ACTION ITEMS
A. Officer Elections for 2019

Kevin Ward, Region C Chair
2019 Slate of Officers

- Nominating Committee
  - Kevin Ward
  - Tim Fisher
  - Steve Mundt
  - Jack Stevens
- Met on Feb 20, 2019
- Recommendation from Committee
- Vote for 2019 Slate of Officers
B. Consider Approval of Remaining Scope for Task 5A. Approve request to TWDB for Notice-to-proceed. Approve TRA to contract for all remaining funds.

Simone Kiel
Freese & Nichols, Inc.
Scope of Work for Strategies (Task 5A)

- Region C total budget: $1,095,005
  - Authorized $412,500 on July 12, 2018
  - Unauthorized budget: $682,505
- Authorized scope
  - Many of larger MWP strategies
- Request is to complete the water management strategy analysis and Chapter 5 of Plan
  - 400 WUGs with needs
Strategies to be Evaluated

- Infrastructure/ WTP Improvements
- Reuse
- New Groundwater Development
- Purchase water/Contracts
- New Surface Water
- Aquifer Storage and Recovery
- Regional Projects
- Dredging existing lakes
Scope of Work

- Over 150 strategies/projects
  - Describe, evaluate, cost
  - Coordinate with sponsor
  - Document
- Database entry
- Chapter 5: IPP and Final
- Budget: $682,505
C. Consider Approval of Task 8 Subcommittee Recommendation

Amy Kaarlela
Freese & Nichols, Inc.
Task 8 Update

• Key Task 8 Items
  • Recommendation for designation of river and stream segments of unique ecological value
  • Recommendation for unique sites for reservoir construction
  • Legislative and policy recommendations

• Subcommittee established and met on August 20, 2019 to address first two items
  • Recommendations of subcommittee to be considered as formal action today
D. Consider Approval of Letter to TWDB Requesting Specific Hydrologic Variances to Water Availability Models

Amy Kaarlela
Freese & Nichols, Inc.
Hydrologic Variances to the WAM – FUTURE Supplies

• Must use TCEQ Water Availability Models (WAM Run3) to determine surface water supplies

• TCEQ WAM originally used to determine if new water rights could be issued; adapted to regional planning

• Planning guidelines* allow for Variances to WAM Run3

* Exhibit C, First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development, Section 3.6.2, April 2017
Region C Requested Variances

• Trinity River WAM, Future Lake Tehuacana
  • Model at safe yield (TRWD)
  • With same modifications for Trinity WAM as previous variance request
• Red River WAM
  • Bois d’Arc Lake – Use updated Hydrology & project-specific environmental flows used by TCEQ in granting water right
  • Off-Channel Reservoir
Region C Requested Variances

- Sulphur River WAM
  - Use of Riverware software as used by Sulphur Basin Group in current studies with Corp of Engineers
  - Same WAM modifications used to determine Ralph Hall firm yield water right
  - New Drought of Record (extents WAM from 1996 to 2014)
Region C Requested Variances

- Variances require written approval from TWDB’s Exec Admin

- RCWPG must approve the variance request prior to sending to TWDB

- Asking RCWPG to approve, with ability for consultants to make minor edits if needed
E. Take Action to Request TWDB to perform the socio-economic impact analysis of not meeting identified water needs for inclusion in the 2021 Regional Water Plans

Amy Kaarlela
Freese & Nichols, Inc.
Socio-Economic Analysis

• Task/Chapter 4 Identifies Water Needs
• Must also show socio-economic impacts of NOT meeting these identified water needs
  • Example: “If no projects are developed to meet 2070 water need, projected 2070 employment will be reduced by 547,000 job and annual income and taxes will be reduced by $64 billion.”

