

# **REGION H**

## **Water Planning Group**

### **MEETING MATERIALS**

**February 1, 2023**



## Common Region H Terms and Conversion Factors

### List of Abbreviations

|       |   |
|-------|---|
| 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                |
| IFR   | Infrastructure Finance Report             |
| 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                       |
| RFPG  | Regional Flood Planning Group             |
| 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                     |
| URS   | Unique Reservoir Site                     |
| USS   | Unique Stream Segment                     |
| 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 = 1,120 ac-ft/yr



**Region H Water Planning Group**  
**10:00 AM Wednesday**  
**February 1, 2023**  
**San Jacinto River Authority Office**  
**1577 Dam Site Rd, Conroe, Texas 77304**  
**AGENDA**

1. Call to order.
2. Introductions.
3. Review and approve minutes of the November 2, 2022 meeting.
4. **Receive public comments on specific issues related to agenda items 5 through 8.** (Public comments limited to 3 minutes per speaker)
5. Planning Group Membership
  - a. Receive Nominating Committee recommendations and discuss and elect officers and members of the Executive Committee of the Region H Water Planning Group (RHWPG).
6. Special Items and Informational Presentations
  - a. Receive presentation from the Gulf Coast Water Authority regarding the Brazos River Alluvium.
  - b. Receive presentation from the Consultant Team and Harris-Galveston Subsidence District on the Joint Regulatory Plan Review.
  - c. Discuss request from BASF Corporation regarding consistency of proposed project with the Regional Water Plan (RWP) and consider taking action authorizing submittal of a letter from the RHWPG on consistency status.
7. Plan Development and Administration
  - a. Receive update from the Consultant Team regarding non-population demand data and projections for the 2026 Region H RWP.
  - b. Receive update from the Consultant Team regarding population demand data and projections for the 2026 Region H RWP.
8. General Updates and Outreach
  - a. Receive update regarding schedule and milestones for the development of the 2026 Region H RWP.
  - b. Receive update from liaisons to other planning groups.
  - c. Receive report regarding recent and upcoming activities related to communications and outreach efforts on behalf of the RHWPG.
  - d. Agency communications and general information.
9. **Receive public comments.** (Public comments limited to 3 minutes per speaker)
10. Next Meeting: May 3, 2023.
11. Adjourn.

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



## Agenda Item 5a

Receive Nominating Committee recommendations and discuss and elect officers and members of the Executive Committee of the Region H Water Planning Group (RHWPG).





## Agenda Item 5a Annual Elections

- Annual election
- No term limits
- Must be from different interest categories
- Current Membership
  - RWPG Chair: Mark Evans (Counties)
  - Vice-Chair: Marvin Marcell (Water Districts)
  - Secretary: Jace Houston (River Authorities)
  - Committee: John Bartos (Environmental)
  - Committee: Yvonne Forrest (Municipalities)



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## Agenda Item 5a Annual Elections

### Action:

Elect officers and members of the Executive Committee  
of the RHWPG.



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## Agenda Item 6b

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



HARRIS-GALVESTON



SUBSIDENCE  
DISTRICT



# 2023 JOINT REGULATORY PLAN REVIEW

Update To Region H RWPG

01 February 2023

1

## Develop Population and Demand Projections

Develop projections of population and water demand over a ten-county area through the year 2100.



2

## Conduct Alternative Water Supply Assessment

Review alternative water supplies for the capability of reducing future groundwater demand.



3

## Develop the Gulf Coast Land Subsidence and Groundwater Flow Model

Development of the GULF-2023 model for simulating regional groundwater flow and subsidence in the Gulf Coast Aquifer.



4

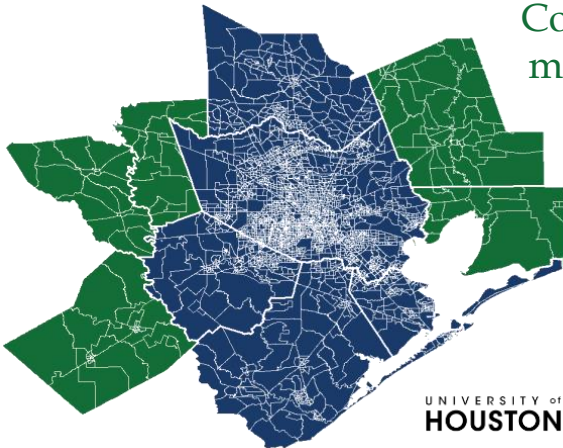
## Evaluate Regulatory Scenarios

Evaluate the performance of the HGSD and FBSD regulatory plans and consider refinements to the regulatory plan framework to accommodate future growth, alternative water supplies, and the most recent aquifer science.

