

REGION H
Water Planning Group

**WATER MANAGEMENT
STRATEGY COMMITTEE
MEETING MATERIALS**

October 30, 2019

Freese and Nichols Houston Office

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
Water Management Strategy Committee
2:00 PM Wednesday
October 30, 2019
Freese and Nichols Houston Office
10497 Town and Country Way, Suite 500, Houston, TX 77024**

AGENDA

1. Call to order.
2. Introductions.
3. Review and approve minutes of September 4, 2019 WMS Committee meeting.
4. **Receive public comments on specific issues related to agenda items 5 through 8.** (Public comments limited to 3 minutes per speaker)
5. Discuss Committee activities and schedule.
6. Discuss water management strategy recommendations and process for the Region H 2021 Regional Water Plan.
7. Receive update from Consultant Team regarding drought management as a potential water management strategy and consider making recommendations to the Region H Water Planning Group.
8. Discuss options for utilization of remaining unallocated Task 5 funds and consider making recommendations to the Region H Water Planning Group.
9. **Receive public comments.** (Public comments limited to 3 minutes per speaker)
10. Adjourn.

Persons with disabilities who plan to attend this meeting and would like to request auxiliary aids or services are requested to contact Philip Taucer at (713) 600-6835 at least three business days prior to the meeting so that appropriate arrangements can be made.

Agenda Item 3

Review and approve minutes of September 4, 2019 WMS
Committee meeting.

**REGION H WATER PLANNING GROUP
WATER MANAGEMENT STRATEGY COMMITTEE
MINUTES OF COMMITTEE MEETING
SEPTEMBER 4, 2019**

A meeting of the Region H Water Planning Group (RHWP) Water Management Strategy (WMS) Committee was held at 12:00 p.m., September 4, 2019, at the General Administration building of the San Jacinto River Authority. A notice of said meeting was posted as required by law.

MEMBERS PRESENT: Bob Hebert, Jace Houston, Yvonne Forrest, Ivan Langford, Glenn Lord, John Bartos

DESIGNATED ALTERNATES: Jim Sims for Kevin Ward, Jun Chang for Jimmie Schindewolf, Aaron Abel for Brad Brunett

MEMBERS ABSENT: Robert Bruner, Mike Turco, Mark Evans (non-voting)

NON-VOTING MEMBERS PRESENT: Robert Istre

NON-MEMBERS PRESENT: Ken Kramer (Sierra Club) for Carl Masterson, Gene Fisseler, Paul Nelson (The Woodlands G.R.E.E.N.), Shane Porter (SJRA), Matt Barrett (SJRA), Lindsey Kovar (BGE), Veronica Osegueda (City of Houston), Sharon Citino (City of Houston), Danielle Goshen (Galveston Bay Foundation), Scott Jones (Galveston Bay Foundation)

CONSULTANT TEAM: Jason Afinowicz, Philip Taucer, Mike Reedy, Courtney Corso, Jordan Skipwith, Chris Drabek, Glenda Callaway

1. CALL TO ORDER

The meeting was called to order at 12:00 p.m.

2. INTRODUCTIONS

Mr. Hebert welcomed the committee members and guests to the meeting.

3. REVIEW AND APPROVE MINUTES OF MARCH 21, 2018 WMS COMMITTEE MEETING.

The committee passed a motion to approve the minutes of the WMS Committee meeting on March 21, 2018.

4. RECEIVE PUBLIC COMMENTS ON SPECIFIC ISSUES RELATED TO AGENDA ITEMS 5 THROUGH 7.

There were no public comments.

5. DISCUSS COMMITTEE ACTIVITIES AND SCHEDULE.

Mr. Taucer provided an update to the 2021 Regional Water Plan schedule referencing various due dates. The Committee tentatively selected October 30 for the next Committee meeting.

6. DISCUSS WATER MANAGEMENT STRATEGY RECOMMENDATIONS AND PROCESS FROM THE REGION H 2021 REGIONAL WATER PLAN.

Mr. Taucer provided an update on the progress of water management strategy (WMS) analyses for the 2021 Region H RWP, including comparisons to the 2016 RWP, projected needs, anticipated WMS supplies, and details regarding advanced conservation and water loss reduction strategies.

Committee members commented that labeling savings from outdoor watering restrictions as “Regulatory” savings is confusing. Ms. Forrest indicated agreement with the 10% threshold used in the water loss reduction analysis; Mr. Hebert agreed. Mr. Kramer suggested a need for more clarity when discussing 10% water loss as a goal, as the methodology used for reducing losses does not imply that every entity will reach 10% loss by the end of the planning horizon.

Mr. Taucer also introduced the topic of drought contingency plan implementation as a potential WMS. Committee members agreed that the RHWPG meeting held earlier in the day had provided clear direction to the consultant team to bring more detailed analyses of options for this strategy type to the next WMS Committee and RHWPG meetings. Mr. Hebert and Mr. Istre voiced the necessity of maintaining a clear differentiation between the purposes of long-term conservation efforts and measures intended for contingency or emergency. Mr. Kramer suggested a review of how other planning groups have treated this option and suggested that drought contingency WMS should not be immediately ruled out for Region H.

7. DISCUSS OPTIONS FOR UTILIZATION OF REMAINING UNALLOCATED TASK 5 FUNDS AND CONSIDER MAKING RECOMMENDATIONS TO THE REGION H WATER PLANNING GROUP.

Mr. Taucer explained the existing funding allocations and remaining funds available for Task 5A and presented the Committee with the option to allocate the remaining funding towards efforts after the submittal of the Initially Prepared Plan (IPP). These efforts may include the review of input from stakeholders to adjust recommendations in the IPP or to add new projects not identified as of the IPP. The Committee suggested resuming discussion of this topic at a subsequent meeting.

8. RECEIVE PUBLIC COMMENTS.

Mr. Fisseler suggested considering demand curtailment or demand reduction concepts commonly used by electric providers as potential water management strategies.

