

Region C Water Planning Group Meeting

TRA Central
Wastewater Treatment Plant
May 17, 2004



Agenda

- Action Items
 - Water Management Strategies (5)
 - Updated Media Materials
- Discussion Items
 - Status of Request for Supplemental Funding
 - Impacts of Recent Droughts on Region C
 - Update Task 3 – Current Water Supplies
 - Unique Stream Segments

Agenda

- Water Management Strategies (2)
- Groundwater Supply Presentation by Mesa Water
- Update on Water Conservation and Reuse Tasks
- Speaker Comments (April 19 RCWPG mtg)
- Overall Status and Next Steps

Action Item

Feasibility of Water Management
Strategies

Feasibility of WMS

- Voluntary redistribution of water resources
- Voluntary subordination of existing water rights
- Yield enhancement
- Drought management measures
- Water quality improvement

Voluntary Redistribution of Water Resources

- 2001 *Region C Water Plan*
 - Included as voluntary transfer of water rights
 - No specific water rights transfers in the plan, but the plan allows for voluntary transfers of water rights as needed and desired by the owners of the water rights
 - Conclusion: Allow voluntary transfers of water rights as needed and desired by the water rights holders

Voluntary Redistribution of Water Resources

- Suggestions for 2006 Plan
 - Conclusion: Allow voluntary redistribution of water resources as needed and desired by the water rights holders/owners of the resources (willing buyer/willing seller)

Voluntary Subordination of Existing Water Rights

- 2001 *Region C Water Plan*
 - Most useful when senior hydropower rights limit reservoir yields
 - Very limited additional yield available in Region C
 - Conclusion: Not recommended as source of water supply
- Suggestions for 2006 Plan
 - Conclusion: Not recommended as source of water supply

Yield Enhancement

- 2001 *Region C Water Plan*
 - Artificial recharge of aquifers
 - Has not been implemented or studied in detail in Region C, but would probably be part of aquifer storage and recovery program (ASR)
 - System operation of reservoirs
 - Enhances yield, reduces pumping costs, and maintains water quality
 - Will be discussed as a separate item later this spring/summer

Yield Enhancement

- Conjunctive use of surface water and groundwater
 - Applied by some Region C suppliers – typically using groundwater to meet peak needs. This does not increase total supply. (discussed separately)
- **Conclusion: Not recommended, except for reservoir operation as discussed separately**

Yield Enhancement

- Suggestions for 2006 Plan
 - Conclusion: Not recommended for the same reasons as 2001 Plan, except for system operation (which could include surface water or groundwater) that will be discussed separately.

Drought Management Measures

- 2001 *Region C Water Plan*
 - Intended to preserve supplies for most essential uses when supplies are threatened
 - Important planning tool for all water suppliers
 - Not reliable source of additional supplies to meet growing water demands
 - Backup plan in case the supplier encounters a drought worse than the drought of record or if a supply is not completed before it is needed

Drought Management Measures

- Conclusion: continue efforts to implement drought contingency and emergency response planning, but do not treat these as water management strategies to provide additional long-term supplies
- Suggestions for 2006 Plan
 - Conclusion: continue efforts to implement drought contingency and emergency response planning, but do not treat these as water management strategies to provide additional long-term supplies

Water Quality Improvements

- 2001 *Region C Water Plan*
 - Included as control of naturally occurring chlorides
 - Chloride control has been studied in Brazos and Red Basins and should continue to be monitored
 - Chloride control projects are not expected to have a significant impact on chloride levels in Lake Texoma
 - Conclusion: Continue to monitor chloride control projects. Do not include chloride control of naturally occurring chlorides as a source of water supply.

Water Quality Improvements

- Comments:
 - Red River Authority
 - Consider more proactive support
 - Texas Committee on Natural Resources
 - Chloride control could have significant impact on Lake Texoma chlorides
 - Recommends further study of chloride control as water supply for Region C

Water Quality Improvements

- Region C Suppliers
 - Wish to analyze reallocation of Lake Texoma storage and development by desalination or blending

Water Quality Improvements

- Correction to wording from 2001 Plan
 - Chloride control for Wichita River watershed currently being pursued
 - Will affect quality in Lake Kemp, with limited impact on Lake Texoma
 - Full development of chloride control for the Red River Basin could improve chlorides in Lake Texoma

Water Quality Improvements

- Being pursued as a federal project
- Has faced substantial opposition from federal and state agencies and environmental groups
- Extent and timing of implementation are unclear
- No Region C supplier has expressed interest in financing chloride control

Water Quality Improvements

- No Region C supplier has indicated that they wish to assume drinking water quality in Lake Texoma
- Suggestions for 2006 Plan
 - Conclusion: Continue to monitor chloride control projects. Do not include control of naturally occurring chlorides as a source of water supply. Region C may wish to express support for the continued development of the Red River chloride control project.