• TWDB has a model to perform this analysis. Regions must officially request TWDB to perform the analysis
DISCUSSION ITEMS
A. Presentation on Progress of Bois d’Arc Lake

R.J. Muraski
North Texas Municipal Water District
Regional Service Through Unity... Meeting our Region’s Needs Today and Tomorrow

BOIS D’ARC LAKE

Region C Water Planning Group

February 25, 2019

R.J. Muraski, Assist Deputy Planning/CIP/Permitting

North Texas Municipal Water District
Agenda

- Existing and Planned Supplies
- Permitting
- Program Components
- Construction Underway
- Challenges/Risks
Existing:
• Lavon Lake
• Lake Texoma
• Lake Tawakoni
• Chapman Lake
• Reuse/Wetland

In Progress:
• Bois d’Arc Lake
BOIS D’ARC LAKE

- Decade+ of planning, permitting
- Surface Area: 16,641 acres
- Supply: Firm Yield of 108 MGD
- Average/Max Depth: 22/70 ft
- Lake Elevation: 534 ft mean sea level
- Owner & operator: NTMWD
- Cost Estimate: $1.6B
- Permitting:
  - TX Water Rights – received June 2015
  - USACE Section 404 – received Feb. 2018
- Construction began May 2018
- Water delivery expected in 2022

First major reservoir to be constructed in Texas in nearly 30 years
PLANNING AND PERMITTING TIMELINE

- **December 2006**: State Water Rights Permit Application
- **June 2008**: USACE Section 404 Permit Application
- **February 2015**: USACE Issues Draft Environmental Impact Statement
- **June 2015**: State Water Rights Permit Received – Anticipating 404 Permit in Jan 2016
- **July 2015**: USACE Requires HGM methodology for Mitigation – Delay in expected 404 permit
- **March 2017**: USACE Issues Revised Draft Environmental Impact Statement
- **November 2017**: USACE Issues Final Environmental Impact Statement
- **Feb 2018**: USACE Section 404 Permit Received
BOIS D’ARC LAKE PROGRAM COMPONENTS

Major Components include several projects; projects were separated by type of work/infrastructure:

- CMAR 1 – Dam and Reservoir Clearing/Terminal Storage Reservoir
- Program Component 2 – Full Service Provider Mitigation Project
- CMAR 3 – Leonard Water Treatment Plant and Pump Stations
- CMAR 4 – Roads and Bridges
- CMAR 5 – Raw Water and Treated Water pipelines
Bois d’Arc Lake: Key Components & Related Infrastructure

1. Dam and intake structure for reservoir
2. 35-mile raw water pipeline
3. $50 million road projects
4. Mitigation area (over 17,000 acres)
5. New water treatment plant, pump station, terminal storage reservoir
6. 25-mile treated water pipeline
CMAR 1 – DAM & TERMINAL STORAGE RESERVOIR (TSR)

Goal:
By December 2020:
- Begin impounding water
- Complete terminal storage reservoir at Leonard WTP

Scope:
• Dam and Clearing
• Intake Tower
• 210 MG (420 MG ultimate) terminal storage reservoir
• Bonham Dam Improvements

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<th>Date</th>
<th>Event Description</th>
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<td>April 2018</td>
<td>Dam Const. &amp; Clearing GMP</td>
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<td>May 2018</td>
<td>Mobilization to Dam Site</td>
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<tr>
<td>November 2018</td>
<td>TSR 60% Design completed</td>
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<tr>
<td>Q4 2020</td>
<td>Commence impoundment</td>
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<tr>
<td>Q1 2021</td>
<td>Dam Completion</td>
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BOIS D’ARC LAKE DAM AND RESERVOIR

Foundation Excavation for the Dam Footprint
August 2018

Rerouting Lower Bois d’Arc creek during excavation
October 2018

2-mile long, 90-ft tall dam, Clearing of Dam footprint 100%
**Intake Tower Slab Pour**
January 2019

**Excavating the Intake Tower Conduit**
January 2019

Slab = 1,100 cubic yards of concrete

Two 78-inch pipes from Intake Tower to Pump Station
Goal:
Replace trees, wetlands, streams, and wildlife habitat inundated by the reservoir

Scope:
• Conversion of Riverby Ranch to a mitigation area
• Turn-key approach – Full Service Provider (FSP)
• Current mitigation plan added;
  – Wetlands Reserve Property (WRP) to Riverby area – additional tree planting
  – Upstream Mitigation Area – tree planting in flood plain of Bois d’ Arc Creek