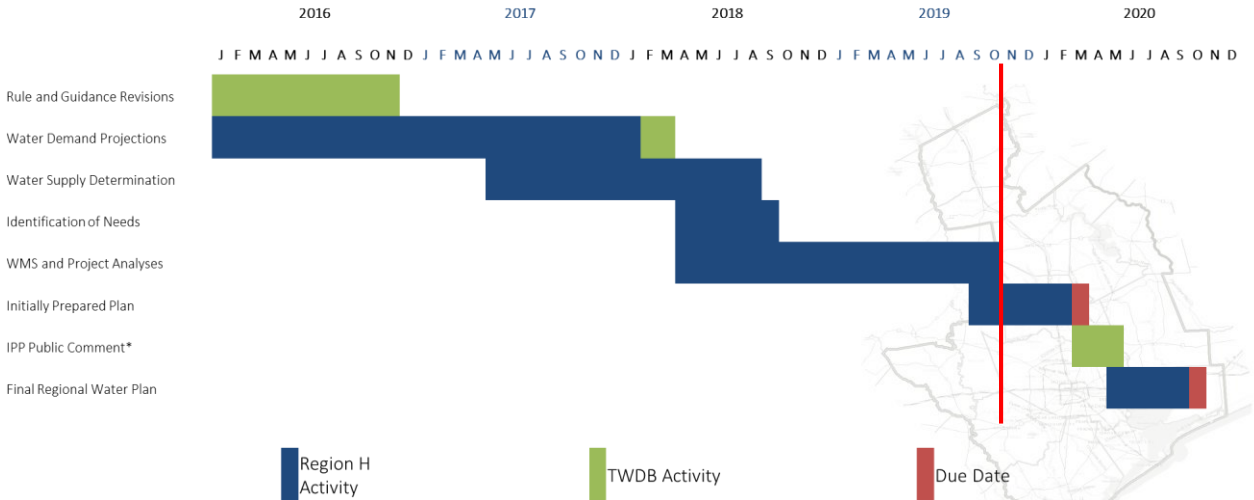
9. ADJOURN

Without objection, the meeting was adjourned at 1:15 p.m.

Agenda Item 5

Discuss Committee activities and schedule.

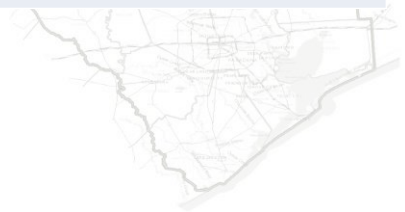
Agenda Item 5 Committee Activities and Schedule



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

Agenda Item 5 Committee Activities and Schedule

Date	Scheduled Events/Tasks
10/2019	WMS Committee Meeting
01/2020	WMS Committee Meeting
03/2020	DUE DATE: Initially Prepared Plan
10/2020	DUE DATE: FINAL RWP



Agenda Item 5

Committee Activities and Schedule

Completed

- Process to identify
- Process to evaluate

In Progress

- Project cost evaluations
- Supply allocations

In Near Future

- Additional WMS scope
- Impacts and implementation analyses

At The End

- Prioritization analysis

Agenda Item 6

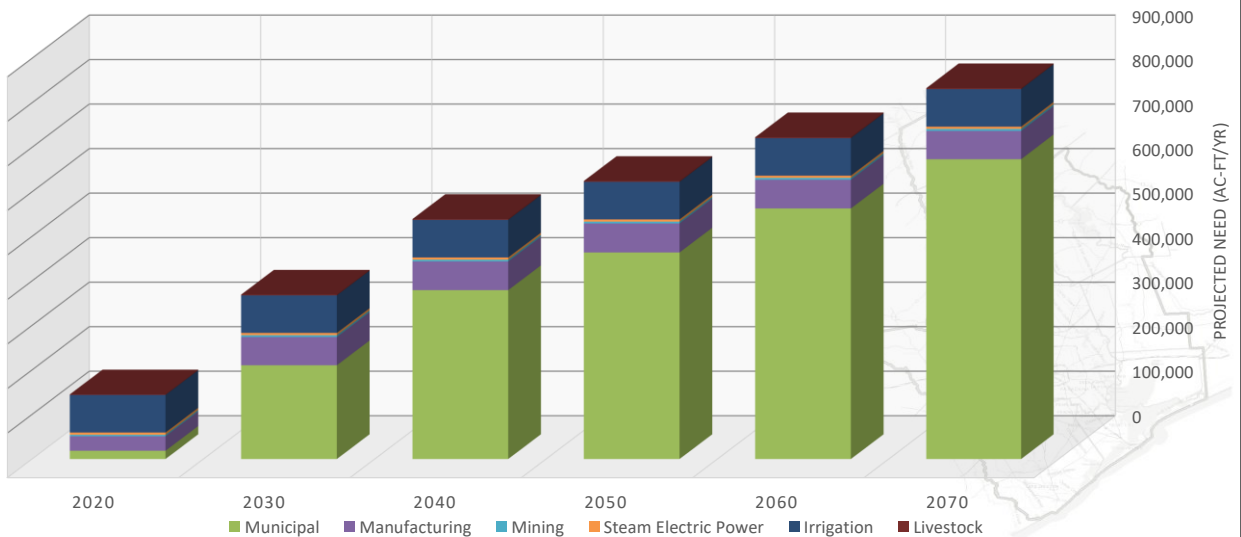
Discuss water management strategy recommendations and process from the Region H 2021 Regional Water Plan.

