relating to Needs Analysis: Comparison of Water Supplies and Demands) in accordance with the process in §357.12(b) of this title (relating to General Regional Water Planning Group Responsibilities and Procedures). Strategies shall be developed for WUGs and WWPs. The strategies shall meet new water supply obligations necessary to implement recommended WMSs of WWPs and WUGs. RWPGs shall plan for water supply during Drought of Record conditions. In developing RWPs, RWPGs shall provide WMSs to be used during a Drought of Record.

(c) Potentially feasible WMSs may include, but are not limited to:

(1) 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.

(2) New supply development including construction and improvement of surface water and groundwater resources, brush control, precipitation enhancement, seawater desalination, brackish groundwater 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.

(3) Conservation and Drought Management Measures including demand management.

(4) Reuse of wastewater.

(5) Interbasin Transfers of Surface Water.

(6) 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).

(d) All recommended WMSs and WMSPs that are entered into the State Water Planning Database and prioritized by RWPGs shall be designed to reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or develop, deliver or treat additional water supply volumes to WUGs or WWPs in at least one planning decade such that additional water is available during Drought of Record conditions. Any other RWPG recommendations regarding permit modifications, operational changes, and/or other infrastructure that are not designed to reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or develop, deliver or treat additional water supply volumes to WUGs or WWPs in at least one Planning Decade such that additional water is available during Drought of Record conditions shall be indicated as such and presented separately in the RWP and shall not be eligible for funding from the State Water Implementation Fund for Texas.

(e) Evaluations of potentially feasible WMSs and associated WMSPs shall include the following analyses:

(1) For the purpose of evaluating potentially feasible WMSs, the Commission's most current Water Availability Model with assumptions of no return flows and full utilization of senior water rights, is to be used. Alternative assumptions may be used with written approval from the EA who shall consider a written request from an RWPG to use assumptions other than no return flows and full utilization of senior water rights.

(2) An equitable comparison between and consistent evaluation and application of all WMSs the RWPGs determine to be potentially feasible for each water supply need.

(3) A quantitative reporting of:

(A) The net quantity, reliability, and cost of water delivered and treated for the end user's requirements during Drought of Record conditions, taking into account and reporting anticipated strategy water losses, incorporating factors used in calculating infrastructure debt payments and may include present costs and discounted present value costs. Costs do not include distribution of water within a WUG after treatment.

(B) Environmental factors including effects on environmental water needs, wildlife habitat, cultural resources, and effect of upstream development on bays, estuaries, and arms of the Gulf of Mexico. Evaluations of effects on environmental flows shall include consideration of the Commission's adopted environmental flow standards under 30 Texas Administrative Code Chapter 298 (relating to Environmental Flow Standards for Surface Water). If environmental flow standards have not been established, then environmental information from existing site-specific studies, or in the absence of such information, state environmental planning criteria adopted by the Board for inclusion in the State Water Plan after coordinating with staff of the Commission and the Texas Parks and Wildlife Department to ensure that WMSs are adjusted to provide for environmental water needs including instream flows and bays and estuaries inflows.

(C) Impacts to agricultural resources.

(4) Discussion of the plan's impact on other water resources of the state including other WMSs and groundwater and surface water interrelationships.

(5) A discussion of each threat to agricultural or natural resources identified pursuant to §357.30(7) of this title (relating to Description of the Regional Water Planning Area) including how that threat will be addressed or affected by the WMSs evaluated.

(6) If applicable, consideration and discussion of the provisions in Texas Water Code §11.085(k)(1) for Interbasin Transfers of Surface Water. At minimum, this consideration shall include a summation of Water Needs in the basin of origin and in the receiving basin.

(7) Consideration of third-party social and economic impacts resulting from voluntary redistributions of water including analysis of third-party impacts of moving water from rural and agricultural areas.

(8) A description of the major impacts of recommended WMSs on key parameters of water quality identified by RWPGs as important to the use of a water resource and comparing conditions with the recommended WMSs to current conditions using best available data.

(9) Consideration of water pipelines and other facilities that are currently used for water conveyance as described in §357.22(a)(3) of this title (relating to General Considerations for Development of Regional Water Plans).

