Region C Water Planning Group

April 9, 2018
ACTION ITEMS
A. Election of Officers for 2018

Jody Puckett, Region C Chair
B. Resolution Recognizing Jody Puckett

Russell Laughlin, Region C Vice Chair
C. Consider Approval of Deadline for Projects to Be Considered Existing Supplies

Amy Kaarlela
Freese & Nichols, Inc.
Deadline for “Existing” Supplies

“…to be considered and “existing” water supply, the supply must ... be physically connected or ... it is anticipated that the WUG will have access by the conclusion of the current planning cycle.”*

• RCWPG should consider selecting a specific date by which projects should be completed to be considered “existing”
• Last round – Jun 2015
• This round – Aug 2020

* Exhibit C, First Amended General Guidelines for Fifth Cycle of Regional Water Plan Development, Section 3.7, April 2017
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

• 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

- Similar to last round
  - Safe yield for TRWD and Dallas
  - Trinity River WAM –
    - system operation,
    - subordination agreements,
    - use of minimum storage elevation for Corp reservoirs (where appropriate)
  - Red River WAM – Lake Texoma
  - Sulphur River WAM – new critical drought
  - Use of WAMs as modified by other Regions
Region C Requested Variances

• TWDB PM has suggested edits prior to approval
  • Specifying: WAM “Run3”, “DRAFT” model
  • State what full storage is for one reservoir

• Variances require written approval from TWDB’s Exec Admin
• RCWPG must approve the request prior to sending to TWDB
• Asking RCWPG to approve with TWDB PM edits and ability for consultants to make minor edits if needed
E. Consider Designation of Major Water Providers

Keeley Kirksey, P.E.
Freese & Nichols, Inc.
The intent of the MWP category is to report data for entities of particular significance to the region...instead of reporting data for every WWP...as previously required.

Entities that use, and/or are responsible for developing and/or deliver significant quantities of water.
Potential Major Water Providers

- Based on top tier provider of existing & future supplies (2016 Plan)

<table>
<thead>
<tr>
<th>WATER SUPPLY</th>
<th>Entity</th>
<th>Ac-ft/yr</th>
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<tbody>
<tr>
<td>NTMWD</td>
<td>970,676</td>
<td></td>
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<tr>
<td>TRWD</td>
<td>928,382</td>
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</tr>
<tr>
<td>Dallas</td>
<td>854,412</td>
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<tr>
<td>UTRWD</td>
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<tr>
<td>TRA</td>
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<tr>
<td><strong>Total Top 6</strong></td>
<td><strong>3,010,390</strong>*</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL Reg C</strong></td>
<td><strong>3,578,022</strong>*</td>
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<table>
<thead>
<tr>
<th>POPULATION SERVED</th>
<th>Entity</th>
<th>2020 Pop</th>
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<tr>
<td>NTMWD</td>
<td>1,888,684</td>
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<td>TRWD</td>
<td>2,240,305</td>
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<tr>
<td>Dallas</td>
<td>2,686,779</td>
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<tr>
<td>UTRWD</td>
<td>214,507</td>
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<td>GTUA</td>
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<tr>
<td>TRA</td>
<td>179,519</td>
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<tr>
<td><strong>Total Top 6</strong></td>
<td><strong>7,209,794</strong></td>
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<tr>
<td><strong>TOTAL Reg C</strong></td>
<td><strong>7,637,764</strong></td>
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Top 6 supply 84% of Region’s water

Top 6 serve 94% of Region’s population

* Totals contain a small amount of duplication of existing supply (<5%) and strategies that make use of that existing supply.
Potential Other Major Water Providers

• Based on population served and number of customer WUGs
  • Fort Worth?
  • Corsicana?
  • Others?
F. Consider Approval of Methodology for Determining Availability of Non-Relevant Aquifers