Agenda Item 6 WMS Recommendations

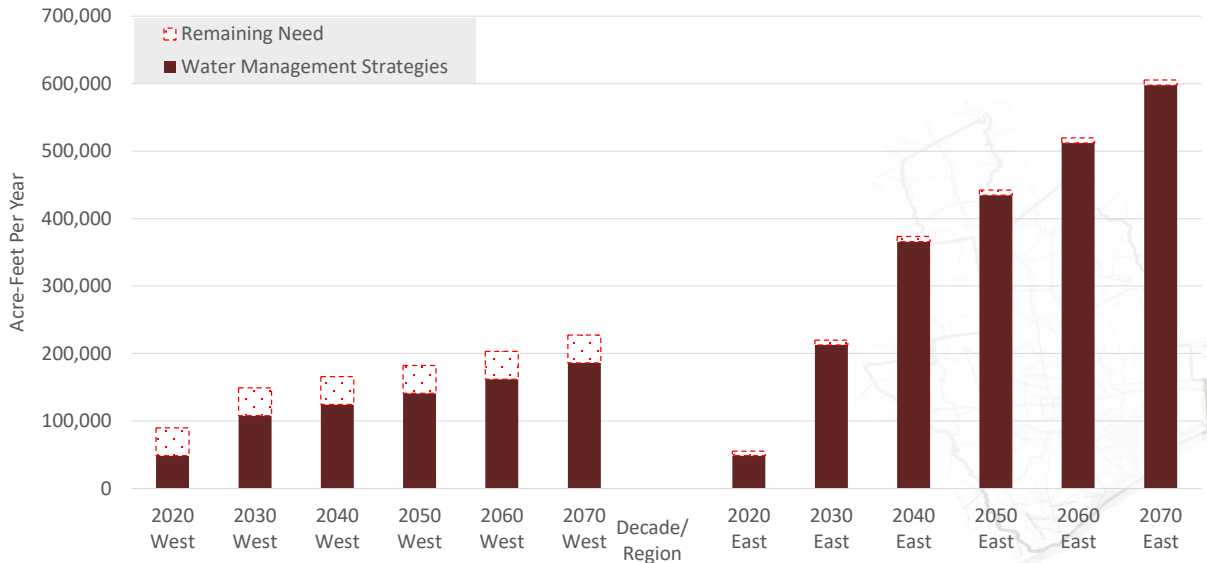
Primary
Topics for
Today

- Recap Of Needs
- Agricultural Issues
- Data Structure
- Status Update
- Ongoing Efforts
- Discussion and Recommendations

Agenda Item 6 WMS Recommendations – Needs



Agenda Item 6 WMS Recommendations – Needs



Agenda Item 6 WMS Recommendations – Agricultural Issues

Issues

- Cost of water
- Ability to enter into long-term contracts
- Need for firm-yield supply

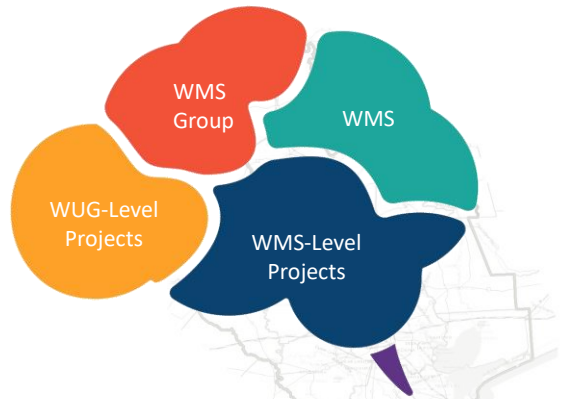
Real-World Approaches

- Interruptible Supplies
 - Planning rules require firm
 - Local supplies not shown
- Refrain from Production
 - Common for irrigation
 - Problematic for livestock
- Conjunctive Use

Agenda Item 6 WMS Recommendations – Data Structure

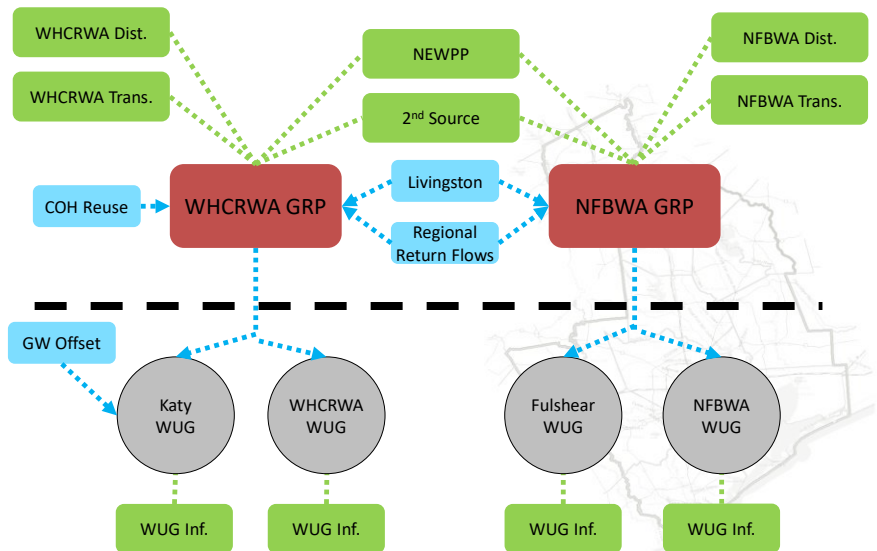
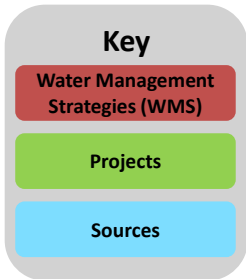


