

REGION H

Water Planning Group

SURFACE WATER SUPPLY COMMITTEE MEETING MATERIALS

March 28, 2018

**San Jacinto River Authority
Woodlands Office**

**Region H Water Planning Group
Surface Water Supply Committee
9:30 AM Wednesday
March 28, 2018
San Jacinto River Authority Woodlands Division Office
2436 Sawdust Road, The Woodlands, Texas 77380**

AGENDA

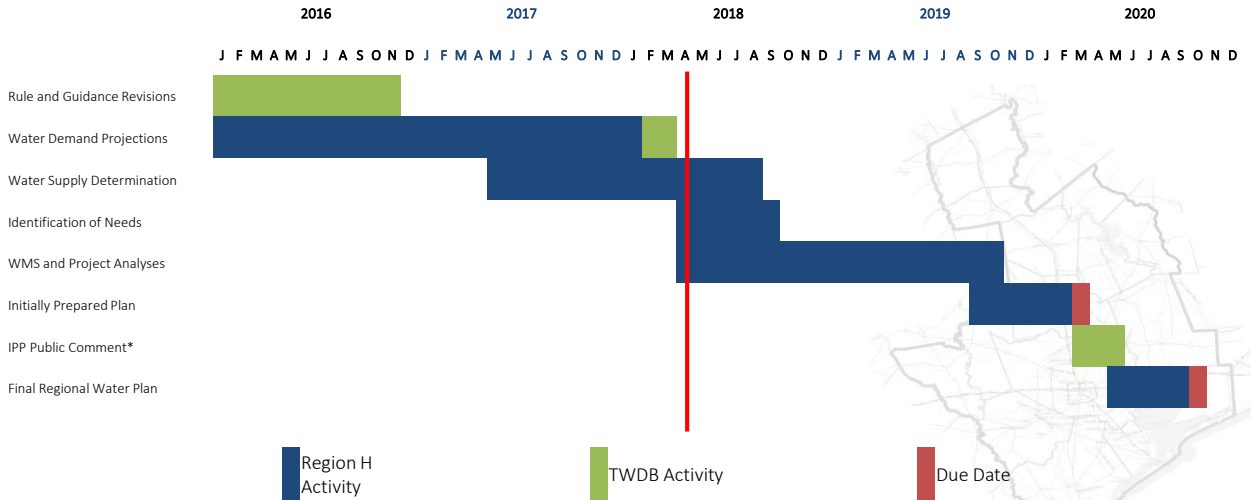
1. Introductions.
2. **Receive public comments on specific issues related to agenda items 3 through 7.** (Public comments limited to 3 minutes per speaker)
3. Discuss Committee activities and schedule.
4. Receive presentation on and discuss TWDB process and requirements for evaluation of surface water supplies.
5. Receive presentation on and discuss surface water supply estimates for use in development of the 2021 Region H Regional Water Plan.
6. Discuss anticipated requests for exceptions to TWDB surface water modeling requirements and consider making recommendations to the Region H Water Planning Group.
7. Receive presentation on and discuss reuse supply estimates for use in development of the 2021 Region H Regional Water Plan.
8. **Receive public comments.** (Public comments limited to 3 minutes per speaker)
9. 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 3

Discuss Committee activities and schedule.

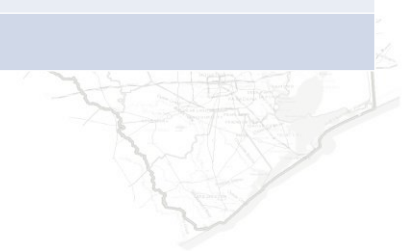
Agenda Item 3 Committee Activities and Schedule



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

Agenda Item 3 Committee Activities and Schedule

Date	Scheduled Events/Tasks
03/2018	Surface Water Supply Committee Meeting
04/2018	Region H WPG Meeting
09/2018	DUE DATE: Technical Memorandum
03/2020	DUE DATE: Initially Prepared Plan
10/2020	DUE DATE: FINAL RWP



Agenda Item 3

Committee Activities and Schedule

In Progress

- Discussion of sources and methods
- Discussion of exception requests

In Near Future

- Recommendations to RWPG

Moving Forward

- Detailed supply review
- Additional recommendations

Agenda Item 4

Receive presentation on and discuss TWDB process and requirements for evaluation of surface water supplies.