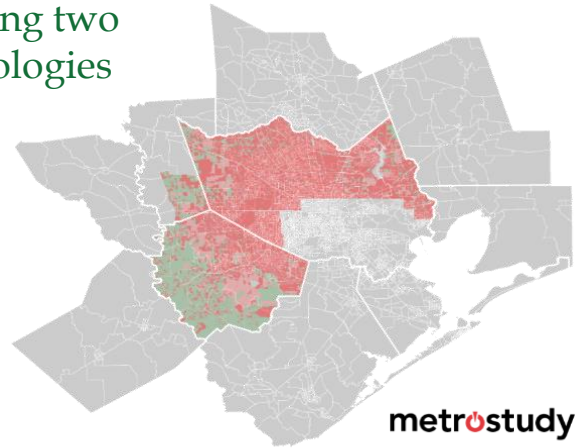


# POPULATION PROJECTIONS

Combining two methodologies

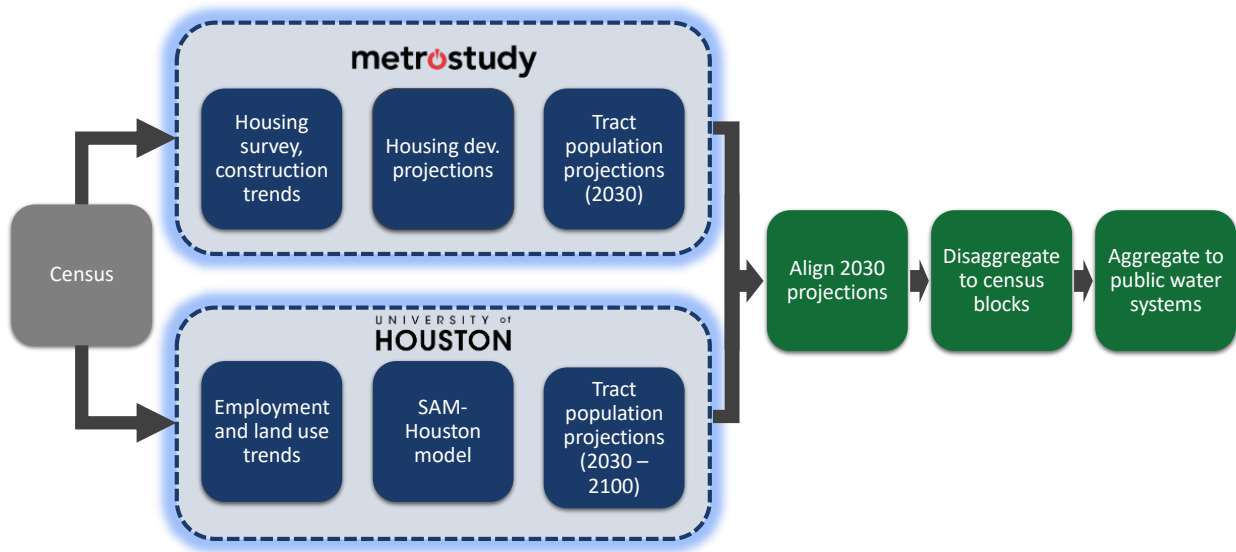


Small Area Model Houston (SAM-Houston)  
Long-range, wide-area projections



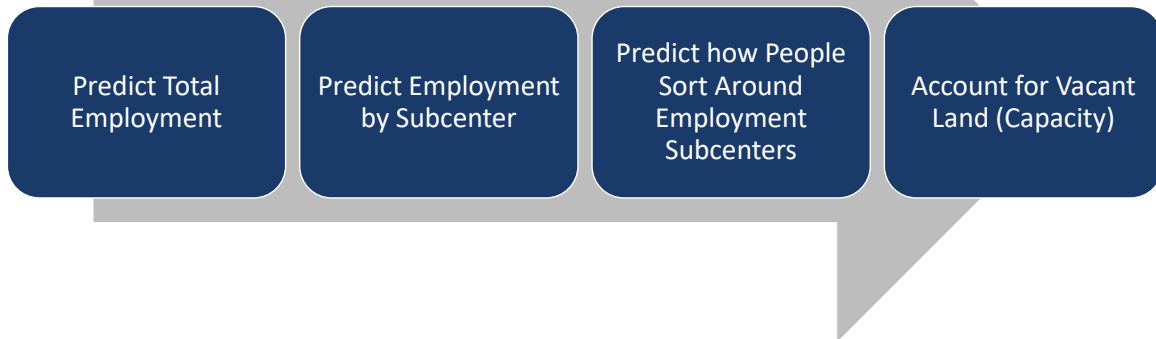
Projected Development Methodology  
Short-range, detailed projections

# PROJECTED POPULATION



# PROJECTED POPULATION

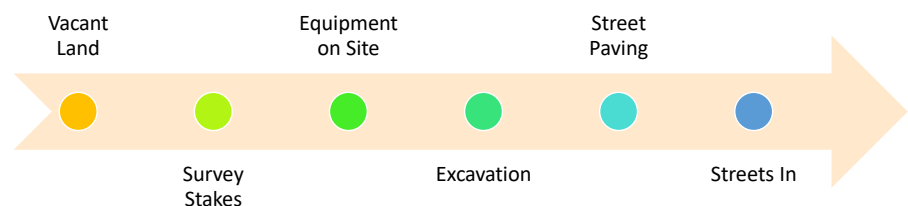
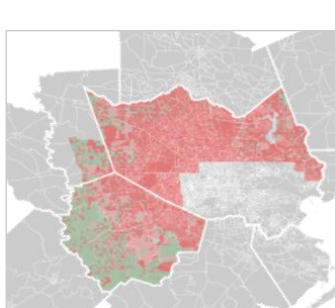
## *UH SAM-Houston Model Approach*