Amy Kaarlela
Freese and Nichols, Inc.
Groundwater Availability

• 3 Groundwater Management Areas (GMAs) cover Region C (8, 11, & 12)
• All three have completed Modeled Available Groundwater (MAG) reports
• All Aquifers modeled except Nacatoch
• GMA8 determined Nacatoch “non-relevant” and did not model
• Regional planning rules offer several options to determine availability
Nacatoch Aquifer

- Small area in Region C (Navarro & Kaufman)
- Coordinated with Region D
- Recommend using same availability as 2016 Plan

Map source: TWDB website
G. Consider Approval of Region-Specific Scope of Work for Task 5A and Request for Notice to Proceed from TWDB; Consider Authorizing TRA to Execute Contract Amendment with TWDB

Tom Gooch
Freese & Nichols, Inc.
Task 5A – Evaluation of Strategies

• TWDB has general scope for all regions
• Each Region to develop region-specific scope
• Total 5A budget for Region C = $1.1M
• Total Region C budget = $2.4M
• Initial 5A scope/fee request = $412,500
• Remaining scope/fee will be identified after Needs Analysis
• Similar scope to 2016 Plan, with additions
Task 5A – Evaluation of Strategies

• Evaluation of specific large scale supplies:
  • Toledo Bend
  • Gulf of Mexico Desal
  • Lake Texoma (Desal & Blending)
  • Oklahoma water
  • Neches Run-of-River
  • Carrizo-Wilcox Groundwater (Region D)
  • Lake O’ The Pines
  • Tehuacana Reservoir
  • Lake Columbia
  • Indirect Reuse at Lakes Hubbard & Lewisville
  • Integrated Pipeline - Dallas portion
Task 5A – Evaluation of Strategies

- Evaluation of specific large scale supplies (Continued):
  - Cedar Creek Wetlands
  - TRWD Additional Reuse
  - Lower Bois d’Arc Creek Res
  - Lake Ralph Hall and Reuse
  - Lake Ringgold
  - Sulphur Basin Supplies (3 scenarios)
  - New Groundwater from Carrizo-Wilcox
  - Aquifer Storage & Recovery (ASR)
  - Reallocation of Storage in Joe Pool Lake
  - Additional Reuse, multiple projects
Task 5A – Evaluation of Strategies

- Evaluations will include:
  - Updating of costs
  - Running WAM for surface supplies to determine availability
  - Refining pipeline routing and infrastructure needs
  - Environmental Impacts
  - Update GIS mapping required by TWDB
Task 5A – Evaluation of Strategies

• Additional items in scope:
  • Allocating supply to WUGs from each strategy
  • Documentation of the evaluation and selection of all recommended strategies & projects (including explanation of why certain types of strategies may not have been recommended)
  • Coordination with project sponsors
  • Writing report sections
  • Entry of all data into TWDB database (DB22)
Task 5A – Evaluation of Strategies

- Required steps:
  - Initial scope posted on Region C website (4/2/18)
  - Take public comment
  - RCWPG consider approval of scope/fee
  - RCWPG consider approval of Notice-to-Proceed Request
  - RCWPG consider authorizing TRA to amend contract with TWDB
H. Consider Appointment of Task 8 Subcommittee

Ellen McDonald
Alan Plummer Associates
River and Stream Segments of Unique Ecological Value

• The RCWPG may recommend a river or stream segment as being of unique ecological value based on:
  • Biological function
  • Hydrologic function
  • Riparian conservation areas
  • High water quality/exceptional aquatic life/aesthetic value
  • Threatened or endangered species/unique communities

• The Legislature may designate a river or stream segment of unique ecological value for protection.
TPWD Recommended Segments

- In 2002, TPWD recommended 10 Region C segments as ecologically unique
Implications

• Texas Water Code 16.051(f):
  • “This designation solely means that a state agency or political subdivision of the state may not finance the actual construction of a reservoir in a specific river or stream segment designated by the legislature…”

• For designated segments, regional water planning regulations require assessment of Regional Water Plan impact on:
  • Flows important to the segment
  • Unique features of the segment

• Implies greater level of protection
RCWPG Actions/Concerns

• Previous Region C Water Plans
  • No river or stream segments recommended as ecologically unique because of unresolved concerns regarding the implications of such a designation.