Agenda Item 4 Evaluation Process

- Similar to last cycle
- Specific requirements
 - Reservoirs
 - Run of River
 - Local Supplies
- Increased definition
- Similar to Region H viewpoint
- NO free pass on small changes



Agenda Item 4 Evaluation Process



- TCEQ Water Availability Model (WAM) Run 3
- Existing permanent water rights and flow requirements
- Priority order
- Historical hydrology
- Full authorized diversions
- No return flows (usually)
- Original storage

Agenda Item 4 Evaluation Process

Reservoir

- Firm yield
- Sedimentation
 - Reservoir >5,000 ac-ft
 - No variance required
- Evaluate individually
- Listed by reservoir or system



Agenda Item 4 Evaluation Process

Run-of-River

- Minimum annual diversion
- Sedimentation optional
 - Region H excludes
 - Conservative assumption
- Evaluate in bulk
- Listed by county and basin



Agenda Item 4 Evaluation Process

Municipal Sole Source

- Minimum monthly diversion
- Evaluate individually
- Aggregated with other run-of-river



Agenda Item 4 Evaluation Process

Local Supplies

- Firm yield
- Non-permit supply
 - Agriculture
 - Mining
- Evaluate individually
- Aggregated by county and basin
- Region H excludes – not enough data

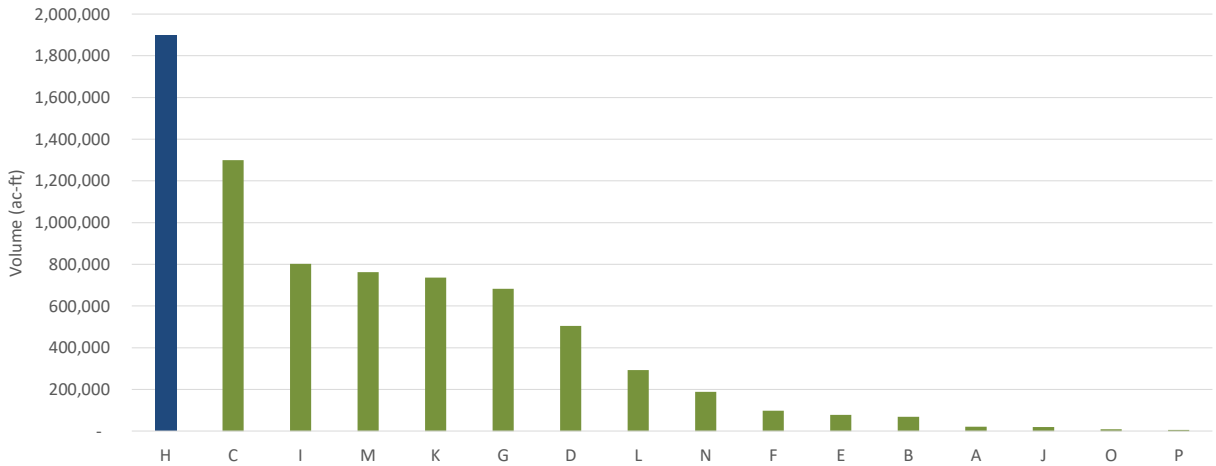


Agenda Item 5

Receive presentation on and discuss surface water supply estimates for use in development of the 2021 Region H Regional Water Plan.