# PROJECTED POPULATION

## • Metrostudy Projected Development Methodology

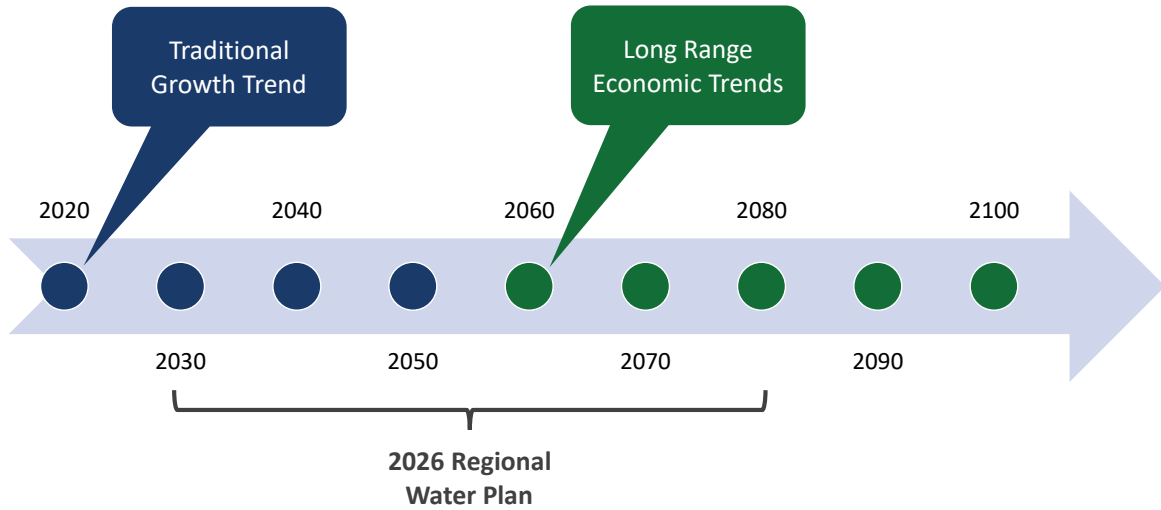
### • Land/lot development



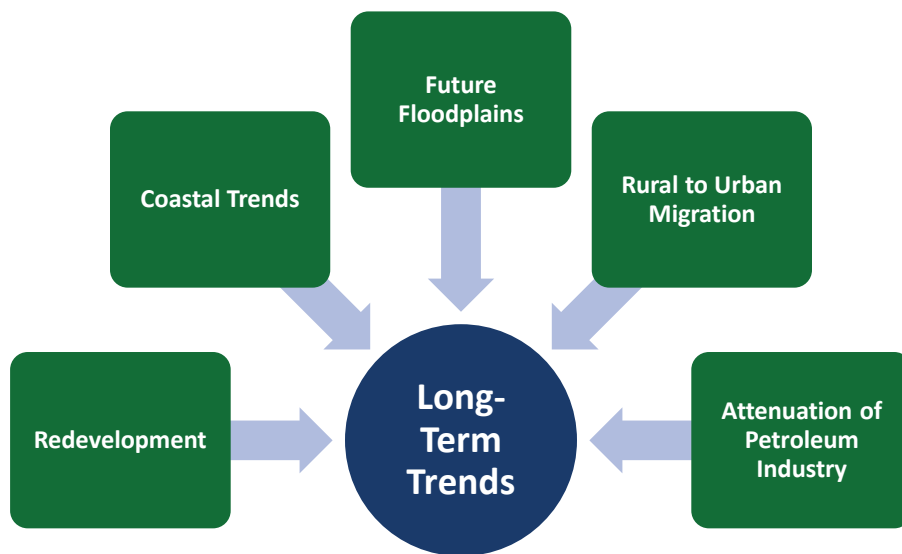
### • New home development



## TRENDS



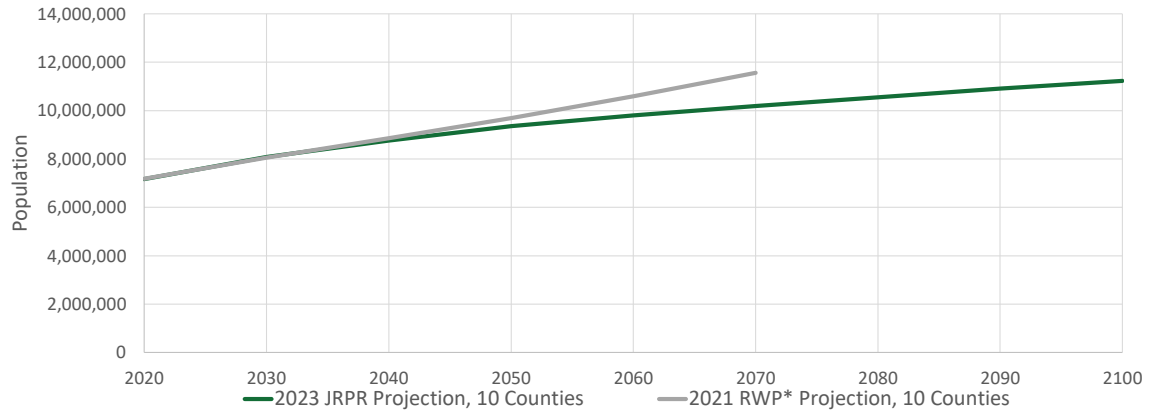
## POPULATION PROJECTIONS





# POPULATION PROJECTIONS

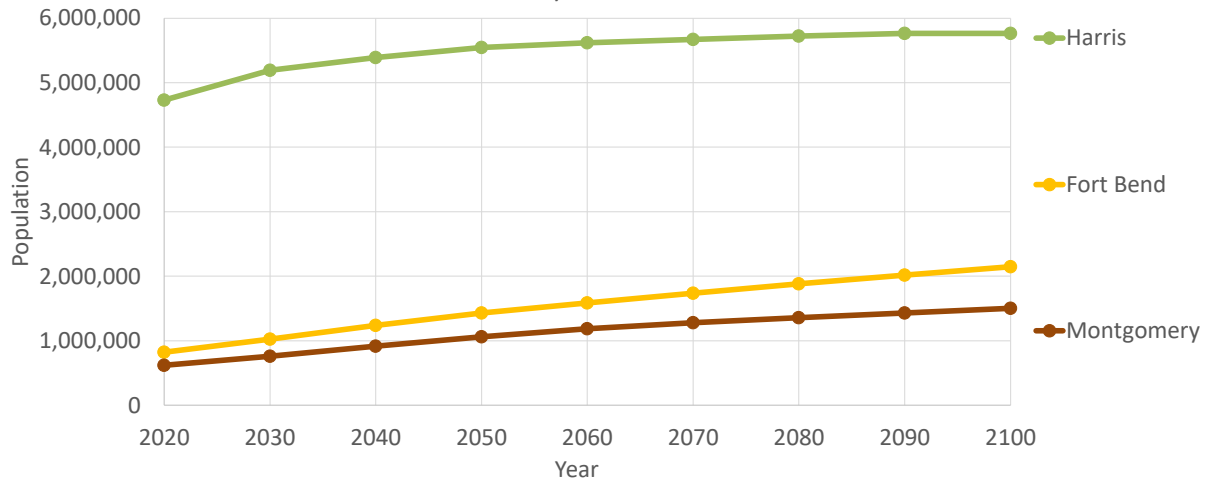
Comparison to Previous Projections



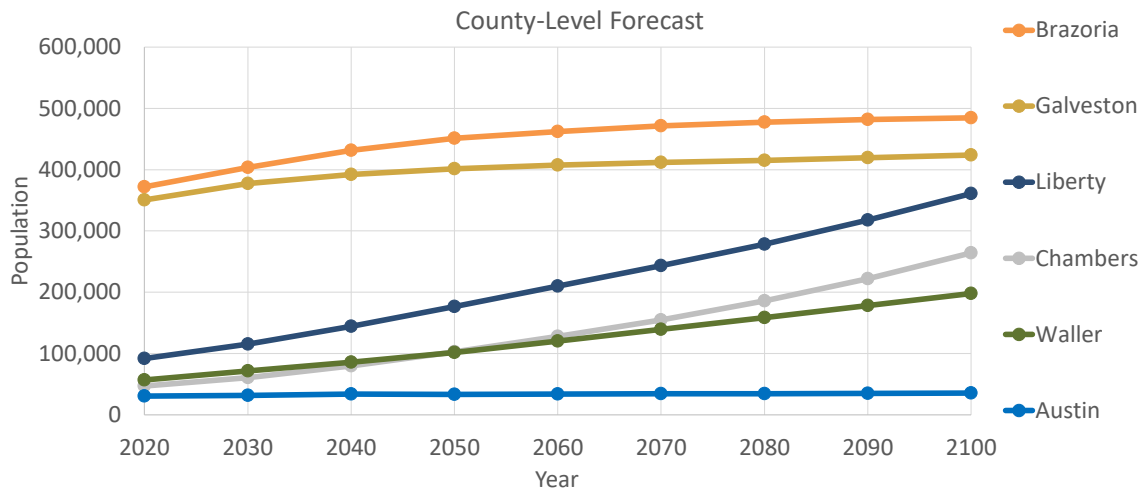
*\*2021 RWP and 2016 RWP used projections developed in 2013 RGUP for Brazoria, Harris, Galveston, Montgomery, and Fort Bend Counties, with only slight modifications (<0.01%).*