Action Item

Updated Media Materials

Region C Press Materials

Updated press materials for approval:

- General Region C fact sheet
- “Did you know” document
- Water Management Strategies summary document
- Q & A document
- Water Planning Timeline
- Media contact sheet
- RCWPG members directory

Next Steps Using New Press Materials

- Distribute new press kits to media in June
- Place new press materials on the Region C Web site
- Conduct editorial board meetings with local media
- Conduct media overview session on July 12, prior to the RCWPG meeting, for local media to have one-on-one session with executive committee and consultants
- Develop newsletter for July/August distribution, incorporating many of the facts and strategies described in the new press materials

Discussion Item

Status of Request for
Supplemental Funding

Request for Supplemental Funding

- TWDB's initial thoughts are:
 - Reimburse Region C for the expenses associated with the Anna and Athens amendments
 - Fund \$25,000 worth of additional water conservation work
 - Fund \$125,000 worth of reuse work
- TWDB's board will make their final decision on May 19

Discussion Item

Impacts of Recent Droughts on
Region C

Previous comments

- **Expand report on the following impacts:**
 - Livestock and agriculture
 - Private sector landscaping
 - Water quality
- **Purpose of report**
 - Drought 101
 - Will be included with Final Report
 - Does not require approval from the Board

Discussion Item

Update Task 3 – Current Water
Supplies

Groundwater Availability

- Consultants met with Mid-East Texas Groundwater Conservation District on May 10
- District serves Freestone, Leon and Maddison Counties
- District requested the TWDB run the Carrizo-Wilcox GAM at current water use, as well as double and triple current water use

Groundwater Availability

- District waiting on GAMs for Queen City and Sparta aquifers in Leon and Maddison Counties
- District's current policy is to maintain water levels in aquifer storage
- Current pumping levels are causing the storage to decrease slightly