• Scenarios of concern (upstream, within, or downstream of designated segments)
  • Dams
  • Pipeline crossings
  • Intakes
  • Transport of upstream reservoir releases
  • New water outfalls
  • Treated effluent outfalls
  • Constructed wetlands
Preparation for 2011 Region C Water Plan...

- Consultants met with State agencies, August 2009
  - Reviewed legislation and agency rules
  - Addressed scenarios of concern
- State agency meeting conclusions:
  - TPWD plans no update to 2002 unique stream segment (USS) report for Region C
  - TPWD and TWDB staffs believe USS legislation only impacts public financing of reservoirs
  - TCEQ staff position is to use all available information to regulate attributes of streams without regard to USS designation
Preparation for 2011 Region C Water Plan...

- State agency meeting conclusions (continued):
  - USS designation may influence public opinion
  - USS legislation has not been tested in courts
  - A TWDB/TPWD/TCEQ/RWPG workgroup could help address concerns
Preparation for 2016 Region C Water Plan

• Convened Region C subcommittee to make recommendations to full planning group
  • Subcommittee members:
    • Adam Whisenant      Tom Woodward
    • Kevin Ward           Denis Qualls
    • Bill Ceverha         Jim Parks
    • James Hotopp         Jim Oliver
    • Connie Standridge
Recommendation from 2016 RCWP

• Convene a working group comprised of representatives of TWDB, TPWD, TCEQ, and the sixteen regions to bring clarity, purpose, and direction to the legislative mandate to “identify river and stream segments of unique ecological value.”

• Echoed recommendation from 2011 RCWP
Unique Sites for Reservoir Construction

• The RCWPG may recommend sites of unique value for reservoir construction:
  • For a reservoir recommended as a water management strategy
  • Based on location, hydrologic, geologic, topographic, water availability, water quality, environmental, cultural, and current development characteristics, or other pertinent factors that make the site uniquely suited for reservoir development
    • For the current planning period; or
    • If reasonably needed to meet needs beyond the 50-year planning period.
• The Legislature may designate a site of unique value for the construction of a reservoir.
Implications

• Texas Water Code 16.051(g):
  • “A state agency or political subdivision of the state may not obtain a fee title or an easement that would significantly prevent the construction of a reservoir on a site designated by the legislature...”
Recommendations from 2016 RCWP

- Continue to designate following sites as unique sites
  - Ralph Hall
  - Lower Bois d’Arc Creek
  - Marvin Nichols
  - Tehuacana
  - Fastrill
  - Columbia

- Recommend that Texas Legislature designate George Parkhouse (North) as an additional unique site for reservoir construction
  - Legislature has not made this designation

- Encourage continued affirmative votes by sponsors of these reservoirs to make expenditures to construct or apply for permits to preserve the designations
2021 Recommendations?

• No significant actions or clarifications since 2011 RCWP
• How would the planning group like to address river and stream segments of unique ecological value and unique reservoir sites?
  • Maintain the same recommendations?
  • Subcommittee to review/revise recommendations?
  • Other action?
DISCUSSION
ITEMS
A. Schedule

Amy Kaarlela
Freese and Nichols, Inc.
Schedule – 2021 Planning Cycle

• Key Dates
  • September 2018 – Technical Memo on Needs, Potentially Feasible Strategies, Major Water Providers
  • March 2, 2020 – Initially Prepared Plan due
  • October 14, 2020 – Final Plan Due

• Next Meetings – August 20, 2018 & possibly November 2018
B. Existing Water Availability (Task 3)

Keeley Kirksey
Freese and Nichols, Inc.
Existing Supplies: Surface Water

- WAM modeling complete for all reservoirs
- Supplies are similar to those in the 2016 Plan
  - Changes from volumetric surveys
  - TCEQ changes to the WAM
  - Changes based on reservoir operations
Existing Supplies: Surface Water