# POPULATION PROJECTIONS

County-Level Forecast



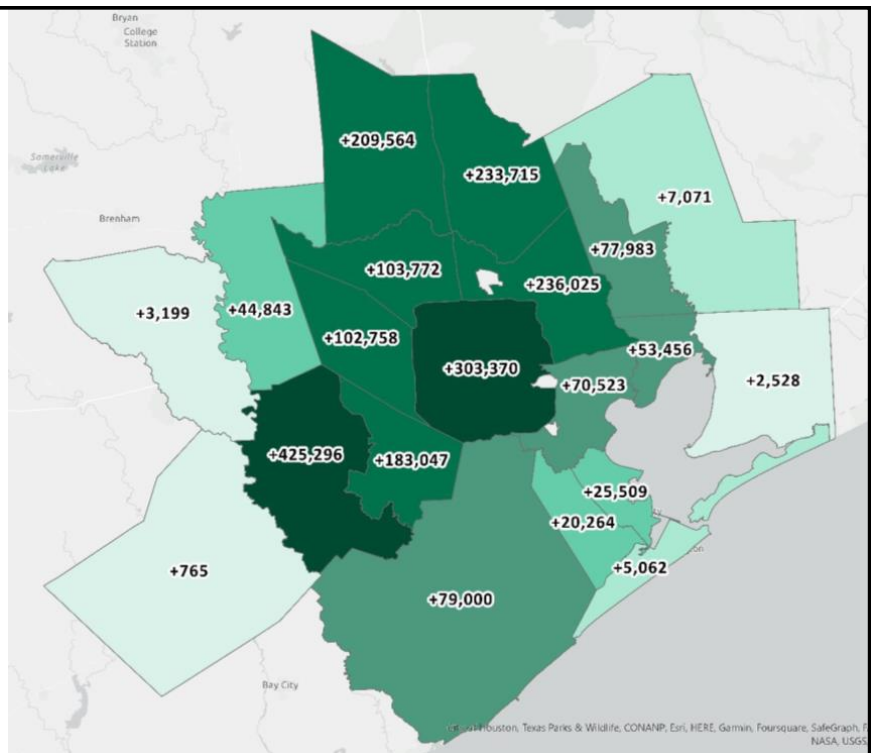
# POPULATION PROJECTIONS



20

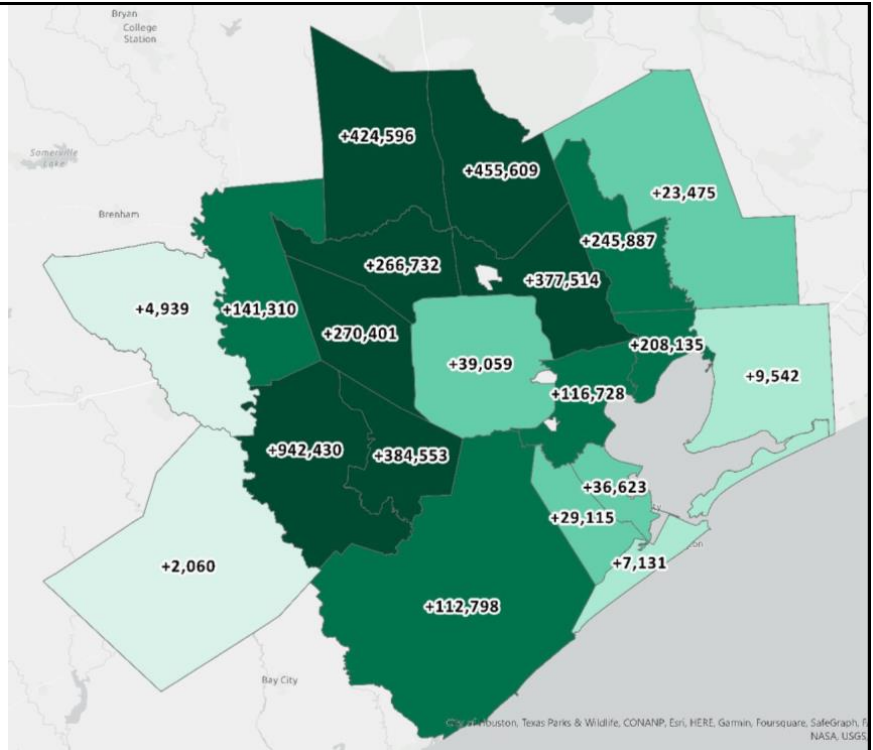
## POPULATION GROWTH FORECAST 2020 TO 2050

Magnitude of growth in population



# POPULATION GROWTH FORECAST 2020 TO 2100

Magnitude of growth  
in population



## QUESTIONS AND ANSWERS





## Agenda Item 6c

Discuss request from BASF Corporation regarding consistency of proposed project with the Regional Water Plan (RWP) and consider taking action authorizing submittal of a letter from the RHWPG on consistency status.



## Agenda Item 6c Consistency Status

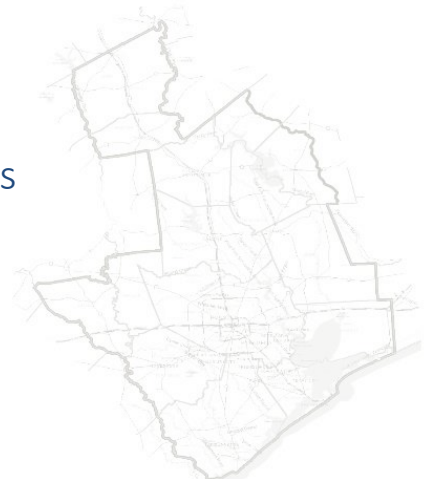
- BASF Corporation water right application
  - Interruptible Brazos River diversion
  - Bed and banks transfer
  - Modeling shows available ≈64% of years
- TCEQ requiring RWPG letter
- Must not be inconsistent with RWP

| Proposed Right Summary Information |   |
|------------------------------------|---|
| Type                               | Non-Firm (Interruptible)  |
| Basin                              | Brazos River Basin, San Jacinto-Brazos Coastal Basin                      |
| County                             | Brazoria, Falls, Limestone, McLennan, Robertson                           |
| Use Types                          | Industrial, Municipal   |
| Volume                             | Up to 9,000 ac-ft/yr  |
| Rate                               | 45 cfs (Lake Creek Reservoir)<br>630 cfs (Harris and Brazoria Reservoirs) |

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## Agenda Item 6c Consistency Status

- Based on project details, should not require:
  - RWP amendment
  - Formal RWP consistency waiver
- Plan review does not indicate consistency issues
  - Interruptible supply typically excluded from RWP
  - Leverages existing infrastructure
  - Not seeking TWDB funding



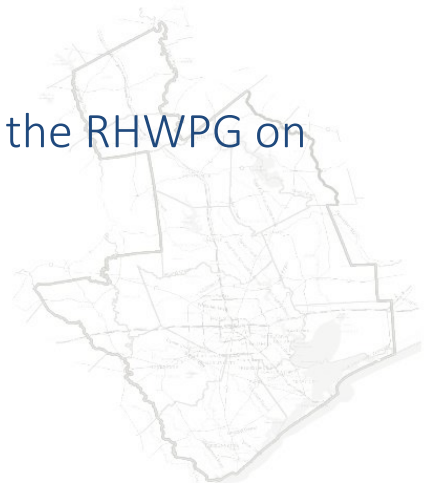
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## **Agenda Item 6c**

### **Consistency Status**

#### **Action:**

Approve the submittal of a letter from the RHWPG on consistency status.





## Agenda Item 7a

Receive update from the Consultant Team regarding non-population demand data and projections for the 2026 Region H RWP.



## Agenda Item 7a

### Non-Municipal Water Demand



#### Non-Population Demand

- W.R. Baker
- Carl Burch
- James Comin
- Robert Istre
- Glenn Lord

- Review underway
- Detailed look at background data
- Look for evidence of:
  - Data errors
  - New or missed facilities
  - Planned facilities
  - Closures
  - Major difference in long-term demand
- Revision requests due July 14, 2023



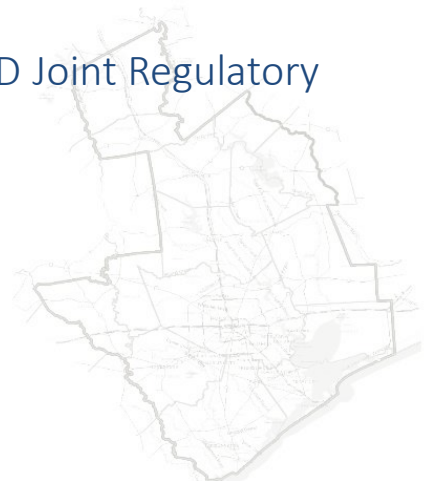
## Agenda Item 7b

Receive update from the Consultant Team regarding population demand data and projections for the 2026 Region H RWP.



