The Region C Water Planning Group (RCWPG) met in an open public meeting on Monday, February 25, 2019, at 1:00 P.M. The meeting was held at the North Central Texas Council of Governments located at 616 Six Flags Drive, Centerpoint Two Building, First Floor Transportation Council Room, Arlington, Texas. Notice of the meeting was legally posted.

Chair Kevin Ward called the Region C Regional Water Planning Group meeting to order at approximately 1:05 P.M. and welcomed guests.

I. ROLL CALL

Secretary Tom Kula conducted a roll call and confirmed that a quorum was present. The following members were in attendance:

<table>
<thead>
<tr>
<th>Bill Ceverha</th>
<th>Steve Mundt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grace Darling</td>
<td>Bob Riley</td>
</tr>
<tr>
<td>Tim Fisher</td>
<td>Drew Satterwhite</td>
</tr>
<tr>
<td>Tom Kula</td>
<td>Rick Shaffer</td>
</tr>
<tr>
<td>Harold Latham</td>
<td>Jack Stevens</td>
</tr>
<tr>
<td>Russell Laughlin</td>
<td>Richard Wagner</td>
</tr>
<tr>
<td>John Lingenfelder</td>
<td>Kevin Ward</td>
</tr>
</tbody>
</table>

Sarah Backhouse, TWDB, Adam Whisenant, TPWD, Darrell Dean, Texas Department of Agriculture, Rusty Ray, Texas State Soil & Water Conservation Board, and David Nabors, Region D, were present. The registration lists signed by guests in attendance are attached.

II. APPROVAL OF MINUTES – August 20, 2018

The minutes of the August 20, 2018, RCWPG meeting were approved by consensus upon a motion by Bob Riley and a second by Steve Mundt.

III. ACTION ITEMS FOR CONSIDERATION

A. Officer Elections for 2019

The RCWPG nominating committee consisting of Kevin Ward, Tim Fisher, Steve Mundt, and Jack Stevens met on February 20, 2019, at the Trinity River Authority General Office. Chairman Ward asked if there were any nominations from the floor. Hearing none, he asked for a report from the nominating committee. Jack Stevens advised the board that the Nominating Committee had unanimously agreed upon the following slate of officers for 2019 for confirmation by the planning group:

- Chair: Kevin Ward
- Vice Chair: Russell Laughlin
- Secretary: Tom Kula

There were no public comments on this action item.
Upon a motion by Tim Fisher, and a second by Drew Satterwhite, the RCWPG voted unanimously to elect the nominees to serve as the 2019 officers effective immediately upon meeting adjournment.

B. Consider Approval of Remaining Scope for Task 5A and approve request to TWDB for Notice-to-proceed; Approve TRA to contract for all remaining 2021 Region C Planning funds

Simone Kiel, FNI, led this discussion and advised that the consultants have developed a scope of work and associated fee for the remaining work to be done under this task. Ms. Kiel provided the following information to the water planning group:

- Region C total Task 5A budget is $1,095,005
  - TWDB authorized $412,500 on July 12, 2018
  - Unauthorized Task 5A budget is $682,505
- Authorized Scope
  - Many of larger Major Water Providers (MWP)
- 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
  - Authorize Conservation
- Scope of Work
  - Over 150 Strategies/Projects
    - Describe, evaluate cost
    - Coordinate with Sponsor
    - Document
  - Database Entry
  - Chapter 5: IPP and Final

RCWPG considered approval of the scope, fee, and request for Notice to Proceed from TWDB. RCWPG also considered authorizing TRA to execute a contract amendment with TWDB to include this new scope of work and all remaining funds for the 2021 Region C Plan.

Grace Darling asked if the consultants will be comparing strategies. Ms. Kiel confirmed and advised that the strategies will be presented in the Regional Water Plan and presented to the sponsor, if there is one. Steve Mundt asked if Freese and Nichols will be performing all the work on the Water Management Strategies. Amy Kaarlela stated
there will be a team of FNI, APAI, and CP&Y. Cooksey will coordinate the associated press releases.

There were no public comments on this action item.

Upon a motion by Jack Stevens, and a second by John Lingenfelder, the RCWPG voted unanimously to approve the remaining Scope for Task 5A as amended to include conservation; and approve the Trinity River Authority of Texas (TRA) to contract for all remaining 2021 Region C. Planning funds.

C. Consider Approval of Task 8 Subcommittee recommendation

Amy Kaarlela, FNI, led the discussion and advised that the Task 8 Subcommittee met on August 20, 2018. Ms. Kaarlela asked Chairman Jack Stevens to report on the results of the meeting. Chairman Jack Stevens advised that the Task 8 Subcommittee approved the following motions for presentation to the Region C planning group at the next regular open meeting, February 25, 2019:

1. The Task 8 subcommittee recommends that the Region C Planning Group continue to support previous unique reservoir site designations and continue to recommend that George Parkhouse (North) be recommended as a unique reservoir site again in this round of planning, and
2. Recommends that the Region C Planning Group recommend no ecologically unique river or stream segments in this round of planning.