Status:
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<th>August, 2018</th>
<th>Notice to Proceed</th>
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<td>2018 – 2028+/-</td>
<td>Mitigation permit milestones</td>
</tr>
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ENVIRONMENTAL IMPROVEMENTS

- Environmental mitigation on more than 17,000 acres in two locations
  - Largest permittee-responsible ecological mitigation project in nation
  - Over 8,500 acres of wetland restoration and enhancement
  - Planting approx. 5 million trees
  - Restoring or enhancing over 3,200 acres of native grasslands; 2,600 acres of forests
  - Improving over 70 miles of local streams
CMAR 3 – WATER TREATMENT PLANT & PUMP STATIONS

Goal:
Complete and operational by First Quarter of 2022

Scope:
• Raw Water Pump Station (RWPS) at the dam (90 MGD – 236 MGD ultimate)
• 70 MGD Leonard Water Treatment Plant (LWTP) (280 MGD ultimate)
• High Service Pump Station (HSPS) at WTP site (90 MGD – 330 MGD ultimate)

Status:

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<td>RWPS</td>
<td>Board Action for GMP – November 2018</td>
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<tr>
<td>HSPS</td>
<td>60% Design completed</td>
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<tr>
<td>Q3-Q4 2018</td>
<td>Mobilization to site – Site Set up and preparation for Construction full mobilization</td>
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LEONARD WATER TREATMENT PLANT SITE AND RAW WATER PS

December 2018
Looking North

Excavating the Raw Water Pump Station
January 2019

Phase 1 = 210 million gallon terminal storage reservoir and 90 MGD high service pump station

9 pumps in a football field-sized building
Terminal Storage Reservoir
Phase 1 & 2 (2022)
210 MG

Terminal Storage Reservoir
Phase 3 & 4 (2029)
Add'l. 210 MG

WTP
Phase 1 (2021) – 70 MGD
Phase 2 (2026) – 140 MGD

WTP
Phase 3 (2030) – 210 MGD
Phase 4 (2034) – 280 MGD
Goal:
Before impoundment, complete the following
- FM 897 Improvements
- Fannin County Road improvements
- Boat ramps

Scope:
- FM 897
  - 5.1 miles of new 2-lane FM roadway
  - 1.5 miles of new 2-lane bridge
  - ROW generally 120’ wide; varies to 275’ in some locations
- County roads
  - Improvements at 9 locations
  - Bridge, culvert, and roadway embankment (3.8 miles)
  - Bridge/culvert demolition at 5 additional locations
FM 897 BRIDGE

Pouring Columns and Bent Caps
August 2018

First Set of Beams Placed
September 2018

1.3 mile long bridge
240 concrete columns when complete
Each beam=115 ft long, weighs 101,000 lbs
Goal:
Complete by early 2021

Scope:
Approximately 35 miles of 90-in raw water pipeline (RWPL) and ~25 miles of 84-in treated water pipeline (TWPL)

Status
• Design separated in five segments (A to E) of ~ 12-13 mi each
  – RWPL – 3 segments @ 90% Design completed. Procurement started on materials
  – TWPL – 2 segments @ 30% Design completed

• Coordination between CMAR and 5 design teams:
  Design standards, standard details, system surge and hydraulic analysis, survey/property documents, corrosion protection design, and fiber optic design
Raw water and Treated water pipelines – Site Map
PARTNERING WITH FANNIN COUNTY

**Goal:** Involve and Assist our County Partner

**LBCR Zoning Initiative**
- Protect water quality adjacent to the reservoir

**Local Business & Contractor Outreach**
- NTMWD hosted programs on 7/20 & 8/29 in Fannin County
- Approximately 180 businesses attended
- Focused on educating local businesses
PARTNERING WITH FANNIN COUNTY

Goal: Involve and Assist our County Partner

TPWD Fish Habitat Enhancement
- Construct brush piles
- TPWD provides nursery stock (ShareLunker Program)