Early RWPs

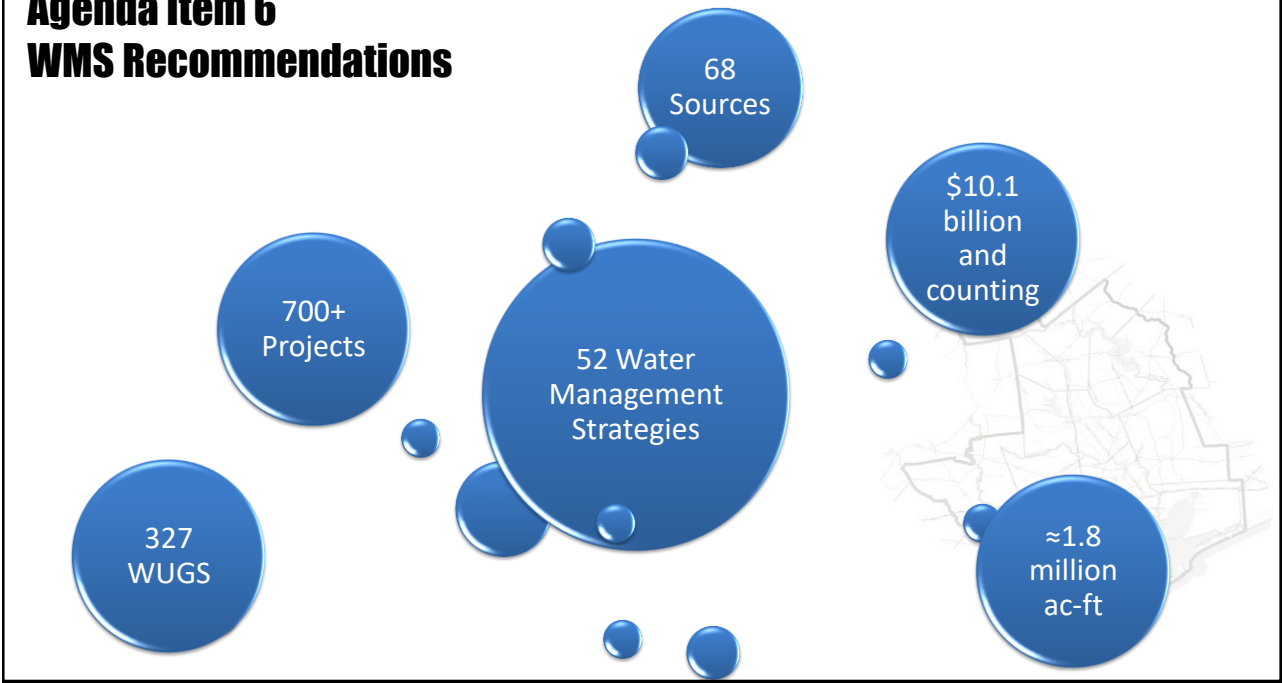


New RWPs

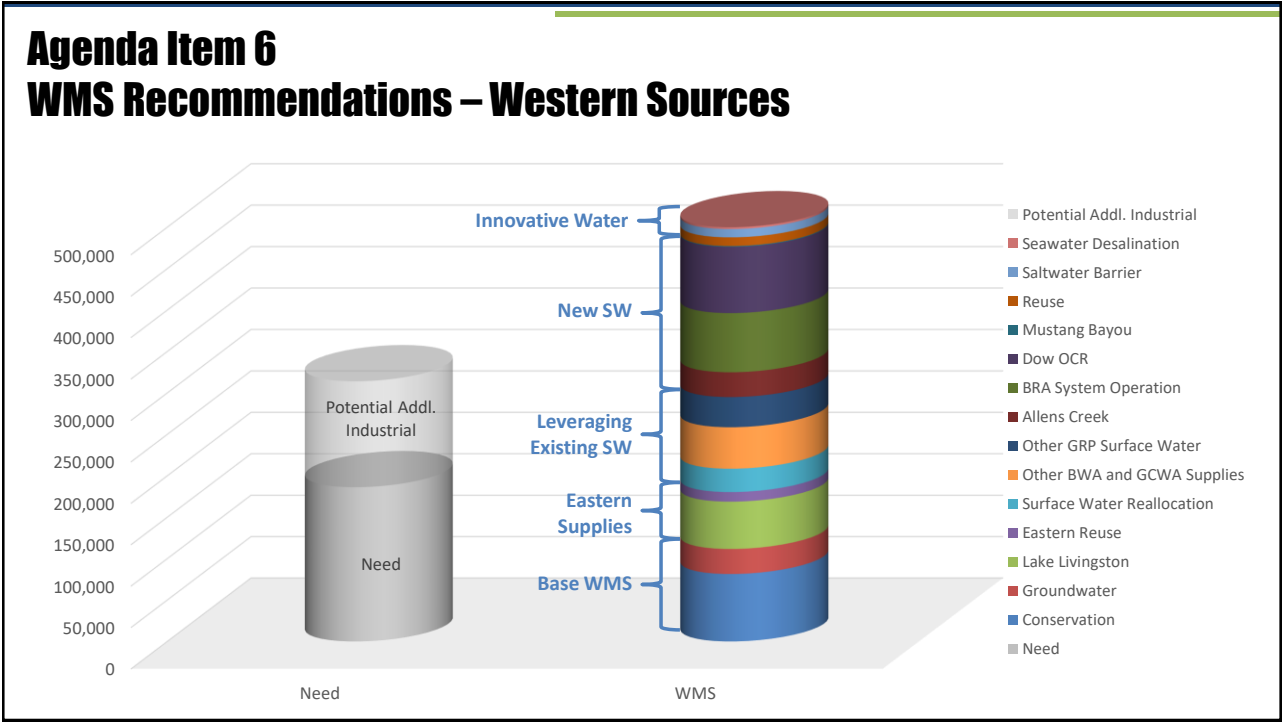
Agenda Item 6 WMS Recommendations – Data Structure