## Agenda Item 7b Population Water Demand

- TWDB projections expected this month
- Potential population alignment with HGSD/FBSD Joint Regulatory Plan Review
  - Highly detailed local analysis
  - Enhanced spatial resolution
  - 9 Region H counties
- Ongoing coordination with RHWPG and TWDB



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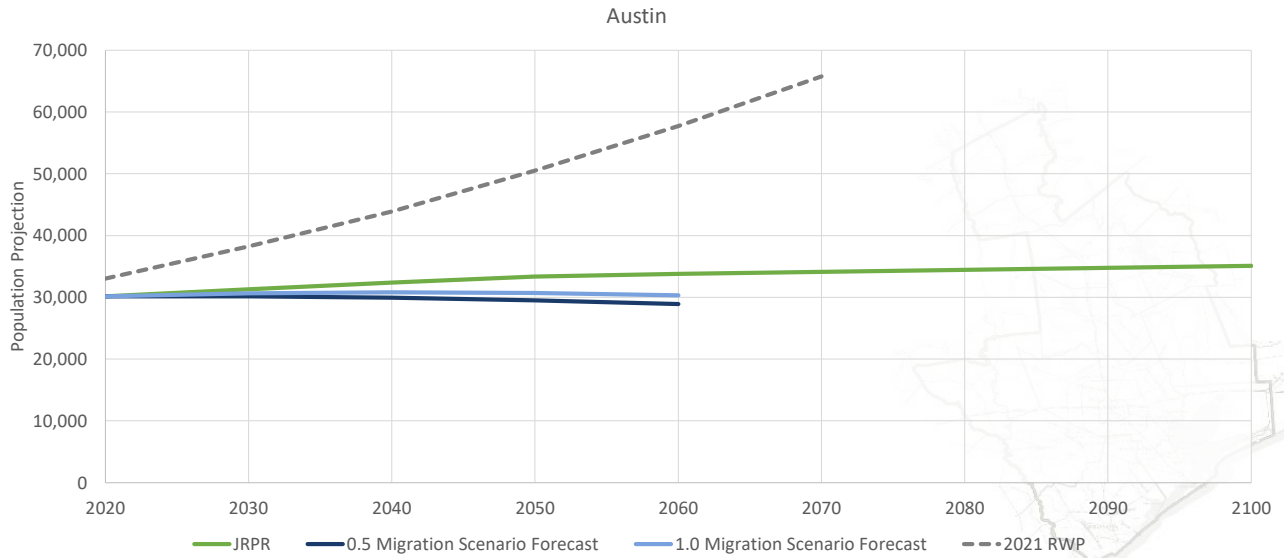
## Agenda Item 7b Population Water Demand

- General Trends
  - Robust but not unlimited urban core growth
  - Suburban expansion
  - Development of employment subcenters
  - Transportation infrastructure impacts
- Comparison to other projections varies by county

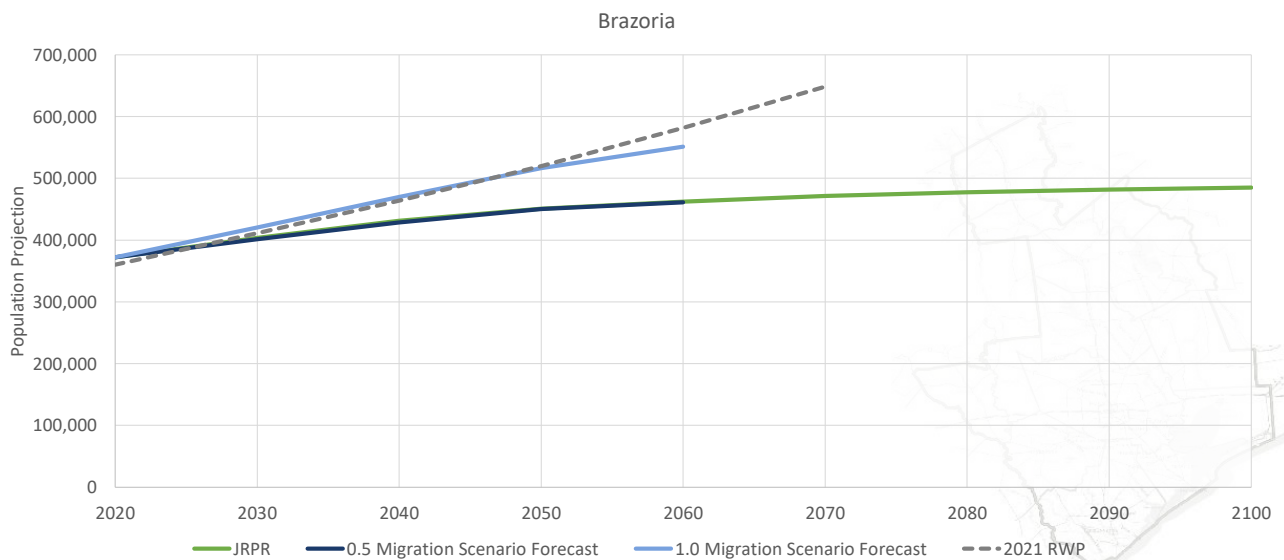


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## Agenda Item 7b Population Water Demand