Fannin County Road & Bridges
- Upgrade bridges to minimum TXDOT standards
- Reestablish roadway network
PARTNERING WITH FANNIN COUNTY

Goal: Involve and Assist our County Partner

Fannin County Electric Supply
- Close coordination to maintain power network
- Improve high voltage transmission power service
- Two Electrical substations
TIMELINE FOR PROJECTS

2003
Planning and Permitting Process Begins

FEBRUARY 2018
Army Corps of Engineers Issues 404E Permit and Record of Decision

MAY 2018
Dike and Reservoir Construction Begins

MAY 2018
Roadway/FM 897 Construction Begins

AUGUST 2018
Environmental Mitigation Work Begins

NOVEMBER 2018
Leonard Water Treatment Plant Construction Begins

FALL 2020
Dike Substantially Complete

SUMMER 2020
Boat Ramps and Recreational Facilities Complete

SUMMER 2020
Roadway/FM 897 Construction Complete

FALL 2019
Boat Ramps and Recreational Facilities Construction Begins

FALL 2019
Treated Water Pipeline Construction Begins

SPRING 2019
Raw Water Pipeline Construction Begins

FALL 2020
Reservoir Improvement Begins

SUMMER 2021
Raw Water and Treated Water Pipelines Complete

FALL 2021
Leonard Water Treatment Plant Complete

SPRING 2022
Water Delivery Scheduled to Begin

SPRING 2023
Environmental Mitigation Complete/Full Monitoring & Maintenance Begins

BOIS D'ARC LAKE
BOIS D’ARC LAKE BENEFITS

• Supply water to the District’s members/customers including Bonham
  • Possibility to serve other Fannin County communities

• Major recreation amenity
  • 3 Public Boat Ramps
  • TPWD Establishing Fisheries

• Supports economic growth
  • $509 million economic activity in Fannin Co. during construction
  • $166 million annually economic activity after completion
BOIS D’ARC LAKE

WEATHER RISKS ARE REAL!
B. Presentation on large Water Management Strategies (Task 5A)

Simone Kiel
Freese and Nichols, Inc.
Water Management Strategies

• For entities with needs, RWPG rules require:
  • Conservation
  • Drought management
  • Regionalization
  • Brackish groundwater desalination
  • Aquifer, storage and recovery
  • Seawater desalination
Aquifer, Storage and Recovery

- Generic strategy
  - 50,000 ac-ft/yr
- Assumptions:
  - Excess surface water or reuse
  - Dedicated WTP
  - Trinity aquifer
  - 50 miles from source
  - Facilities sized for high peak (operate only part of the year)
Evaluation - Aquifer, Storage and Recovery

• Capital cost - $2.4 billion
• Unit cost - $15.20 per 1,000 gal
• Technical uncertainties
  • Receiving aquifer
  • Availability of excess flows
  • Infrastructure operation/maintenance
• Large-scale ASR is not recommended
Gulf of Mexico Desalination

- Generic strategy
  - 200,000 ac-ft/yr

- Assumptions:
  - Intake near Baytown, TX
  - Seawater desalination WTP near intake
  - 300 miles to Metroplex
Evaluation – Gulf of Mexico Desalination

- Capital cost - $9 billion
- Unit cost - $16.06 per 1,000 gal
- Evaluation
  - Unlimited source water
  - 50% waste discharge
  - High development and operational costs
  - Technical and environmental concerns for large-scale project
- Seawater desalination is not recommended
C. Seek legislative recommendations from RCWPG

Amy Kaarlela
Freese and Nichols, Inc.
Legislative Recommendations

• Task/Chapter 8 allows RCWPG to make recommendations:
  • Legislative
  • Administrative
  • Regulatory Rules

• Recap of recommendations from 2016 Region C Water Plan
Planning Process Recommendations from 2016 Region C Plan

• Encourage formation of a Working Group on Stream Segments of Unique Ecological Value

• Support legislative and state agency findings regarding water use evaluation

• Allow waivers of plan amendments for entities with small strategies

• Coordination between TWDB and TCEQ to determine the appropriate data and tools for use in regional water planning and in permitting