Agenda Item 5 Surface Water Supply Estimates

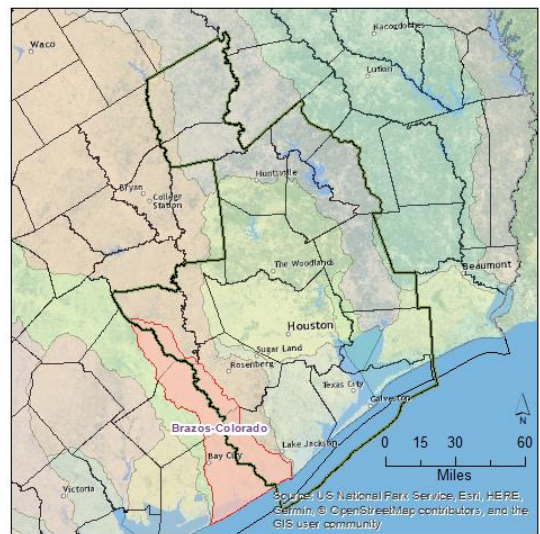
2016 RWP Existing WUG Surface Water Supply



Agenda Item 5 Surface Water Supply Estimates

- Brazos-Colorado (ROR)
 - Industrial
 - ConocoPhillips and Hilcorp

Source	County	Draft Est. (ac-ft)	2016 RWP (ac-ft)
Brazos – Colorado ROR	Brazoria	3,322	3,211
TOTAL		3,322	3,211



Source: U.S. National Park Service, Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community.

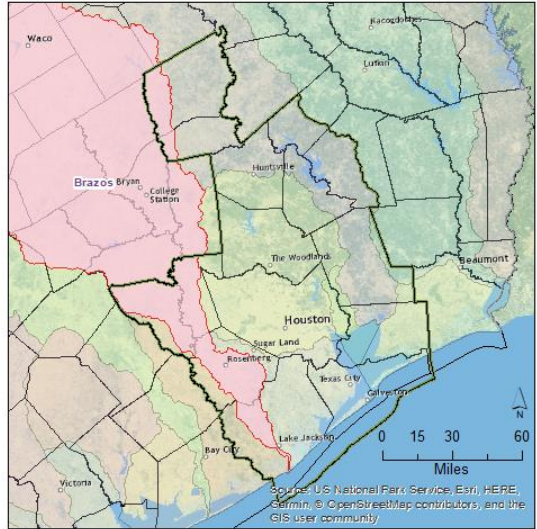
Agenda Item 5

Surface Water Supply Estimates

- Brazos (ROR)
 - Range of use
 - Dow, GCWA, NRG, etc.
 - Included addl. conservative assumptions for 2016 RWP

Source	County	Draft Est. (ac-ft)	2016 RWP (ac-ft)*
Brazos ROR	Brazoria	TBD	167,759
Brazos ROR	Fort Bend	TBD	296,430
Brazos ROR	Waller	TBD	61
TOTAL		TBD	464,250

*Modeled Year 2020 values. RWP excluded some supplies by rightholder request.



Agenda Item 5

Surface Water Supply Estimates

- San Jacinto – Brazos
 - Range of use
 - GCWA, COSL
 - Irrigation rights

Source	County	Draft Est. (ac-ft)	2016 RWP (ac-ft)
San Jacinto-Brazos ROR	Brazoria	TBD	32,599
San Jacinto-Brazos ROR	Fort Bend	TBD	5,803
San Jacinto-Brazos ROR	Galveston	TBD	36
San Jacinto-Brazos ROR	Harris	TBD	388
TOTAL		TBD	38,826