(10) Other factors as deemed relevant by the RWPG including recreational impacts.

(f) RWPGs shall evaluate and present potentially feasible WMSs and WMSPs with sufficient specificity to allow state agencies to make financial or regulatory decisions to determine consistency of the proposed action before the state agency with an approved RWP.

(g) If an RWPG does not recommend aquifer storage and recovery strategies, seawater desalination strategies, or brackish groundwater desalination strategies it must document the reason(s) in the RWP.

(h) In instances where an RWPG has determined there are significant identified Water Needs in the RWPA, the RWP shall include an assessment of the potential for aquifer storage and recovery to meet those Water Needs. Each RWPG shall define the threshold to determine whether it has significant identified Water Needs. Each RWP shall include, at a minimum, a description of the methodology used to determine the threshold of significant needs. If a specific assessment is conducted, the assessment may be based on information from existing studies and shall include minimum parameters as defined in contract guidance.

(i) Conservation, Drought Management Measures, and Drought Contingency Plans shall be considered by RWPGs when developing the regional plans, particularly during the process of identifying, evaluating, and recommending WMSs. RWPs shall incorporate water conservation planning and drought contingency planning in the RWPA.

(1) Drought Management Measures including water demand management. RWPGs shall consider Drought Management Measures for each need identified in §357.33 of this title and shall include such measures for each user group to which Texas Water Code §11.1272 (relating to Drought Contingency Plans for Certain Applicants and Water Right Holders) applies. Impacts of the Drought Management Measures on Water Needs must be consistent with guidance provided by the Commission in its administrative rules implementing Texas Water Code §11.1272. If an RWPG does not adopt a drought management strategy for a need it must document the reason in the RWP. Nothing in this paragraph shall be construed as limiting the use of voluntary arrangements by water users to forgo water usage during drought periods.

(2) Water conservation practices. RWPGs must consider water conservation practices, including potentially applicable best management practices, for each identified Water Need.

(A) RWPGs shall include water conservation practices for each user group to which Texas Water Code §11.1271 and §13.146 (relating to Water Conservation Plans) apply. The impact of these water conservation practices on Water Needs must be consistent with requirements in appropriate Commission administrative rules related to Texas Water Code §11.1271 and §13.146.

(B) RWPGs shall consider water conservation practices for each WUG beyond the minimum requirements of subparagraph (A) of this paragraph, whether or not the WUG is subject to Texas Water Code §11.1271 and §13.146. If RWPGs do not adopt a Water Conservation Strategy to meet an identified need, they shall document the reason in the RWP.

(C) For each WUG or WWP that is to obtain water from a proposed interbasin transfer to which Texas Water Code §11.085 (relating to Interbasin Transfers) applies, RWPGs shall include a Water Conservation Strategy, pursuant to Texas Water Code §11.085(l), that will result in the highest practicable level of water conservation and efficiency achievable. For these strategies, RWPGs shall determine and report projected water use savings in gallons per capita per day based on its determination of the highest practicable level of water conservation and efficiency achievable. RWPGs shall develop conservation strategies based on this determination. In preparing this evaluation, RWPGs shall seek the input of WUGs and WWPs as to what is the highest practicable level of conservation and efficiency achievable, in their opinion, and take that input into consideration. RWPGs shall develop water conservation strategies consistent with guidance provided by the Commission in its administrative rules that implement Texas Water Code §11.085. When developing water conservation strategies, the RWPGs must consider potentially applicable best management practices. Strategy evaluation in accordance with this section shall include a quantitative description of the quantity, cost, and reliability of the water estimated to be conserved under the highest practicable level of water conservation and efficiency achievable.

(D) RWPGs shall consider strategies to address any issues identified in the information compiled by the Board from the water loss audits performed by Retail Public Utilities pursuant to §358.6 of this title (relating to Water Loss Audits).

(3) RWPGs shall recommend Gallons Per Capita Per Day goal(s) for each municipal WUG or specified groupings of municipal WUGs. Goals must be recommended for each planning decade and may be a specific goal or a range of values. At a minimum, the RWPs shall include Gallons Per Capita Per Day goals based on drought conditions to align with guidance principles in §358.3 of this title (relating to Guidance Principles).