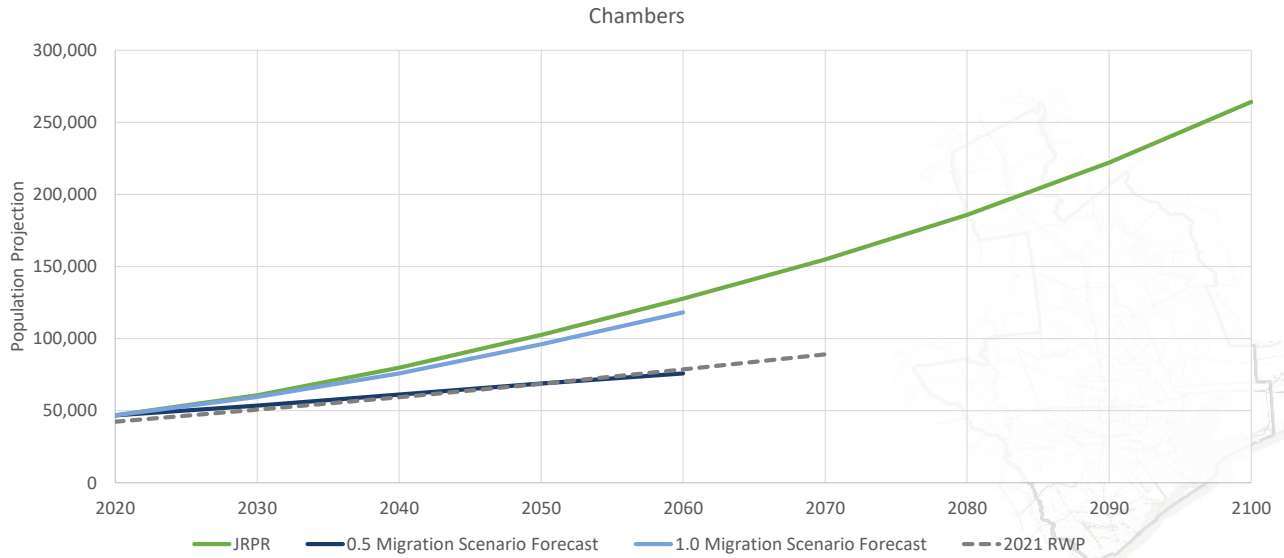


## Agenda Item 7b Population Water Demand

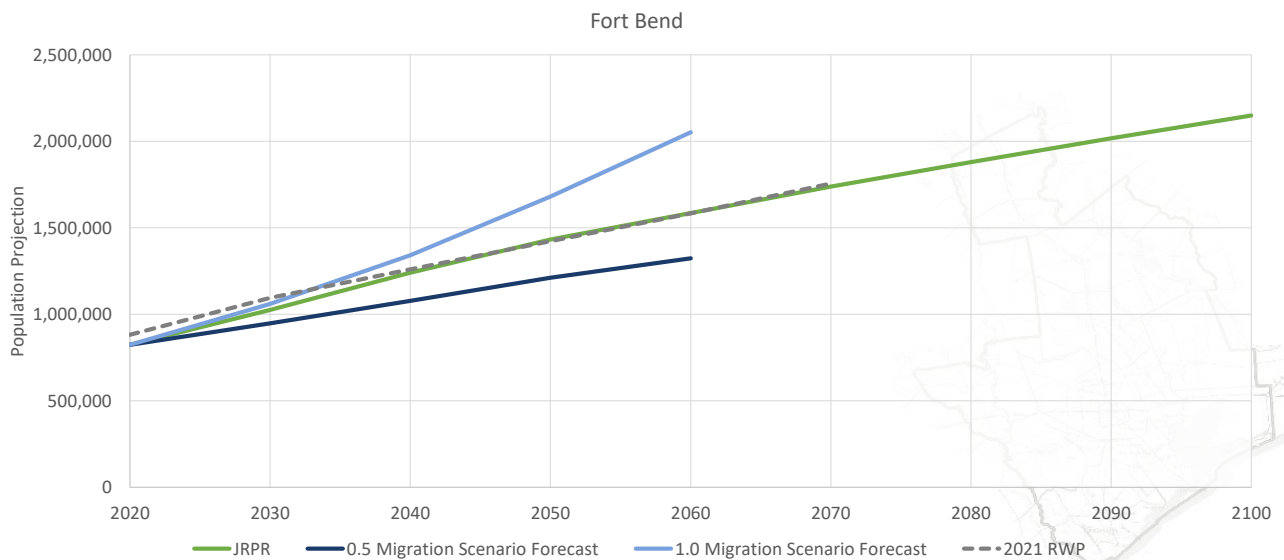




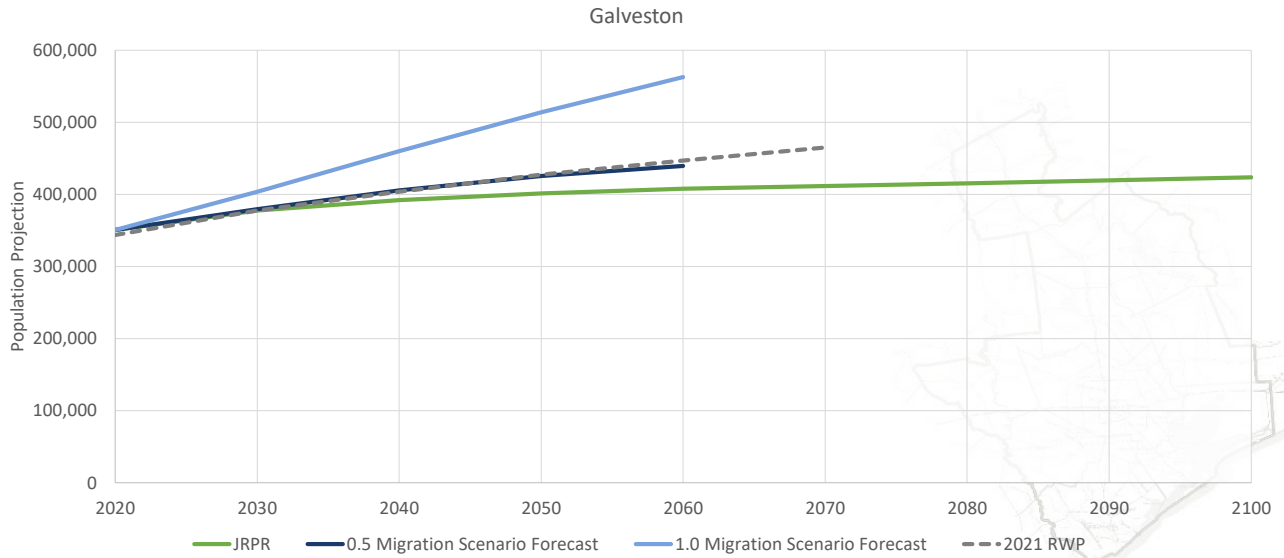
## Agenda Item 7b Population Water Demand



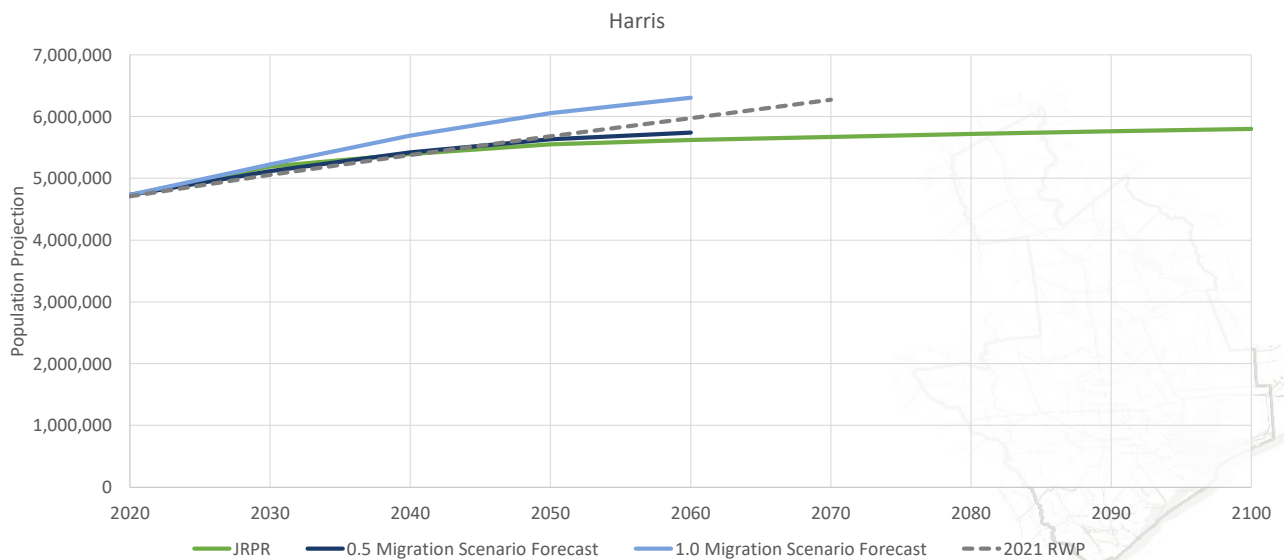
## Agenda Item 7b Population Water Demand