Agenda Item 5 Surface Water Supply Estimates

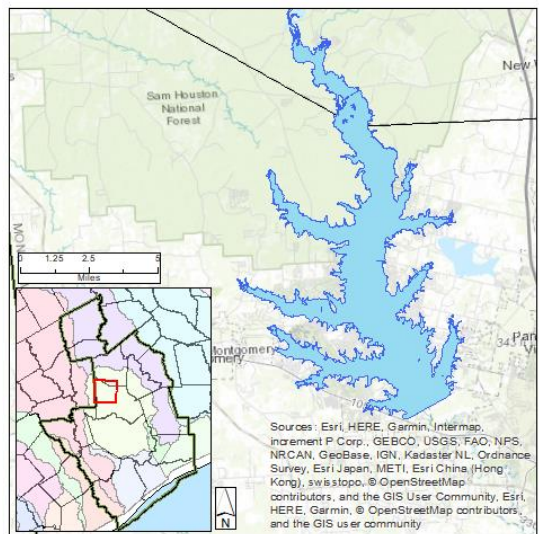
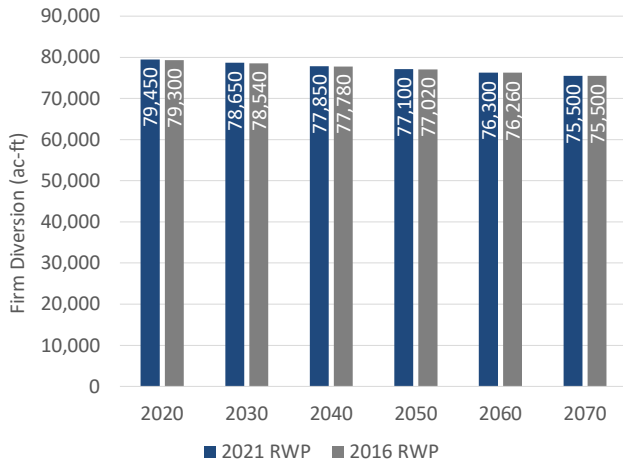
- San Jacinto (ROR)
 - Range of use
 - COH and SJRA
 - Small irrigation rights

Source	County	Draft Est. (ac-ft)	2016 RWP (ac-ft)
San Jacinto ROR	Harris	12,477	12,511
San Jacinto ROR	Liberty	9	0
San Jacinto ROR	Montgomery	141	141
TOTAL		12,627	12,652



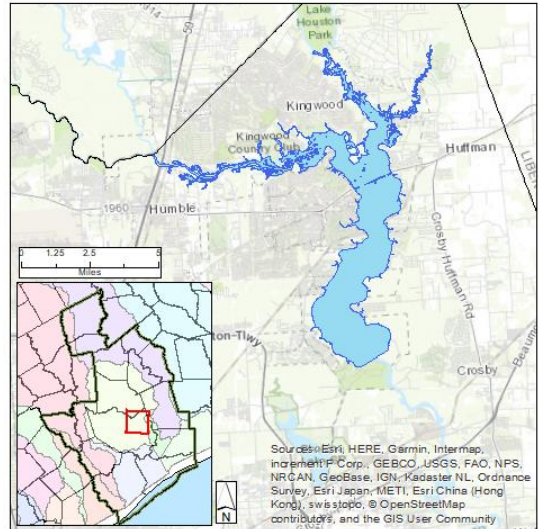
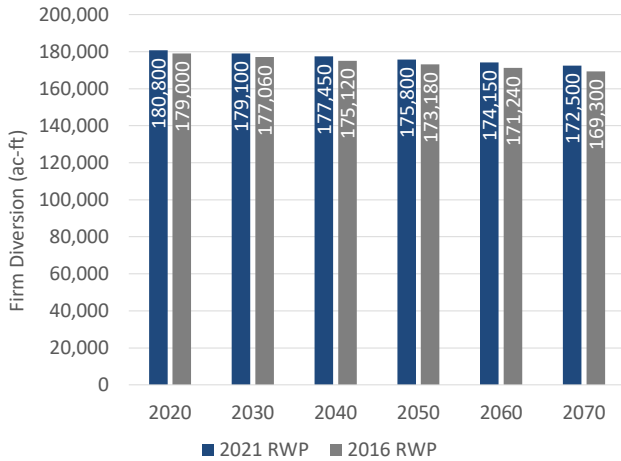
Agenda Item 5 Surface Water Supply Estimates