(j) RWPs shall include a subchapter consolidating the RWPG's recommendations regarding water conservation. RWPGs shall include in the RWPs model Water Conservation Plans pursuant to Texas Water Code §11.1271.

SUBCHAPTER D. IMPACTS, DROUGHT RESPONSE, POLICY RECOMMENDATIONS, AND IMPLEMENTATION.

§357.42. Drought Response Information, Activities, and Recommendations.

(a) RWPs shall consolidate and present information on current and planned preparations for, and responses to, drought conditions in the region including, but not limited to, Drought of Record conditions based on the following subsections.

(b) RWPGs shall conduct an assessment of current preparations for drought within the RWPA. This may include information from local Drought Contingency Plans. The assessment shall include:

(1) A description of how water suppliers in the RWPA identify and respond to the onset of drought; and

(2) Identification of unnecessary or counterproductive variations in drought response strategies among water suppliers that may confuse the public or impede drought response efforts. At a minimum, RWPGs shall review and summarize drought response efforts for neighboring communities including the differences in the implementation of outdoor watering restrictions.

(c) RWPGs shall develop drought response recommendations regarding the management of existing groundwater and surface water sources in the RWPA designated in accordance with §357.32 of this title (relating to Water Supply Analysis), including:

(1) Factors specific to each source of water supply to be considered in determining whether to initiate a drought response for each water source including specific recommended drought response triggers;

(2) Actions to be taken as part of the drought response by the manager of each water source and the entities relying on each source, including the number of drought stages; and

(3) Triggers and actions developed in paragraphs (1) and (2) of this subsection may consider existing triggers and actions associated with existing Drought Contingency Plans.

(d) RWPGs shall collect information on existing major water infrastructure facilities that may be used for interconnections in event of an emergency shortage of water. At a minimum, the RWP shall include a general description of the methodology used to collect the information, the number of existing and potential emergency interconnects in the RWPA, and a list of which entities are connected to each other. In accordance with Texas Water Code §16.053(r), certain information regarding water infrastructure facilities is excepted from the Public Information Act, Texas Government Code, Chapter 552. Any excepted information collected shall be submitted separately to the EA in accordance with guidance to be provided by EA.

(e) RWPGs shall provide general descriptions of local Drought Contingency Plans that involve making emergency connections between water systems or WWP systems that do not include locations or descriptions of facilities that are disallowed under subsection (d) of this section.

(f) RWPGs may designate recommended and alternative Drought Management Water Management Strategies and other recommended drought measures in the RWP including:

(1) List and description of the recommended Drought Management Water Management Strategies and associated WUGs and WWPs, if any, that are recommended by the RWPG. Information to include associated triggers to initiate each of the recommended Drought Management WMSs;

(2) List and description of alternative Drought Management WMSs and associated WUGs and WWPs, if any, that are included in the plan. Information to include associated triggers to initiate each of the alternative Drought Management WMSs;

(3) List of all potentially feasible Drought Management WMSs that were considered or evaluated by the RWPG but not recommended; and

(4) List and summary of any other recommended Drought Management Measures, if any, that are included in the RWP, including associated triggers if applicable.

(g) The RWPGs shall evaluate potential emergency responses to local drought conditions or loss of existing water supplies; the evaluation shall include identification of potential alternative water sources that may be considered for temporary emergency use by WUGs and WWPs in the event that the Existing Water Supply sources become temporarily unavailable to the WUGs and WWPs due to unforeseeable hydrologic conditions such as emergency water right curtailment, unanticipated loss of reservoir conservation storage, or other localized drought impacts. RWPGs shall evaluate, at a minimum, municipal WUGs that:

(1) have existing populations less than 7,500;

(2) rely on a sole source for its water supply regardless of whether the water is provided by a WWP; and

(3) all County-Other WUGs.

(h) RWPGs shall consider any relevant recommendations from the Drought Preparedness Council.