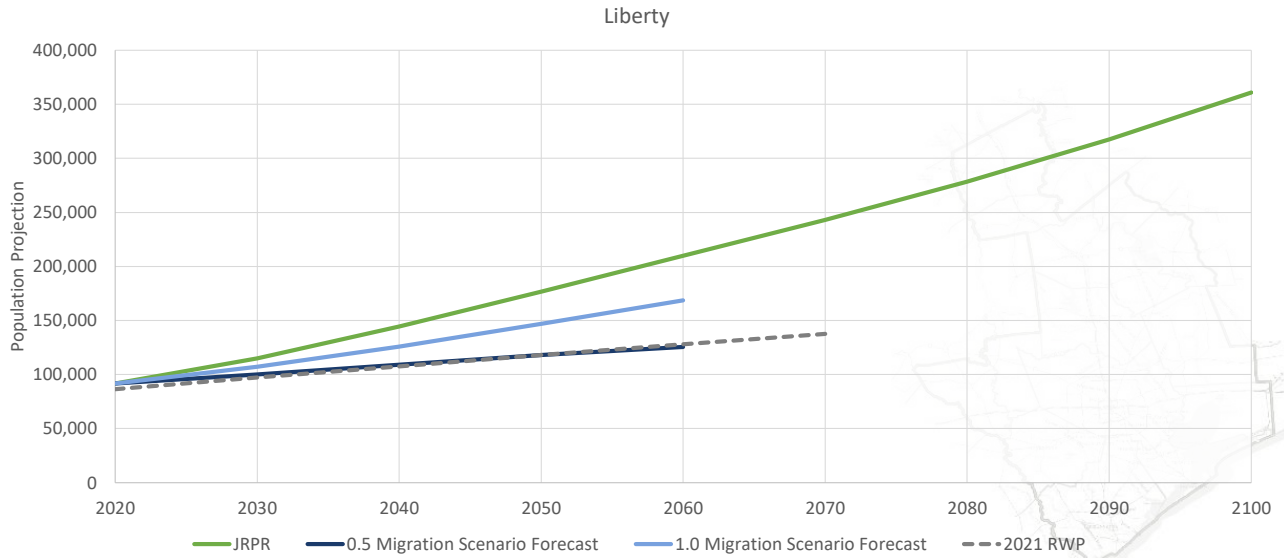
## Agenda Item 7b Population Water Demand



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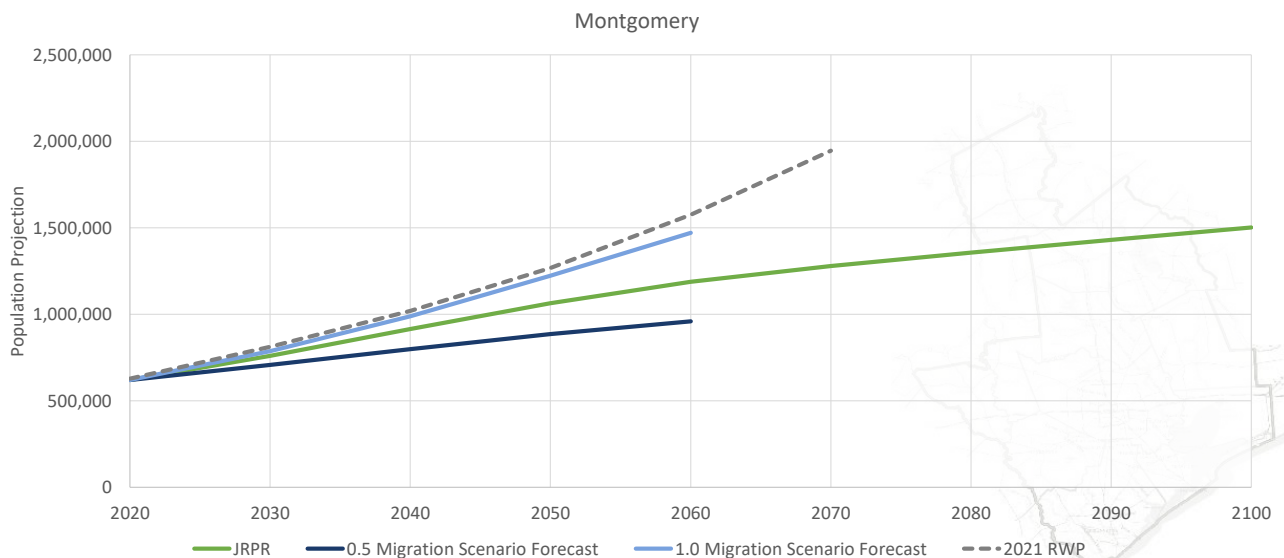


## Agenda Item 7b Population Water Demand



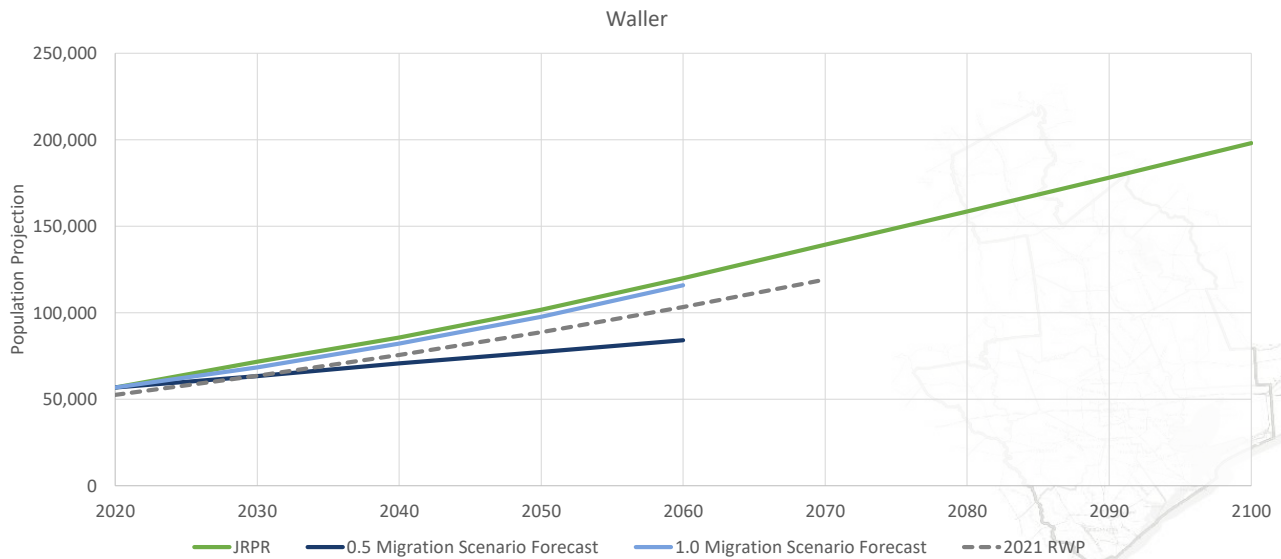
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## Agenda Item 7b Population Water Demand



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## Agenda Item 7b Population Water Demand



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## Agenda Item 7b Population Water Demand

### JRPR Projection Process

- Nine Region H counties
- Area-specific considerations
- Population disaggregated to block
- Average per-capita basis