- Lake Conroe



Agenda Item 5 Surface Water Supply Estimates

■ Lake Houston



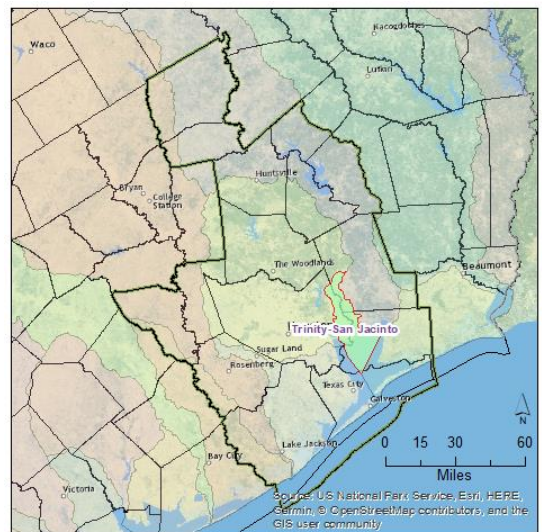
Agenda Item 5 Surface Water Supply Estimates

■ Trinity – San Jacinto

- Region H is ROR only
- Predominantly irrigation
- Multi-county

Source	County	Draft Est. (ac-ft)	2016 RWP (ac-ft)*
Trinity-San Jacinto ROR	Chambers	1,213	1,213
Trinity-San Jacinto ROR	Harris	2,420	2,198
Trinity-San Jacinto ROR	Liberty	1,904	1,905
TOTAL		5,537	5,316

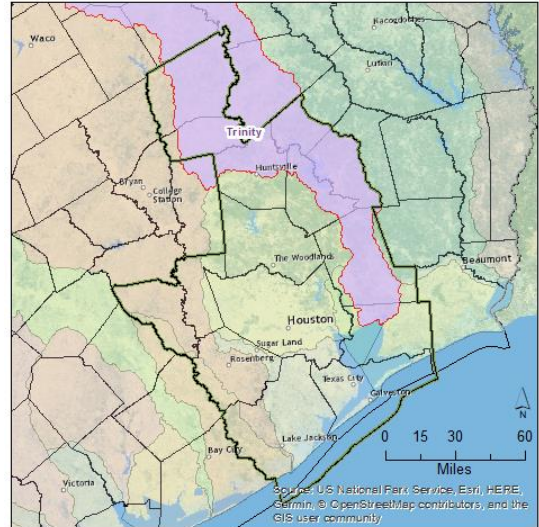
*Excludes 30,000 ac-ft of saline supply.



Agenda Item 5 Surface Water Supply Estimates

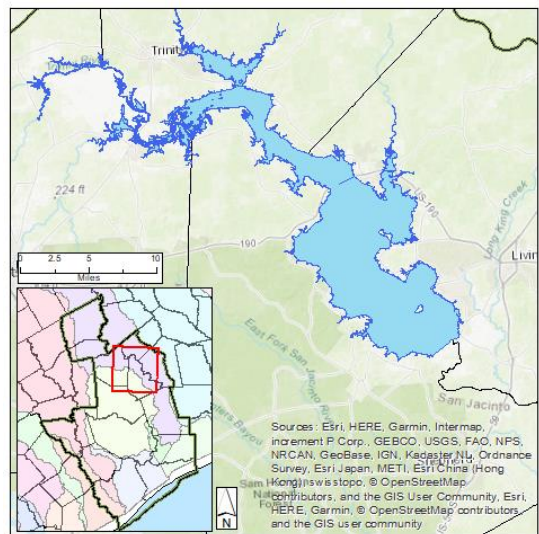
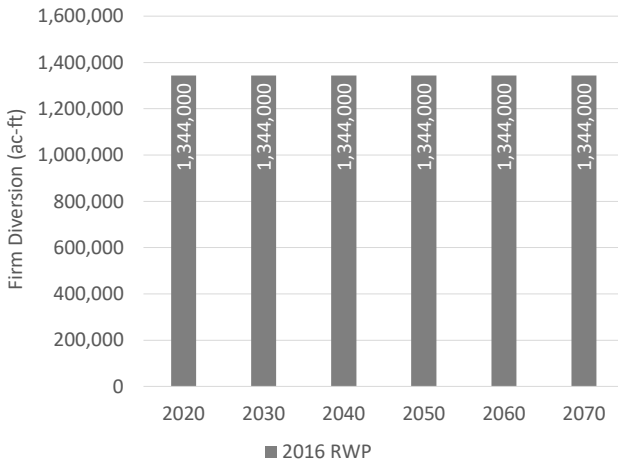
- Trinity (ROR)
 - Six counties
 - Range of use
 - CLCND, COH, SJRA, LNVA, and small rights