Agenda Item 6 WMS Recommendations

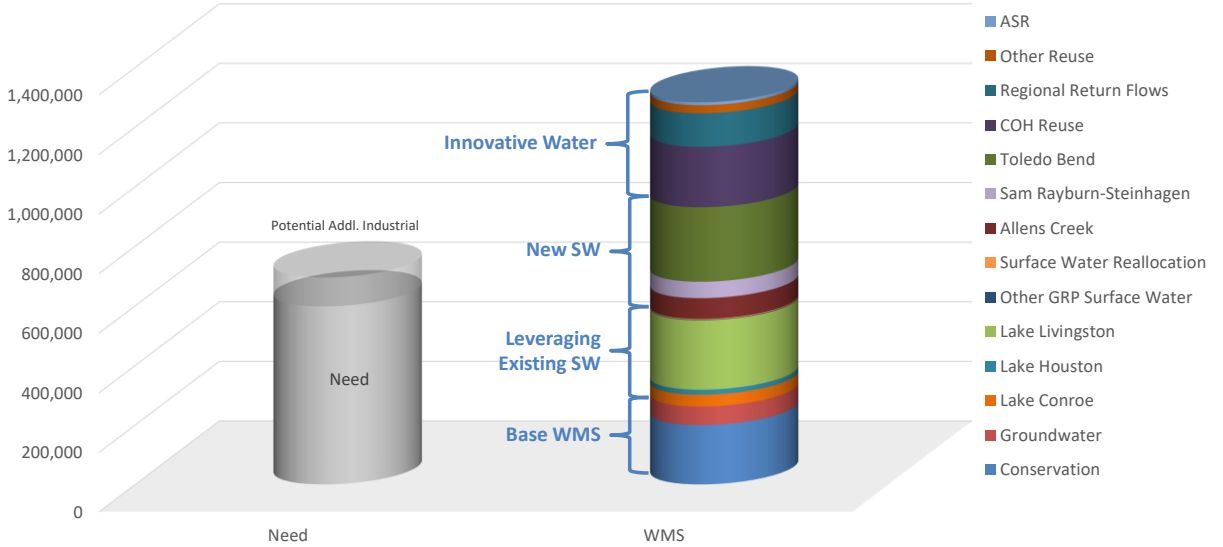


Agenda Item 6 WMS Recommendations – Western Sources



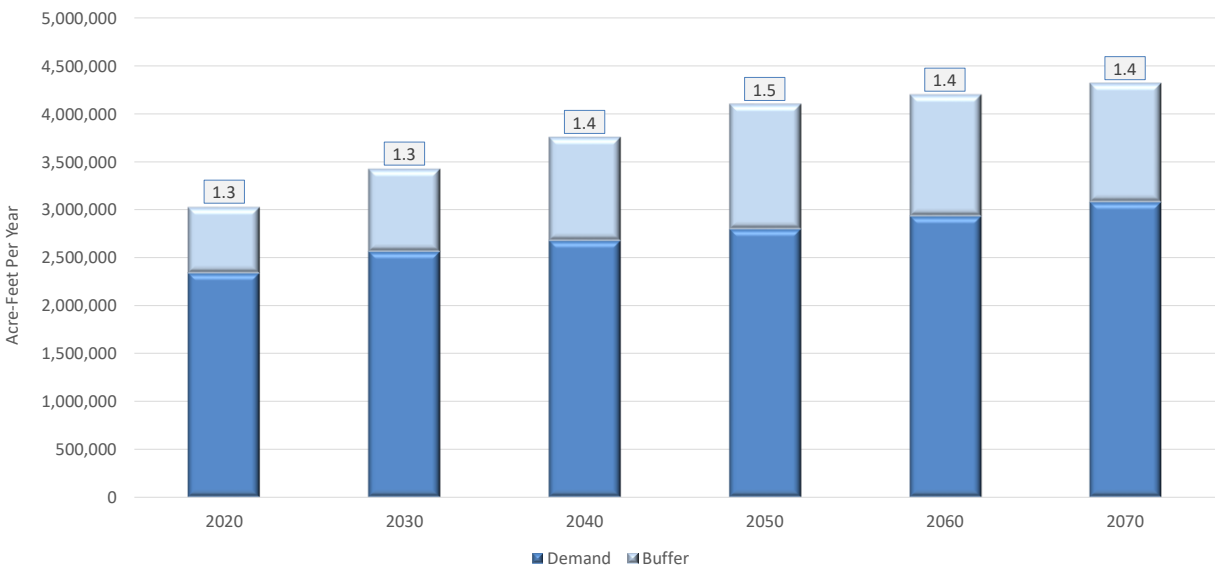
Agenda Item 6

WMS Recommendations – Eastern Sources



Agenda Item 6

WMS Recommendations – Supply Redundancy



Agenda Item 6

WMS Recommendations – Applied WMS

Conservation

- Municipal, Irrigation, Loss Reduction

Groundwater

- Brackish GW, Expanded Use, Groveton Expansion

GRPs

- COH, SJRA, RWAs, Fort Bend MUD 25, Fort Bend WCID 2, Missouri City, Montgomery MUDs 8 & 9, Porter SUD, Richmond, River Plantation/East Plantation, Rosenberg, Sugar Land

Reuse

- COH Reuse, SJRA Reuse Supplies for Manufacturing, Pearland Reuse, WW Reclamation for Mun. Irrigation, other small WMS

Agenda Item 6

WMS Recommendations – Applied WMS

New / Expanded Contracts with Provider

- BRA, BWA, COH, GCWA, Industrial Supply Reallocation, LNVA, SJRA

Infrastructure-Driven Strategies

- GCWA Raw and Treated Water Expansions, Manvel Supply Expansion, Pearland SWTP, Southeast Transmission Line, Surfside Beach Supply Expansion

Surface Water Availability Expansion

- ASR, Brazos SWB, Dow Reservoir and Pump Station Exp., Freeport Desal, Manvel Mustang Bayou Supply, Other BRA System Operation Supplies

Interbasin Transfer

- East Texas Transfer, Transfer to Region H (Sam Rayburn)