Acre-Feet per Year

- 2020: 1,520,000
- 2030: 1,540,000
- 2040: 1,560,000
- 2050: 1,580,000
- 2060: 1,600,000
- 2070: 1,620,000

Blue bars represent the 2021 Plan, and red bars represent the 2016 Plan.
Existing Supplies: Groundwater
Existing Supplies: Groundwater

15% Increase From 2016 Plan
(20,645 AF/Y)

<table>
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<tr>
<th>Aquifer</th>
<th>2070 Value - 2021 Plan</th>
<th>2070 Value - 2016 Plan</th>
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<tbody>
<tr>
<td>Trinity</td>
<td>112,919</td>
<td>95,093</td>
</tr>
<tr>
<td>Woodbine</td>
<td>27,174</td>
<td>31,203</td>
</tr>
<tr>
<td>Carrizo-Wilcox</td>
<td>17,461</td>
<td>10,425</td>
</tr>
<tr>
<td>Minor Aquifers</td>
<td>5,284</td>
<td>5,472</td>
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<tr>
<td>Total</td>
<td>162,838</td>
<td>142,193</td>
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Acre-Feet per Year

- 15% Increase From 2016 Plan
- (20,645 AF/Y)
Existing Supplies: Groundwater

Acre-Feet per Year

2070 Value - 2021 Plan
2070 Value - 2016 Plan
Existing Supplies: Groundwater

Acre-Feet per Year

- Jack
- Kaufman
- Navarro
- Parker
- Rockwall
- Tarrant
- Wise

2070 Value - 2021 Plan
2070 Value - 2016 Plan
Existing Supplies: Reuse
Changes from 2016 RCWP (preliminary)

- Supplies moved from recommended WMS to existing supplies:
  - DWU Lake Ray Hubbard/Main Stem Pump Station Exchange
  - DWU Lewisville Lake/Main Stem Pump Station Exchange
  - Irving Twin Wells Golf Course Reuse (part of Irving/TRA WMS from last time)
  - Revisions to NTMWD East Fork Raw Water Supply Project to include diversions at the Main Stem Pump Station
    - Includes sale of TRA reclaimed water to NTMWD
  - Lake Weatherford Indirect Reuse
C. Initial List of Potentially Feasible Water Management Strategies (Task 4B)

Keeley Kirksey
Freese and Nichols, Inc.
Potentially Feasible WMSs

- See DRAFT list in notebooks
  - Not all-inclusive or final
  - Includes WMSs from 2016 Plan
  - Includes some new WMSs
  - Includes changes to WMSs from 2016 Plan
  - Will include additional WMSs when final
Potentially Feasible WMSs

- WMS Example Categories (Not Complete List)
  - Water Conservation
  - Direct and Indirect Reuse
  - Aquifer Storage and Recovery
  - Desalination
  - Connect to existing supplies
  - Purchase from provider
  - New Reservoir
  - Groundwater
  - System Operations
  - WTP Expansions
  - Modify Existing Permits
D. Public Participation Materials

Amy Kaarlela
Freese and Nichols, Inc.
Public Participation Materials

• Cooksey developed Materials to be used by Region C Members as needed

• “Elevator speech” designed to quickly communicate the critical importance of water planning to our region

• Printable “brochure” to be distributed at speaking engagements, etc.
E. TWDB Planning Rule Revision Q&A

Connie Townsend
TWDB
F. Next Steps

Amy Kaarlela
Freese and Nichols, Inc.
Next Steps

• **Summer** - Database entry of Existing Supplies; Determine Needs; begin evaluation of large-scale strategies
• **August** - Next RCWPG Meeting
• **September** - Submittal of Tech Memo (Needs, Potentially Feasible strategies)
• **Late 2018** - Begin other Misc. Tasks; possible RCWPG meeting
Other Discussion

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