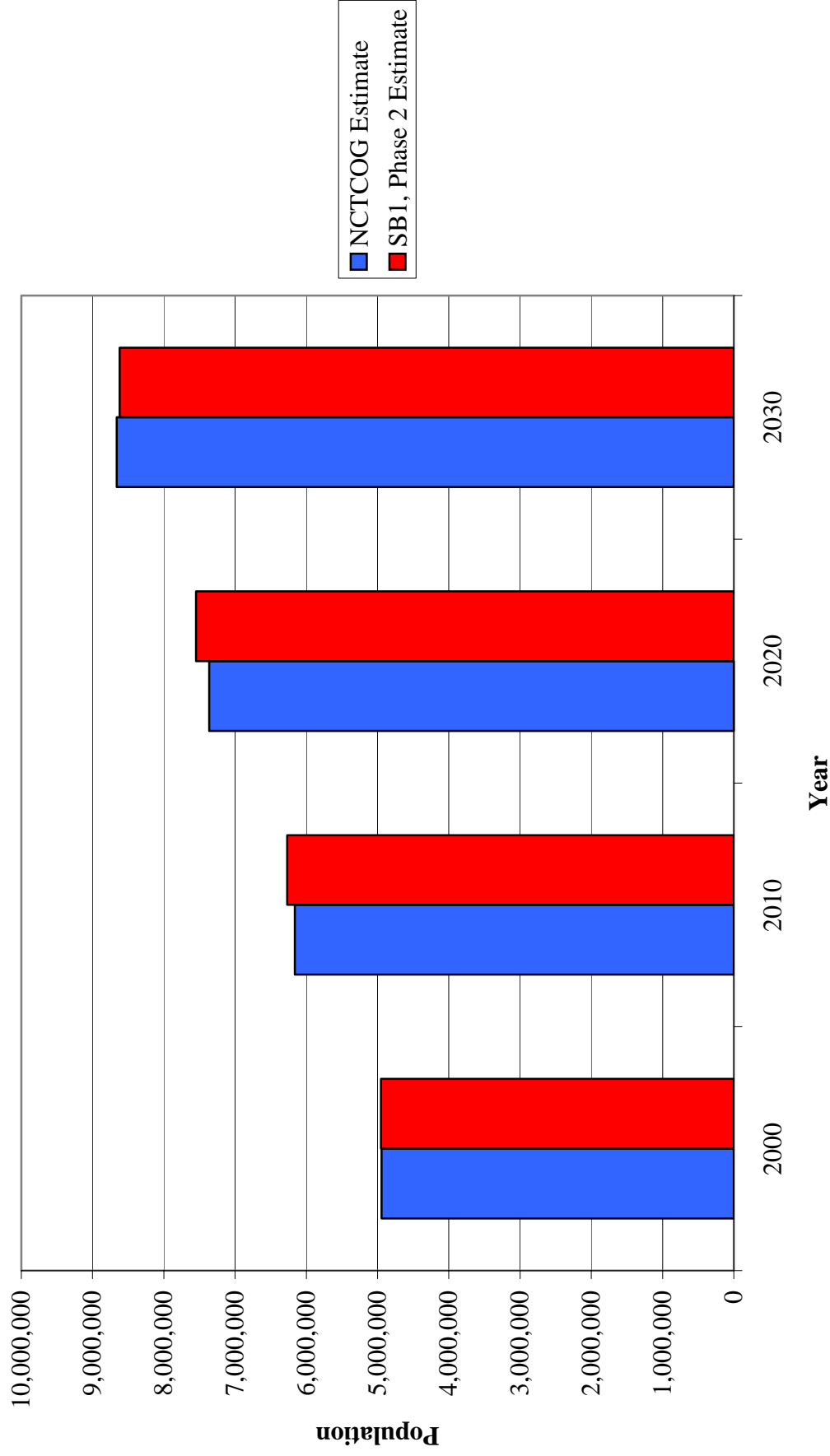
Groundwater Availability

- Consultants will survey two groundwater districts in Region C with same survey that was sent to WUGs in April
- Consultants will work with groundwater districts to determine reliable groundwater supplies in Carrizo-Wilcox aquifer

Population Projection Comparison

- North Central Texas Council of Governments (NCTCOG) developed population projections through 2030
- 9 counties that are located in Region C and the NCTCOG boundaries
- Region C population projections are within 2.5% of the NCTCOG projections for every decade

Comparison of Population Projections 2000-2030



Update on Surveys

- Survey responses received as of noon on May 14:
 - 6 of 16 County Judges (38%)
 - 12 of 27 wholesale water providers (44%)
 - 97 of 236 water user groups (41%)
- Consultants have completed one round of follow-up phone calls and are working on their second round of phone calls

Update on Surveys

- Consultants have met with 11 wholesale water providers
- Consultants plan to meet with two additional wholesale water providers

Update on Surveys

- Overall thoughts on surveys:
 - Population projections too low
 - Henderson County
 - Wise County
 - Allen
 - Argyle WSC
 - Bethel-Ash WSC
 - Caddo Basin SUD
 - Cash WSC
 - Combine
 - Crandall
 - Crowley
 - Denton County
 - FWSD
 - Kemp
 - Lavon WSC
 - Mansfield
 - McKinney
 - Milligan WSC
 - Mustang SUD
 - Royse City

Update on Surveys

- Overall thoughts on surveys:
 - Population projections too high
 - Lake Cities MUD
 - Frisco
 - Plano
 - Garland
 - North Richland Hills
 - Lewisville
 - Richardson

Discussion Item

Unique Stream Segments

**TPWD Response to Questions
posed by the RCWPG On
December 8, 2003**

TPWD – 12/8/03 RCWPG

Questions

- Regional Water Planning 31 TAC §357.8(c)
- Water Rights 30 TAC §297.53(a)
- Legislative Recommendations 2001
Region C Water Plan
 - Clarify impacts of designating a unique stream segment

TPWD – 12/8/03 RCWPG

Questions

- Regional Water Planning 31 TAC §357.8(c)
 - RWPG shall assess the impact of the regional water plan on stream segments that have been designated as unique by the legislature
 - 31 TAC §357.7(a)(8)(A) – requires a quantitative reporting of environmental impacts resulting from water management strategies
 - All water management strategies the RWPG determines to be potentially feasible should be evaluated

TPWD – 12/8/03 RCWPG

Questions

- Water Rights 30 TAC §297.53(a)
 - In its consideration of an application for a new or amended water right to store, take, or divert state water in excess of 5,000 acre-feet per year, the commission shall assess the effects, if any, of the granting of the application on fish and wildlife habitats. The commission shall also consider whether the proposed project would affect river or stream segments of unique ecological value as identified by the applicable approved regional water plan and designated as such by the Texas Legislature in accordance with Texas Water Code §16.051(e).