Agenda Item 6 WMS Recommendations - Projects

Demand Management

2020

- Advanced Municipal Conservation
- Water Loss Reduction
- Irrigation Conservation

2030

- **Sugar Land Advanced Loss Reduction**
- **Sugar Land Advanced Metering Infrastructure**



Agenda Item 6 WMS Recommendations - Projects

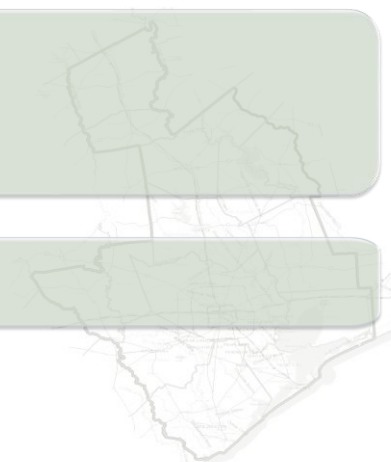
Groundwater Development

2020

- Expanded Use of Groundwater
- Groveton Well Development
- **Manvel Groundwater Development**
- Montgomery County MUDs 8 & 9 GRP Infrastructure
- WUG-Level Brackish Projects

2030

- SJRA Catahoula Aquifer Supplies



Agenda Item 6 WMS Recommendations - Projects

Direct and Indirect Reuse

2020

- NHCRWA Member District Reuse Infrastructure
- NFBWA Member District Reuse Infrastructure
- Pearland Reuse Infrastructure

2030

- Municipal Irrigation Reuse Development (MPCs)
- River Plantation Reuse Expansion
- Sugar Land Reuse Infrastructure

2040

- City of Houston Reuse Infrastructure

Agenda Item 6 WMS Recommendations - Projects

Water Treatment

2020

- Porter SUD GRP Infrastructure
- **Surfside Beach Supply Infrastructure**

2030

- BWA Brackish Groundwater Treatment
- BWA Conventional Treatment Expansion
- City of Houston Northeast Water Purification Plant
- **GCWA Galveston County Treatment Expansion**
- GRP Treatment Inf. – Fort Bend MUD 25, Fort Bend WCID 2, Missouri City, Sugar Land
- **Manvel Treatment and Transmission Expansion**
- Pearland SWTP
- **SEWPP Additional Module**
- **Sugar Land Groundwater Plant Conversion**

2040

- **City of Houston Southwest Treatment**
- City of Houston Treatment Expansion

Agenda Item 6 WMS Recommendations - Projects

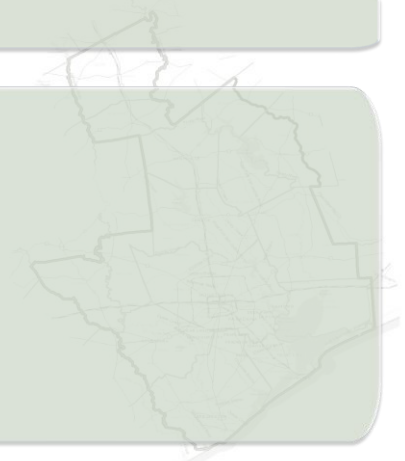
Major Transmission and Distribution

2020

- **GCWA Chocolate Bayou Pump Station Expansion**

2030

- **BWA Transmission Expansion**
- CHCRWA Transmission and Distribution
- COH, NHCRWA, and CHCRWA Shared Transmission
- **GCWA Galveston County Raw Water Expansion**
- NFBWA Phase 2 Distribution Segments
- NHCRWA Transmission and Distribution Projects
- SJRA GRP Transmission
- **Southeast Transmission Improvements**
- WHCRWA/NFBWA Transmission Line
- WHCRWA Distribution Expansion



Agenda Item 6 WMS Recommendations - Projects

Major Transmission and Distribution

2040

- **City of Houston GRP Transmission**
- LNVA Irrigation System Expansion

2050

- East Texas Transfer
- Lake Livingston to SJRA Transfer



Agenda Item 6 WMS Recommendations - Projects

Reservoir Development and Expansion

2020

- Dow Reservoir and Pump Station Expansion
- Mustang Reservoir Improvements

2030

- Manvel Mustang Bayou Right and Storage

2040

- Allens Creek Reservoir



Agenda Item 6 WMS Recommendations - Projects

Other Major Projects

2020

- Chocolate Bayou Saltwater Barrier Improvements

2040

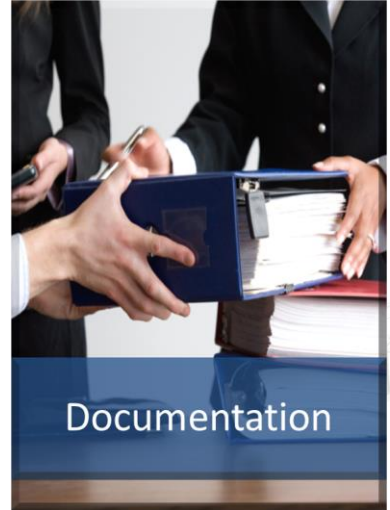
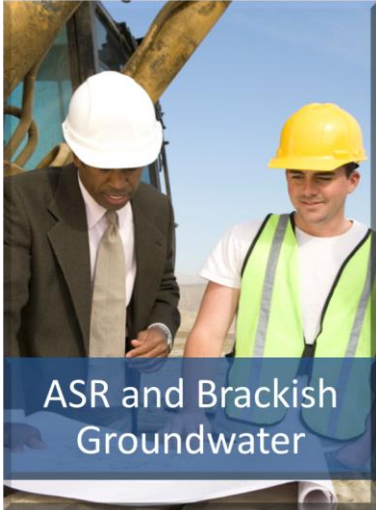
- Brazos Saltwater Barrier
- Freeport Seawater Desalination