Source	County	Draft Est. (ac-ft)	2016 RWP (ac-ft)
Trinity ROR	Chambers	TBD	60,835
Trinity ROR	Leon	TBD	156
Trinity ROR	Liberty	TBD	51,077
Trinity ROR	Madison	TBD	169
Trinity ROR	Polk	TBD	26,510
Trinity ROR	Walker	TBD	439
TOTAL		TBD	139,186



Agenda Item 5 Surface Water Supply Estimates

- Lake Livingston



Agenda Item 5

Surface Water Supply Estimates

- Neches-Trinity
 - Predominantly irrigation
 - Chambers County

Source	County	Draft Est. (ac-ft)	2016 RWP (ac-ft)
Neches-Trinity ROR	Chambers	37,481	37,700
TOTAL		37,481	37,700

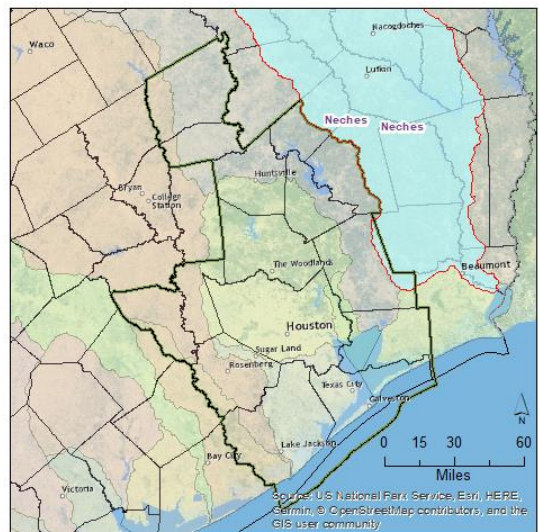


Agenda Item 5

Surface Water Supply Estimates

- Neches
 - Irrigation
 - Liberty County

Source	County	Draft Est. (ac-ft)	2016 RWP (ac-ft)
Neches ROR	Liberty	176	N/A
TOTAL		176	N/A



Agenda Item 6

Discuss anticipated requests for exceptions to TWDB surface water modeling requirements and consider making recommendations to the Region H Water Planning Group.

Agenda Item 6 Exception Requests

- Any change beyond major reservoir sedimentation
- Formal request
 - Description
 - Justification
 - Availability impacts
 - Date approved by RWPG
- Document in RWP Chapter 3
- Unmodified results documented



Agenda Item 6 Exception Requests

- **Addition of return flow**
- Reservoir operational yield
- Extended hydrology
- Reservoir safe yield
- **Subordination agreements**
- Alternative reservoir level
- Reservoir conditional reliability
- Rearranged annual hydrology
- **Actual diversion location**
- Simplified diversion location
- **Reservoir system operations**
- Hydropower generation
- **Updated water right**
- Special operational procedures
- Daily time-step
- DMP firm diversion
- Conjunctive use



Agenda Item 6 Exception Requests

Brazos-Colorado Coastal Basin

- Issues identified during review
- Omitted rights, swapped priority or volume
 - Region K rights
 - No impact to H volume
 - Limited data
 - Leave as modeled
- Legacy reservoir code



Agenda Item 6 Exception Requests

Brazos River Basin / San Jacinto-Brazos Coastal Basin

- Region H utilizes modified WAM from Region G.
 - Contractual relationships
 - Changes in recent years
- Model in progress – est. late April
 - System operation
 - Limited return flow
 - Diversion locations
 - Subordination agreements
 - Other adjustments