TPWD – 12/8/03 RCWPG

Questions

- TCEQ routinely determines potential environmental impacts associated with granting water right applications, regardless if an application may impact a designated unique stream segment

TPWD – 12/8/03 RCWPG

Questions

- Legislative Recommendations 2001
Region C Water Plan

- Clarify impacts of designating a unique stream segment

1. How would adjacent private property be affected?

The law does not set out any legal benefits or detriments regarding adjacent land. The only legal effect of the legislative designation is that a state agency or political subdivision of the state may not finance the actual construction of a reservoir.

TPWD – 12/8/03 RCWPG

Questions

2. How would future water rights be affected?

This is best answered by TCEQ as it regulates water rights. 30 TAC 297.53(a) rule simply states that the TCEQ must consider whether the pending project affects the designated segment; it imposes no specific duty to TCEQ to act in a certain manner based upon any effects.

TPWD – 12/8/03 RCWPG

Questions

3. How would water quality regulatory programs be affected?

This is best answered by TCEQ as it regulates water quality permits. The law does not speak to any affects to water quality regulatory programs. TPWD is not aware of any federal or TCEQ rule requiring consiideration of the designation. Water quality programs are based upon Clean Water Act stream segment standards that are indepement of the state legislative unique stream segment designation.

TPWD – 12/8/03 RCWPG

Questions

4. What types of activities would be restricted?

The law sets out the only restriction: that a state agency or political subdivision of the state may not finance the actual construction of a reservoir. There are no legal restrictions on any other activities.

5. Can the designation be reversed?

While the law is silent, the legislature can reverse an action unless there is a constitutional prohibition against it. In TPWD's opinion, there is no constitutional prohibition.

TPWD – 12/8/03 RCWPG

Questions

6. Will future laws or regulations place other restrictions on designating segments?

It is up to the legislature to decide on any further actions.

Questions Posed in 2001 *Region C Water Plan*

- What is the objective of designating a unique stream segment?
- How would adjacent private properties be affected by the designation?
- How will future water rights be affected? For example, would instream flow requirements be imposed on future water rights upstream?

Questions Posed in 2001 *Region C Water Plan*

- How will designation affect regulatory programs to protect water quality?
- What area is affected by the designation? The stream? The entire watershed? An area surrounding the stream?
- Can the decision be reversed?

Questions Posed in 2001 *Region C Water Plan*

- What types of activities would be restricted as a result of the designation?
 - Reservoirs on the segment
 - Reservoirs upstream from the segment
 - Wastewater treatment plant discharge permits
 - Power lines
 - Municipal separate storm sewer permits
 - Pipelines
 - Roads
 - Bridges across segment
 - Landfills
 - Septic systems
 - Other activities

2002 State Water Plan Response

- Section 14.2 of the State water plan states:
 - “the designation of a river or stream segment of unique ecological value means solely 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.”
- However
 - TWDB rules require special consideration in planning
 - TCEQ rules require special consideration in permitting

Summary of RWPG Initial thoughts on Unique Stream Segments

Region	Considering recommendations	Not considering recommendations	Undecided
A			X
B		X	
C			X
D			X
E	X		
F		X	
G			X
H	X		
I		X	
J			X
K		X	
L			X
M			
N		X	
O		X	
P	X		

Unique Stream Segments

- Consultants are seeking guidance on
 - Does the RCWPG still have unanswered questions regarding the designation of unique stream segments?
 - Does the RCWPG want to consider designating unique stream segments or not?

Discussion Item

Water Management Strategies

Desalination

- 2001 *Region C Water Plan*
 - Desalination is used when salinity is too high to meet water quality standards
 - Cost of desalination has decreased in recent years
 - Process is being used more frequently
 - Conclusion: Include desalination as a management strategy in order to utilize supplies from Lake Texoma and the Red River.

Desalination

- Suggestions for 2006 Plan
 - Conclusion: (same as 2001) Include desalination as a management strategy in order to utilize supplies from Lake Texoma and the Red River. Desalination could also be used to treat brackish groundwater, water from the Gulf of Mexico, and water from the Brazos River.
 - Specific projects:
 - Desalination of Lake Texoma water
 - Local projects from other sources for specific suppliers

Aquifer Storage and Recovery (ASR)

- 2001 *Region C Water Plan*
 - Storing excess water in aquifers and retrieving this water when needed. Water can be introduced as enhanced recharge or injected through a well into the aquifer.
 - Potential to store large amounts of water at lower costs than traditional surface storage.