There were no public comments on this action item.

Upon a motion by Jack Stevens, and a second by Rick Shaffer, the RCWPG voted unanimously to approve the Task 8 Subcommittee recommendations as follows:

1. The Region C WPG continues to support previous unique reservoir site designations and continues to recommend that George Parkhouse (North) be recommended as a unique reservoir site in this round of planning; and
2. Recommends no ecologically unique river or stream segments in this round of planning.

D. Consider Approval of Letter to TWDB Requesting Specific Hydrologic Variances to Water Availability Models

The RCWPG considered approval of a letter to TWDB requesting hydrologic variances to TCEQ’s official WAM Run 3 model that is required in determining available surface water supplies for Water Management Strategies.

Amy Kaarlela, FNI, led the discussion and noted that the consultants must use TCEQ Water Availability Models (WAM Run3) to determine surface water supplies. The TCEQ WAM was originally used to determine if new water rights could be issued, but was adapted to regional planning. The TWDB amended RWPG guidelines allow for variances to the WAM Run3. Variances require written approval from TWDB’s
Executive Administrator. The RCWPG must approve the variance request prior to sending to TWDB. Simone Kiel, FNI, added that the consultants will use water right applications for yield calculations.

Following are the 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
- **Sulphur River WAM**
  - Use of Riverware software as used by Sulphur Basin Group in current studies with Corps of Engineers
  - Same WAM modifications used to determine Ralph Hall firm yield water right
  - New Drought of Record (extents WAM from 1996 to 2014)

There were no public comments on this action item.

Upon a motion by Tim Fisher, and a second by Russell Laughlin, the RCWPG voted unanimously to approve a letter to the Texas Water Development Board requesting specific hydrologic variances to Water Available Models (WAM) with the ability for consultants to make minor edits if needed.

E. Socio-Economic Impact Analysis

Amy Kaarlela, FNI, discussed the need for the RCWPG to 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. The TWDB has a model to perform this analysis. Regions must officially request TWDB to perform this analysis.

There were no public comments on this action item.

Upon a motion by Steve Mundt, and a second by Jack Stevens, the RCWPG voted unanimously to submit a written request to the TWDB to perform the socio-economic impact analysis of not meeting identified water needs for inclusion in the 2021 Regional Water Plan.

IV. DISCUSSION ITEMS

A. Tom Kula, Executive Director, North Texas Municipal Water District (NTMWD) gave a brief introduction for this presentation by R. J. Muraski, Assistant Deputy Planning/CIP/Permitting, NTMWD, on the progress of Bois d’Arc Lake. Mr. Muraski provided an in-depth look at the progress of this lake from the beginning of the project in 2006 to the receipt of the USACE Section 404 permit in February 2018 and the
beginning of construction in May 2018. Bois d'Arc is the first lake in Texas that is owned and operated by a water district. The other lakes are owned by the Corps of Engineers. Mr. Muraski’s agenda included the following topics:

- Existing and Planned Supplies
- Permitting
- Program Components
- Construction Underway – Water Delivery expected in 2022
- Challenges/Risks

B. Presentation on large Water Management Strategies (Task 5A) – Simone Kiel, FNI, led this discussion and advised that the TWDB requires regional water planning groups to consider types of Water Management Strategies (WMS) for water users. These strategies for entities with needs as follows:

- Conservation
- Drought Management (short-term)
- Regionalization
- Brackish Groundwater Desalination
- Aquifer, Storage and Recovery (new strategy)
- Seawater Desalination (new strategy)

Ms. Kiel discussed the following parameters for the Aquifer, Storage and Recovery (ASR) strategy:

- Generic strategy
  - 50,000 ac-ft/yr (for Major Water Providers)
- Assumptions:
  - Excess surface water or reuse
  - Dedicated WTP
  - Trinity Aquifer
  - 50 miles from source
  - Facilities sized for high peak (water placed for storage then extracted; operate only part of the year)
- Evaluation
  - Capital cost - $2.4 billion
  - Unit cost - $15.20 per 1,000 gallons
  - Technical uncertainties
    - Receiving aquifer
    - Availability of excess flows
    - Infrastructure operation/maintenance
  - Large-scale ASR is not recommended

C. Seek legislative recommendations from RCWPG – Amy Kaarlela, FNI, led this discussion and stated:

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

Ms. Kaarlela proceeded to present a recap of recommendations from the 2016 Region C Water Plan.
Planning Process Recommendations

- 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 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 and Water Rights

- 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 and Water Supply Program

- 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

- Support research to advance reuse and desalination
- Funding assistance for desalination and water reuse projects

State and Federal Programs

- 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 TWDB (not to exceed $200M)
- SB 900 - 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

Ms. Kaarlela advised that she will present an update at the next Region C meeting on the bills that were passed in this legislative session.