• TWDB’s recognition of Region C’s designation of the Sulphur River Basin Authority as a wholesale water provider in the regional water planning process
TCEQ Policy & Water Rights
Recommendations from 2016 Region C Plan

• Legislature should remove some of the unnecessary barriers to interbasin transfers

• Support recent changes to water code that exempt certain water right permits from cancellation for non-use
State Funding & Water Supply Program
Recommendations from 2016 Region C Plan

• Continue and expand State Funding for TWDB SWIFT, WIF, and other loans and programs State Participation Program
• Expand eligibility for SWIFT funding to include consistency with adopted regional water plans
• More State Funding for water conservation efforts
• State Funding for reservoir site acquisition
• Consider alternative financing arrangements for large projects
• Adequate funding of Groundwater Conservation Districts
• Funding for NRCS structures as a form of watershed protection
Water Reuse and Desalination
Recommendations from 2016 Region C Plan

• Support research to advance reuse and desalination
• Funding assistance for desalination and water reuse projects
State and Federal Programs Recommendations from 2016 Region C Plan

• Continued and increased State support for efforts to develop water supplies from Oklahoma
• Oversight of Groundwater Conservation District rule making
• Revise Federal Section 316(b) regulations on power plant cooling water
• Reallocation of storage in and maintenance of Federal reservoirs
• Funding of long-range Federal water supply projects
Select Water Planning Bills Currently in Texas 86th Legislature

- **HB 100** - Relating to information on projected changes in weather and water availability in strategic plans of certain state agencies
- **HJR 11** – Proposing a constitutional amendment providing for the issuance of additional general obligation bonds by the Texas Water Development (not to exceed $200M)
- **SB900** – Relating to state and local planning for and responses to drought
- **HB 245** - Relating to a requirement to make certain environmental and water use permit applications available online
- Multiple bills introduced by Lyle Larson: development/regulation of fresh and brackish groundwater; new Interregional Planning Council
D. Prioritization – Uniform Standards Committee Report

Sarah Backhouse
TWDB
Uniform Standards Stakeholder Committee Meeting Update

- House Bill 4 (83rd) created State Water Implementation Fund for Texas (SWIFT)
- Directed TWDB to create a stakeholder committee (SHC) of RWPG Chairs or designees
- The SHC must establish **uniform standards** to be used by RWPGs in prioritizing projects
- Uniform standards must be approved by the TWDB
- TWDB is directed to consult the SHC from time to time regarding regional prioritization of projects
Uniform Standards Stakeholder Committee Meeting Update

- **Sept. 2013** – SHC established
- **Nov. 2013** – SHC adopted standards
- **Dec. 2013** – Board approved standards
- **By June (draft) and Sept. (final) 2014** – RWPGs applied standards to 2011 RWPs
- **Jan. 2015** - SHC reconvened to review standards for application to 2016 RWPs (due 12/1/2015 with final RWPs)
- **2017** - TWDB recommended that the SHC meet at least once per planning cycle to review the uniform standards
- **Nov. 2018** – SHC reconvened for 2021 RWPs
Uniform Standards Stakeholder Committee Meeting Update

Regional-level prioritization per Texas Water Code Section 15.436:

1) The decade of need
2) The feasibility of the project
3) The viability of the project
4) The sustainability of the project
5) The cost-effectiveness of the project

Criteria and scoring further defined in the Uniform Standards
Uniform Standards Stakeholder Committee Meeting Update

• The final product is a prioritized list of recommended water management strategy projects for each RWPG

• The regional prioritization of each project is incorporated into the state prioritization based on its relative percentile within the overall ranking of all other projects within that region
By consensus, changes included:

- Standards 1A (*decade online*) and 1B (*decade funded*) were updated to reflect current planning horizon decades (i.e. 2020-2070).

- Standard 2A (*supporting data for water availability*) language that relates to the allocation of 5 points was revised as: “Field tests, and measurements, or project specific studies confirm sufficient quantities of water.”