2070

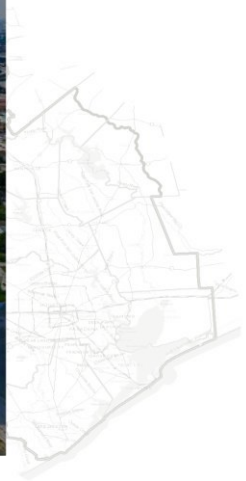
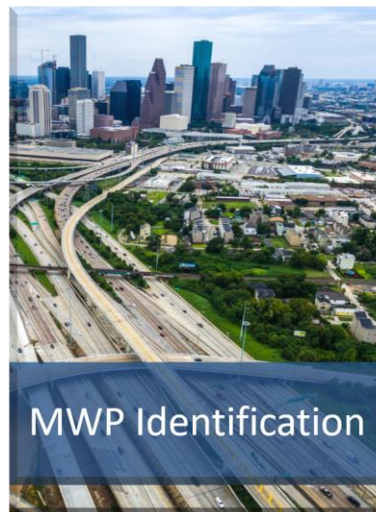
- SJRA Aquifer Storage and Recovery



Agenda Item 6 WMS Recommendations – Ongoing Effort



Agenda Item 6 WMS Recommendations – Ongoing Effort



Agenda Item 6

WMS Recommendations – Discussion and Recommendations



Agenda Item 7

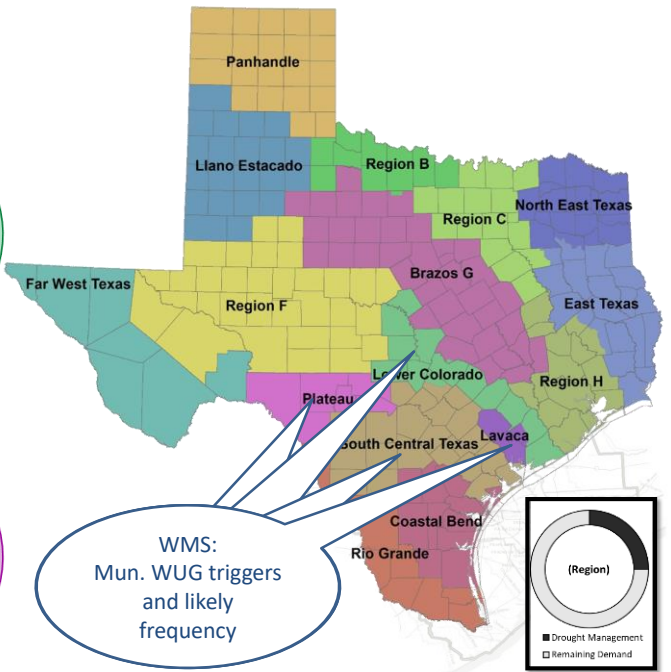
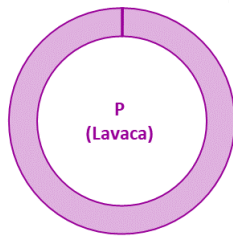
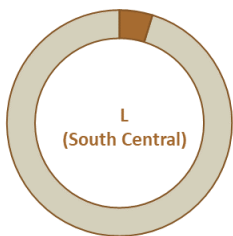
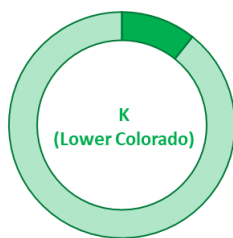
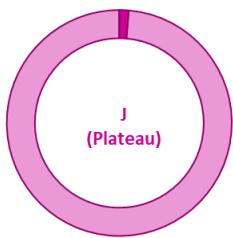
Receive update from Consultant Team regarding drought management as a potential water management strategy and consider making recommendations to the Region H Water Planning Group.

Agenda Item 7 Drought Management WMS

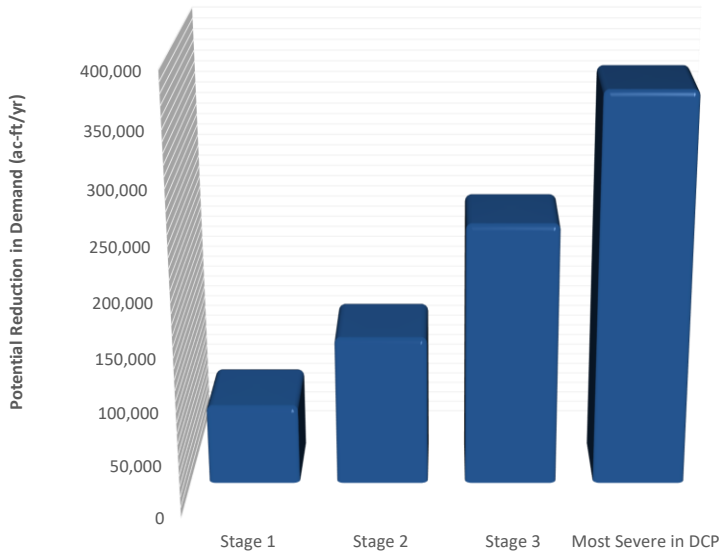
- Region H has not previously used as WMS
- Discussed at September meeting
- Time for fresh look
 - How are other RWPGs approaching?
 - Potential savings scenarios?
 - Pros and cons?