D. Prioritization – Uniform Standards Committee Report – This discussion was led by Sarah Backhouse, TWDB Interim Project Manager. Ms. Backhouse provided background information on the Uniform Standards Stakeholder Committee as follows:

- HB 4 (83rd) created a 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 periodically regarding regional prioritization of projects
- 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

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 were further defined in the Uniform Standards

- 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, the 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.
• 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. (Note: This item was approved by TWDB)
• The SHC intends to reconvene during the first year of the 6th cycle of regional water planning.

E. TWDB Comments on Technical Memorandum – Amy Kaarlela, FNI, explained that this is a midpoint deliverable in the RWPG process to improve the IPP. The TWDB comments were as follows:
  • 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, advised the planning group of the updated sections of Chapter 1, which were:
  • 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

Changes from 2016 RCWP to 2021 RCWP
  • Population of Region C increased by approximately 8%
  • Manufacturing is now second largest user instead of Mining (1st being Municipal)
  • Less over pumping of Groundwater Aquifers
  • New definition of Wholesale Water Provider (WWP)
  • Removed entities that used to qualify as WWPs:
    o Argyle WSC
    o Cross Timbers WSC
    o East Cedar Creek FWSD
    o Lake Cities MUA
    o West Cedar Creek MUD

Abigail Gardner, FNI, briefed the planning group on Chapters 2 and 3 and advised that the information in these chapters does not deviate over 2%. Ms. Gardner provided charts to illustrate the small change in numbers.
G. Conservation Task 5B – Brian McDonald, APAI, briefed the planning group on this task which included:
   - 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.

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 and WUGs
  - Water conservation plan and drought contingency plans (due May 2019)
  - Statewide Water Conservation Quantification Project (August 2017)
- Consider changes to the Water Conservation 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
- 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
  - Spreadsheet-based tool with:
    - Preloaded 2020-2070 projections for 96 Region C WUGs (population, connections, water demand, water loss)
    - 16 reloaded 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

- Review of TWDB Municipal Water Conservation Planning Tool
  - Issues with use of the Tool for regional water planning:
    - Tool for single WUG only
      - Would have to develop 288 individual files and link together
    - Preloaded 2020-2070 water demand is not the regional planning water demand projections
      - Would require programming to load the proper data
    - Preloaded water conservation measures do not 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
    - When reasonable, use water savings and cost assumptions from the TWDB Tool
V. OTHER DISCUSSION

A. Updates from the Chair - None

B. Report from Regional Liaisons
   - Region B - Jack Stevens reported there was a drought of record and population change for Region B.
   - Region D - David Nabors advised that Region D is basically doing the same activities as Region C.
   - Region C - None
   - Region H - Chairman Ward said Region H is likewise doing the same as Region C.

C. Report from Texas Water Development Board - Sarah Backhouse, TWDB, advised that the Technical Memorandums which were due by September 10, 2018 have been posted on the TWDB website. The TWDB has provided informal comments to the RWPGs based on their Water Science and Conservation staff review of the technical memorandum data and methodologies.

Ms. Backhouse also briefed the planning group on tools designed by the TWDB to assist the RWPGs in their planning process. These tools include:

- **Data Visualization Map** - This map 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. One potential use of this map is to spatially identify WUGs with needs in a reasonable proximity that regional facilities may be worth considering.

- **WMS Evaluation Tools**
  - **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.
  - **Conservation Planning Tool**: An optional tool for use by RWPGs. One intended use 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 optional tool is anticipated to be available in the fall of 2019.

Ms. Backhouse added that RWPGs are required to consider recommendations from the Drought Preparedness Council. The Council is in the process of developing these recommendations. Ms. Backhouse also advised that the TWDB has a Regional Water Planning Educational Information webpage that includes a link to the new member page, planning related information sheets, guidance documents and presentations.

The final topic Ms. Backhouse discussed was the 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.
The Viewer’s primary purposes are:

1. To collect accurate retail water service boundaries to better estimate and project utility population for the regional water planning process.
2. To develop GIS database and reporting tool to improve the delivery of water data and PWS information collected by the State to the public.

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.

Ms. Backhouse asked the planning group to tell their stakeholders about this map viewer. Utilities are encouraged to login to the mapping application and verify or update their water service boundaries.

D. Report from Texas Department of Agriculture - None
E. Report from Texas Parks and Wildlife Department - None
F. Other Reports - None
G. Confirm Date and Location of Next Meeting: TBD; 1pm, NCTCOG, 616 Six Flags Drive, Centerpoint Two Building, First Floor Transportation Council Room, Arlington, Texas 76011
H. Public Comments - None

VI. ADJOURNMENT – Chairman Ward adjourned this meeting at 3:55 PM.