- Standard 2D (*sponsor request in writing*) was revised to remove the reference to the 2016 Plan.
Uniform Standards Stakeholder Committee Meeting Update

- The scoring system was not changed
- The TWDB Guidance Document will be updated to reflect SHC changes and made available for optional use
- The TWDB will consider approving the revised Uniform Standards at the February 25th Board meeting
- The SHC intends to reconvene during the first year of the 6th cycle of regional water planning
Two-stage SWIFT project prioritization process:

1. Regional Prioritization
2. State Prioritization

Regional Prioritization
- All recommended Water Management Strategy Projects
- Uniform Standards

Accompanies regional water plans every 5 years

State Prioritization
- Large population
- Diverse populations
- Regionalization
- Meet high percent need
- Local contribution
- Financial capacity
- Emergency need
- Readiness to proceed
- Effect on water conservation
- Regional Prioritization

Only projects with Abridged Apps

SWIFT Prioritization Cycle
Uniform Standards Stakeholder Committee Meeting Update


• SWIFT state-level prioritization point system: [http://www.twdb.texas.gov/financial/programs/swift/doc/Prioritization_Summary.pdf](http://www.twdb.texas.gov/financial/programs/swift/doc/Prioritization_Summary.pdf)
Questions?

Financial_Assistance@twdb.texas.gov
E. TWDB Comments on Technical Memorandum

Amy Kaarlela
Freese & Nichols, Inc.
TWDB Comments

• In IPP, clarify how sedimentation in reservoirs was calculated
• In IPP, include North Lake and Valley Lake
• Confirm Benbrook Lake elevation; typo in comments of WAM input file; calculations were correct
• Clarify yield of TRWD West Fork System (stand-alone vs system yield; firm vs safe yield)
• In IPP, clarify assumptions about continued dredging of White Rock Lake
• Clarify firm yield of Lake Moss (modeled yield>water right)
• More recent WAM base file available from TCEQ
F. Chapters 1, 2 & 3 provided for comment

Dario Sanchez, CPY
Abigail Gardner, FNI
Chapter 1 Updated Sections

• Description of Region C
• Economic Activity
• Current Water Uses & Demand Centers
• Current Sources of Water Supply
• Water Providers
• Agricultural and Natural Resources in Region C
Chapter 1 Notable Changes

Changes from 2016 RCWP to 2021 RCWP

• Population of Region C increased by approximately 8%
• Manufacturing is now 2nd largest water user instead of Mining (1st being Municipal)
• Less over pumping of Groundwater Aquifers
• New definition of WWP
• Removed entities that used to qualify as WWPs:
  • Argyle WSC
  • Cross Timbers WSC
  • East Cedar Creek FWSD
  • Lake Cities MUA
  • West Cedar Creek MUD
Chapter 2

- Regional Population:
  - 2020 – 7.6 million
  - 2070 – 14.7 million
  - 92% increase from 2020 to 2070

- Regional Dry-Year Demand
  - 1.73 million acre-ft/year
  - 2.90 million acre-ft/year
  - 67% increase from 2020 to 2070
Chapter 3

Reservoirs in Region C
Surface Water and Groundwater Imports
Groundwater
Livestock and Other Local Supply
Reuse
Run-of-River Irrigation

2016 Supplies

2020 2030 2040 2050 2060 2070

2,500,000
2,000,000
1,500,000
1,000,000
500,000

## Chapter 3

### Summary

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<td><strong>2021 Region C Total</strong></td>
<td><strong>2,356,737</strong></td>
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<td><strong>2016 Region C Total</strong></td>
<td><strong>2,316,273</strong></td>
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<td>Percent Difference</td>
<td>1.75%</td>
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<td>0.81%</td>
<td>-0.17%</td>
<td>-0.84%</td>
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F. Conservation Task 5B

Brian McDonald
Alan Plummer Associates
Information Presented Today

• Scope of work
• Approach to developing conservation water management strategies
• Evaluation of TWDB Municipal Water Conservation Planning Tool
Scope of Work