Agenda Item 6 Exception Requests

Trinity River Basin

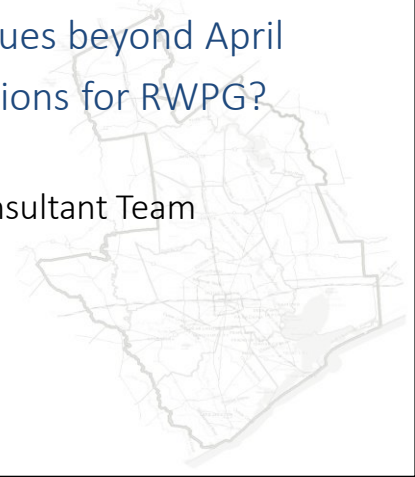
- Coordination with Region C
- Upstream return flows
 - Lake Livingston permit
 - Not used for ROR rights
- Diversion locations
- NTMWD amendments
- Evaluation in progress



Agenda Item 6 Exception Requests



- Approval at April RWPG meeting
- Process continues beyond April
- Recommendations for RWPG?
 - Basins
 - Authorize Consultant Team



Agenda Item 7

Receive presentation on and discuss reuse supply estimates for use in development of the 2021 Region H Regional Water Plan.

Agenda Item 7 Reuse



- Direct and indirect
- Distinct challenges
 - Generally not modeled
 - Not all reuse applicable
 - Challenge to find “firm” amount
- TWDB guidance on limits
 - Expected returns based on demand
 - Permit
 - Infrastructure

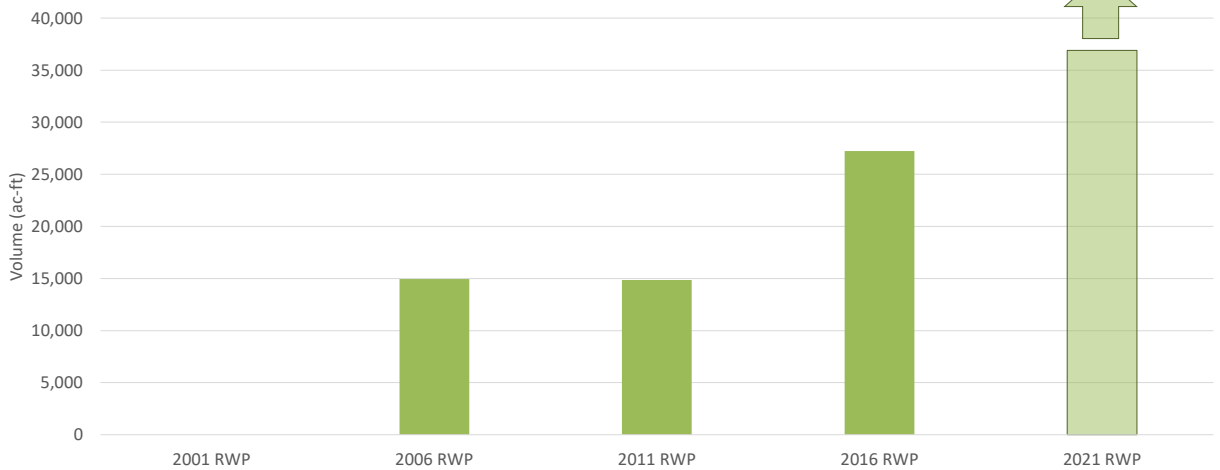
Agenda Item 7 Reuse

- Interesting source to evaluate
 - Limited data
 - Challenge to ID “firm”
- Cautious approach in last RWP
 - 10-year max with recent use
- Building on method for 2021 RWP
 - Default assumption of level
 - Coordinate with WUGs on capacity
 - New reuse
 - Avoid over/under represent WMS



Agenda Item 7 Reuse

Reuse Supplies in Region H RWP



Agenda Item 7 Reuse

■ New reuse sources

- Clear Lake City Water Authority
- Corinthian Point MUD 2
- Forest Hills MUD
- Fort Bend WCID 2
- Galveston County WCID 1
- Galveston County WCID 8
- Harris County MUD 119
- Meadows Place
- Montgomery County MUD 8
- NHCRWA
- Quail Valley
- Richmond
- WHCRWA
- Additional Manufacturing
- Additional Mining
- Expect more with continued coordination