(i) RWPGs shall make drought preparation and response recommendations regarding:

(1) Development of, content contained within, and implementation of local Drought Contingency Plans required by the Commission;

(2) Current drought management preparations in the RWPA including:

(A) drought response triggers; and

(B) responses to drought conditions;

(3) The Drought Preparedness Council and the State Drought Preparedness Plan; and

(4) Any other general recommendations regarding drought management in the region or state.

(j) The RWPGs shall develop region-specific model Drought Contingency Plans.

§357.43. Regulatory, Administrative, or Legislative Recommendations.

(a) The RWPs shall contain any regulatory, administrative, or legislative recommendations developed by the RWPGs.

(b) Ecologically Unique River and Stream Segments. RWPGs may include in adopted RWPs recommendations for all or parts of river and stream segments of unique ecological value located within the RWPA by preparing a recommendation package consisting of a physical description giving the location of the stream segment, maps, and photographs of the stream segment and a

site characterization of the stream segment documented by supporting literature and data. The recommendation package shall address each of the criteria for designation of river and stream segments of ecological value found in this subsection. The RWPG shall forward the recommendation package to the Texas Parks and Wildlife Department and allow the Texas Parks and Wildlife Department 30 days for its written evaluation of the recommendation. The adopted RWP shall include, if available, Texas Parks and Wildlife Department's written evaluation of each river and stream segment recommended as a river or stream segment of unique ecological value.

(1) An RWPG may recommend a river or stream segment as being of unique ecological value based upon the criteria set forth in §358.2 of this title (relating to Definitions).

(2) For every river and stream segment that has been designated as a unique river or stream segment by the legislature, including during a session that ends not less than one year before the required date of submittal of an adopted RWP to the Board, or recommended as a unique river or stream segment in the RWP, the RWPG shall assess the impact of the RWP on these segments. The assessment shall be a quantitative analysis of the impact of the plan on the flows important to the river or stream segment, as determined by the RWPG, comparing current conditions to conditions with implementation of all recommended WMSs. The assessment shall also describe the impact of the plan on the unique features cited in the region's recommendation of that segment.

(c) Unique Sites for Reservoir Construction. An RWPG may recommend sites of unique value for construction of reservoirs by including descriptions of the sites, reasons for the unique designation and expected beneficiaries of the water supply to be developed at the site. The criteria at §358.2 of this title shall be used to determine if a site is unique for reservoir construction.

(d) Any other recommendations that the RWPG believes are needed and desirable to achieve the stated goals of state and regional water planning including to facilitate the orderly development, management, and conservation of water resources and prepare for and respond to drought conditions. This may include recommendations that the RWPG believes would improve the state and regional water planning process.

(e) RWPGs may develop information as to the potential impacts of any proposed changes in law prior to or after changes are enacted.

(f) RWPGs should consider making legislative recommendations to facilitate more voluntary water transfers in the region.

§357.45. Implementation and Comparison to Previous Regional Water Plan.

(a) RWPGs shall describe the level of implementation of previously recommended WMSs and associated impediments to implementation in accordance with guidance provided by the board. Information on the progress of implementation of all WMSs that were recommended in the previous RWP, including conservation and Drought Management WMSs; and the implementation of WMSPs that have affected progress in meeting the state's future water needs.

(b) RWPGs shall assess the progress of the RWPA in encouraging cooperation between WUGs for the purpose of achieving economies of scale and otherwise incentivizing WMSs that benefit the entire RWPA. This assessment of regionalization shall include:

(1) The number of recommended WMSs in the previously adopted and current RWPs that serve more than one WUG;

(2) The number of recommended WMSs in the previously adopted RWP that serve more than one WUG and have been implemented since the previously adopted RWP; and.

(3) A description of efforts the RWPG has made to encourage WMSs and WMSPs that serve more than one WUG, and that benefit the entire region.

(c) RWPGs shall provide a brief summary of how the RWP differs from the previously adopted RWP with regards to:

(1) Water Demand projections;

(2) Drought of Record and hydrologic and modeling assumptions used in planning for the region;

(3) Groundwater and surface water Availability, Existing Water Supplies, and identified Water Needs for WUGs and WWPs; and

(4) Recommended and Alternative WMSs and WMSPs.