• Identify, evaluate, and recommend water conservation WMSs
  • Consider water conservation practices and drought management measures for each identified water need.
  • Consider strategies to address issues revealed by water loss audits.
  • Include:
    • Water conservation practices for each group that is required to develop a Water Conservation Plan.
    • Drought management measures for each group that is required to develop a Drought Contingency Plan.
    • A water conservation strategy that will result in the highest practicable level of water conservation and efficiency achievable for each WUG/WWP that is to obtain water from a proposed interbasin transfer under Texas Water Code 11.085.
    • If a water conservation strategy and/or a drought management strategy is not recommended to meet a need, document the reason.
In the 2016 Region C Water Plan, the following Water Conservation Package was recommended for each municipal WUG:

- Low flow plumbing fixture rules
- Efficient residential clothes washer standards
- Efficient residential dishwasher standards
- Enhanced public and school education
- Price elasticity/rate structure impacts
- Enhanced water loss control program
- Time-of-day irrigation restrictions
- Water waste prohibition
Approach to Conservation Water Management Strategies for 2021 Region C Water Plan

• Gather and review current information on existing and planned conservation practices
  • Surveys
  • Meetings with WWPs/WUGs
  • Water conservation plan and drought contingency plans (due May 2019)
  • Statewide Water Conservation Quantification Project (August 2017)
• Consider changes to the Water Conservation
Approach to Conservation Water Management Strategies for 2021 Region C Water Plan

• Develop a Water Conservation Package that is
  • Practicable for implementation in Region C
  • Projected to provide long-term water savings
  • Projected to provide reasonable water savings at reasonable cost for a wide range of WUGs
Approach to Conservation Water Management Strategies for 2021 Region C Water Plan

• Recommend Water Conservation Package for municipal WUGs that meet the following criteria:
  • Projected total water demand exceeds existing water supply
  • Projected total water demand is greater than 140 gpcd
  • Measure is not already implemented
  • Measure is applicable to WUG
  • A sponsor can be identified to implement the measure
• Present recommendations to the RCWPG in September
TWDB Municipal Water Conservation Planning Tool

• The Conservation Tool was developed to:
  • Assist water utilities with their water conservation planning and reporting
  • Assist regional water planning groups with development of their municipal conservation water management strategies
TWDB Municipal Water Conservation Planning Tool

- Spreadsheet-based tool with
  - Pre-loaded 2020-2070 projections for some 96 Region C WUGs (population, connections, water demand, water loss)
  - 16 pre-loaded water conservation measures with savings and cost assumptions for SF, MF, and ICI implementation
  - Space for up to 20 user-defined water conservation measures
- Can be used to evaluate water savings and costs for a single WUG for different combinations of water conservation measures
Issues with use of the Tool for regional water planning:

- Tool for single WUG only
  - Would have to develop 288 individual files and link them together
- Preloaded 2020-2070 water demand is not the regional planning water demand projections
  - Would require some programming to load the proper data
- Preloaded water conservation measures don’t necessarily match the Region C conservation water management strategies (TBD)
  - Preloaded strategies focus on rebates, direct install programs, and audits
  - Region C strategies have focused on education, utility improvements, and ordinances – would have to load these into tool
Region C Water Conservation Planning Tool

- Series of linked spreadsheet files:
  - Used to evaluate water savings and costs for 2006, 2011, and 2016 Region C Water Plans
  - One file for each conservation water management strategy – all 288 Region C municipal WUGs evaluated
  - One file for each data type
  - Far fewer linked files than TWDB Tool
- Regional water planning data easily updated
- Conservation water management strategies recommended in previous Region C Water Plans already in place
Recommendation for Evaluation of Conservation Water Management Strategies

- Continue to use the Region C Water Conservation Planning Tool
  - Does the same thing as the TWDB’s Tool
  - More easily scalable to evaluations for 288 Region C municipal WUGs
- When reasonable, use water savings and cost assumptions from the TWDB Tool
Other Discussion

A. Updates from the Chair
B. Report from Regional Liaisons
C. Report from Texas Water Development Board
Technical Memorandums

TWDB received the Technical Memorandums due September 10, 2018; these documents are posted on a TWDB webpage:


TWDB has provided informal comments to the RWPG based on TWDB’s Water Science and Conservation staff review of the technical memorandum data and methodologies.
Data Visualization Map

TWDB has developed a map that links directly to the DB22 database and displays WUG needs and surpluses across the state. This map was provided to all RWPG Chairs, Political Subdivisions, and technical consultants for consideration.