Agenda Item 7 Drought Management WMS



Agenda Item 7 Drought Management WMS



- Large savings if:
 - See in crystal ball
 - Starts day 1
 - Prolonged stage
 - Works perfectly
 - 100% compliance
 - Other caveats don't matter

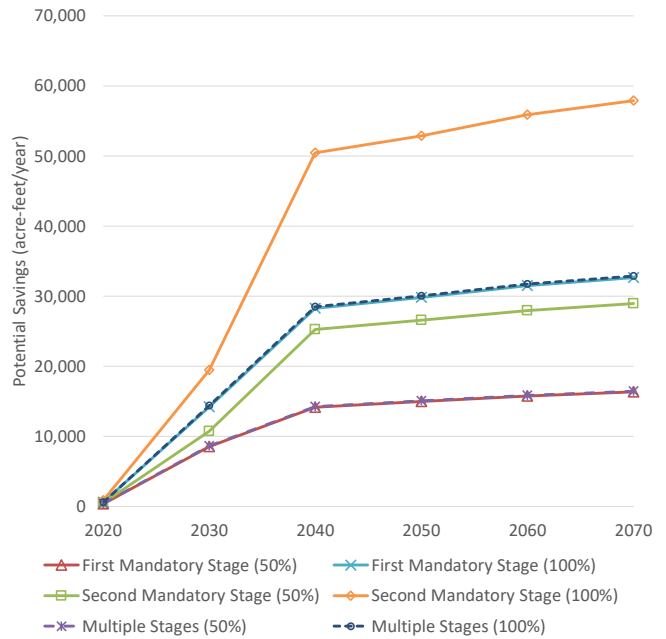
Agenda Item 7 Drought Management WMS

- Refined assumptions
- Percent of 2011 in DCP stages
- Remove overlap with conservation
- Apply factor for compliance and efficacy
- Cap at needs



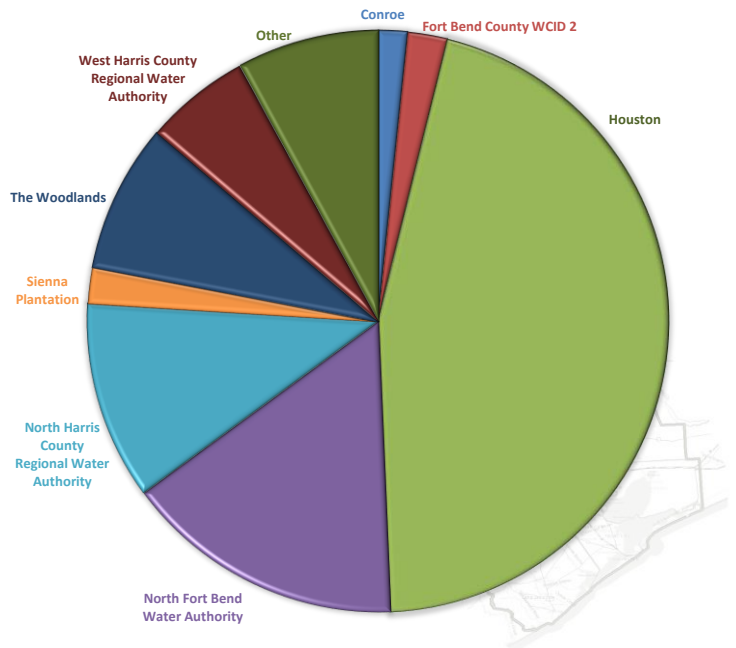
Agenda Item 7 Drought Management WMS

- Multiple scenarios
 - Efficacy / Compliance
 - 50%
 - 100%
- Target Demand Reductions
 - First mandatory stage
 - Second mandatory stage
 - Stages by 2011 implementation



Agenda Item 7 Drought Management WMS

- Scenario
 - 100% Compliance
 - Based on 2011 data
 - Multiple stages
 - Total = 32,865 ac-ft
- 92% of volume in large WUGs



Agenda Item 7 Drought Management WMS



- Costs not analogous to other WMS
- TWDB Drought Costing Tool
 - Residential “willing to pay” cost
 - \$5,236,000 for this scenario
- The broader picture
 - Accepting some socioeconomic impacts now to defer others
 - Commercial and industrial impacts
 - Cost of recovery

Agenda Item 7 Drought Management WMS

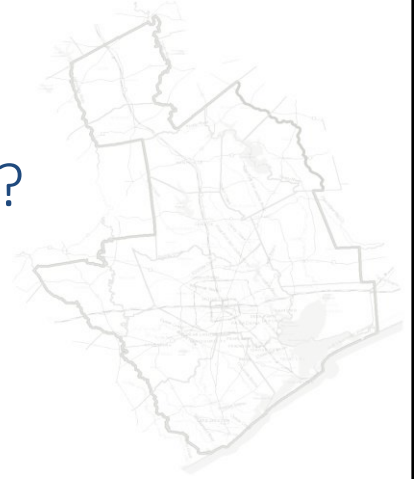
- Partially captured in demand projections
- Temporary, unlike other WMS
- Region’s needs driven largely by growth, not weather
- Highly dependent on
 - Specific drought
 - Compliance rates
- Acceptance of impacts rather than supply



Agenda Item 7

Drought Management WMS

Recommendations?

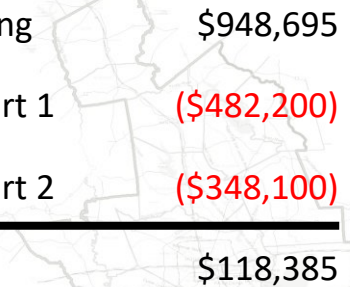


Agenda Item 8

Discuss options for utilization of remaining unallocated Task 5 funds and consider making recommendations to the Region H Water Planning Group.

Agenda Item 8 WMS Funding

- Funds allocated for effort related to Water Management Strategies
- \$118,385 remaining
 - Allocated to Region H
 - Not yet authorized
- In 2016 cycle, key to post-IPP adjustments



Task 5A Funding	\$948,695
4D Items Part 1	(\$482,200)
4D Items Part 2	(\$348,100)
<hr/>	
Remaining	\$118,385

Agenda Item 8 WMS Funding

- Potential Item:

Review input from stakeholders and identify requests to adjust recommended WMS and projects included in the IPP. This may include addition of new projects that have not been identified to date and will require further analysis and study in order to make them eligible for inclusion in the Final RWP. Effort will include revisions to DB22 to incorporate new projects as necessary.