### TWDB Projection Process

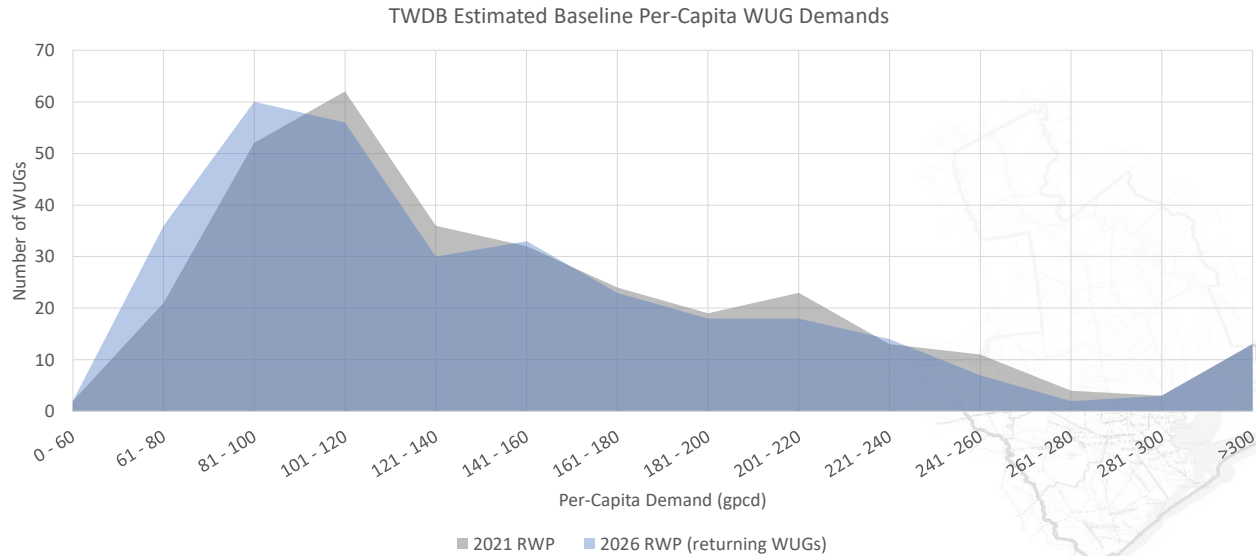
- All 15 Region H counties
- Consistent methodology for State
- Population disaggregated to WUG
- Peak per-capita basis

### Bringing It Together

- Aggregate JRPR populations to WUG boundaries
- Apply TWDB per-capita rates
- Utilize TWDB projections in remaining counties

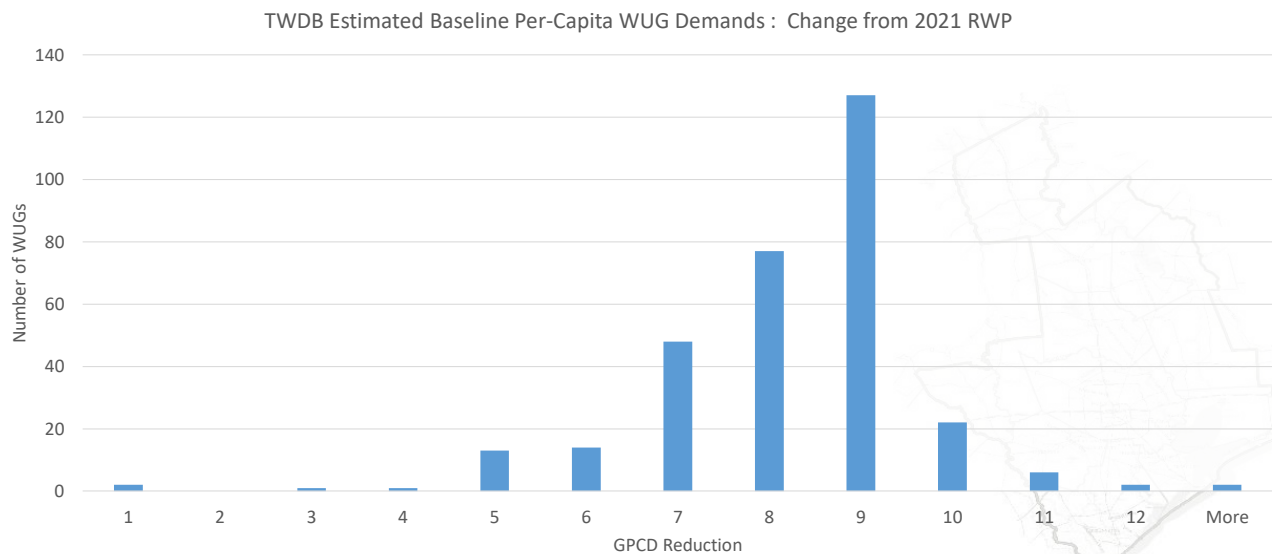
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## Agenda Item 7b Population Water Demand



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## Agenda Item 7b Population Water Demand



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## Agenda Item 7b

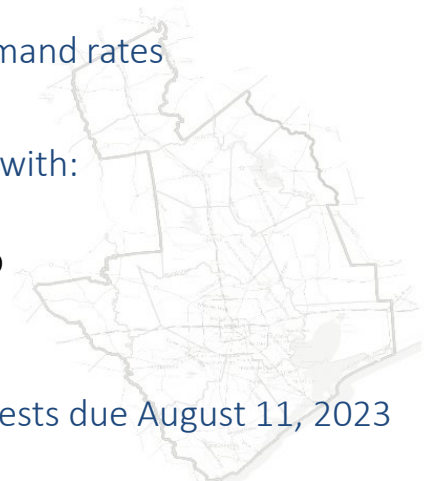
### Population Water Demand



#### Population Demand

- Robert Istre
- Ivan Langford
- Marvin Marcell (chair)
- Byron Ryder
- Mike Turco

- Detailed examination of projections
- Review of demand rates
- Coordination with:
  - TWDB
  - HGSD / FBSD
  - RWPG
- Revision requests due August 11, 2023



## Agenda Item 8a

Receive update regarding the schedule and milestones for the development of the 2026 Region H RWP.





## Agenda Item 8a 2026 RWP Schedule



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

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## Agenda Item 8a 2026 RWP Schedule

| Date    | Scheduled Events/Tasks                                       |
|---------|--|
| 02/2023 | RWPG Meeting   |
| 02/2023 | Draft Population and Municipal demand projections released   |
| 05/2023 | RWPG Meeting   |
| 07/2023 | Non-municipal adjustment requests due to TWDB                |
| 08/2023 | RWPG Meeting   |
| 08/2023 | Municipal projection review concludes / requests due to TWDB |
| 10/2023 | TWDB adoption of projections                                 |
| 03/2024 | Technical Memorandum due to TWDB                             |

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## Agenda Item 8b

Receive update from liaisons to other groups.



# Agenda Item 8b

## Liaison Updates

|              |              |              |              |
|--------------|--------------|--------------|--------------|
| Region C     | Brazos G     | Region 6     | Region 8     |
| Kevin Ward   | Zach Holland | Brandon Wade | Glenn Lord   |
| IPC / Chairs | GMA 12       | GMA 14       | Other        |
| Mark Evans   | David Bailey | Gary Ashmore | RWPG Members |



## Agenda Item 8c

Receive report regarding recent and upcoming activities related to communications and outreach efforts on behalf of the RHWPG.





## Agenda Item 8c Community Outreach

- Looking for opportunities for external outreach
- Support materials available for
  - Stakeholder visits
  - Public meetings
  - Legislative outreach