One potential use of the map is to spatially identify WUGs with needs in a reasonable proximity that regional facilities may be worth considering.

*Regional projects are required to be considered by statute.*
Regional Data Visualization Map - PRELIMINARY WORKING DATA SUBJECT TO CHANGE

These maps reflect preliminary working data that is changing, and has not been finalized by the Regional Water Planning Groups (RWPG) or approved by the Texas Water Development Board. This is a working tool primarily for use by RWPG consultants and is not meant for general widespread consumption. Working data displayed in this tool may change frequently.

Description:
These maps show preliminary working water supply needs (potential shortages) and surpluses at the split Water User Group (WUG) level. WUG needs and surpluses are calculated by deducting the projected WUG demand associated with the WUG split from its total existing WUG supply for each planning decade. Values presented are in acre-feet per year.

Click to activate the maps:
Municipal WUG Needs/Surplus' Map
Non-Municipal WUG Needs/Surplus' Map
All WUG Needs/Surplus' Map

Data may take a few seconds to load, and will be displayed for Region's following the submission of their Technical Memorandum.

How to use the maps:
Please be aware that points may appear stacked on top of each other. The 'Next Feature' arrow button at the top of a popup can be used to view the information related to points that are stacked beneath the top points.
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**How to use the maps:**
Please be aware that points may appear stacked on top of each other. The 'Next Feature' arrow button at the top of a popup can be used to view the information related to points that are stacked beneath the top points.
WMS evaluation tools available

**Uniform Costing Tool:** In lieu of more detailed and accurate project specific costs, this tool is required to be used in accordance with [Exhibit C, Section 5.5.1](http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/current_docs.asp).

**Conservation Planning Tool:** An optional tool for use by RWPGs. One intended use of this tool is to assist in calculating the potential volumes from municipal water conservation strategies.

**Drought Management Impact Estimating Tool:** This tool is intended to provide water user group specific values of water per acre-feet and assist in estimating the economic impact of the water volumes reduced by implementation of drought management strategies. This is anticipated to be available in the Fall of 2019 and will be optional for RWPGs.

This Uniform Costing and Conservation Planning tools are linked on our website: [http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/current_docs.asp](http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/current_docs.asp)
Additional information

RWPGs are required to consider recommendations from the Drought Preparedness Council.

The Council is in the process of developing recommendations for RWPGs to consider.

Reminder that the TWDB has a Regional Water Planning Educational Information Webpage:

Includes link to the new member page, planning related information sheets and guidance documents, and presentations.
Public Water System Viewer

The Viewer mapping application was developed to facilitate the collection of digital maps for retail water service areas of all community public water systems (PWS) in the state of Texas.

Primary purposes:
1. To collect accurate retail water service boundaries to better estimate and project utility population for the regional water planning process.

2. To develop a GIS database and reporting tool to improve the delivery of water data and PWS information collected by the State to the public.
Public Water System Viewer (cont.)

Partnering with the Water Use Survey Program, water systems are asked to update or verify their service area boundaries.

The public view shows water service boundaries and links to reports including historical water use and TCEQ PWS information.

Please let your stakeholders know about this map viewer. Utilities are encouraged to login to the mapping application and verify or update their water service boundaries.

Web links and contact information are provided on the supplemental handout.
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Questions?

Sarah.Backhouse@twdb.texas.gov

512-936-2387
Other Discussion

D. Report from Texas Department of Agriculture
E. Report from Texas Parks and Wildlife Department
F. Other Reports
Other Discussion

G. Confirm Date and Location of Next Meeting
H. Public Comments
Adjournment
Thank you for attending.

Materials are available at www.regioncwater.org