Aquifer Storage and Recovery (ASR)

- Requires suitable geological conditions for implementation and can cause contamination of groundwater. Water must be treated prior to being injected.
- Tarrant Regional Water District has studied ASR.
- Conclusion: Studies of ASR should continue, and pilot projects should be implemented if the strategy appears promising.

Aquifer Storage and Recovery (ASR)

- Suggestions for 2006 Plan
 - Conclusion: (same as 2001) Studies of ASR should continue, and pilot projects should be implemented if the strategy appears promising. The Colony is studying a potential ASR project for peak demands (no additional annual water supply).

Discussion Item

Mesa Water, Inc.
Presentation

Discussion Item

Update on Water Conservation
and Reuse Tasks

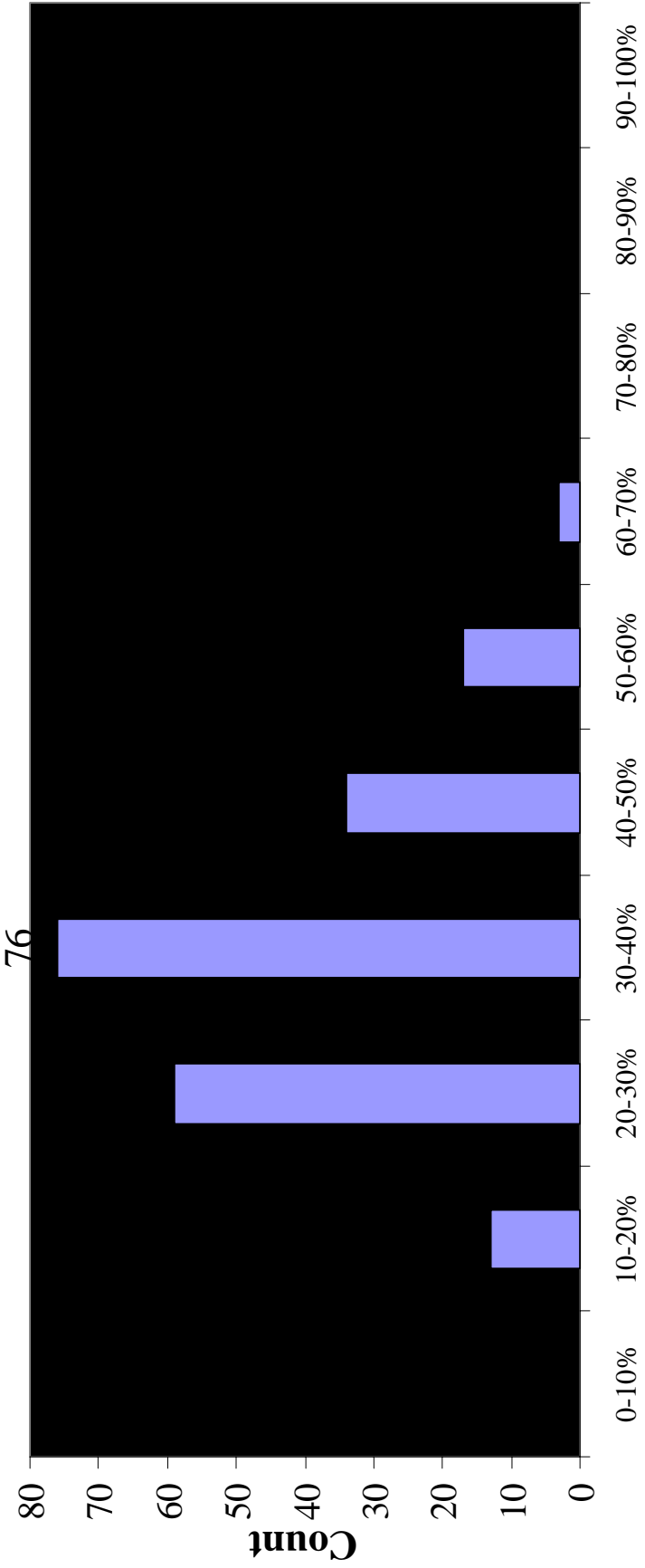
Region C Municipal Water Usage

- Last time presented information on Region C municipal water usage
- Have obtained additional data and revised figures
- 2000 water usage data from TWDB for 202 out of the 257 Region C municipal WUGs (not counting 16 County-Other WUGs)
- Subtracted municipal, industrial, and power water sales

Data Context

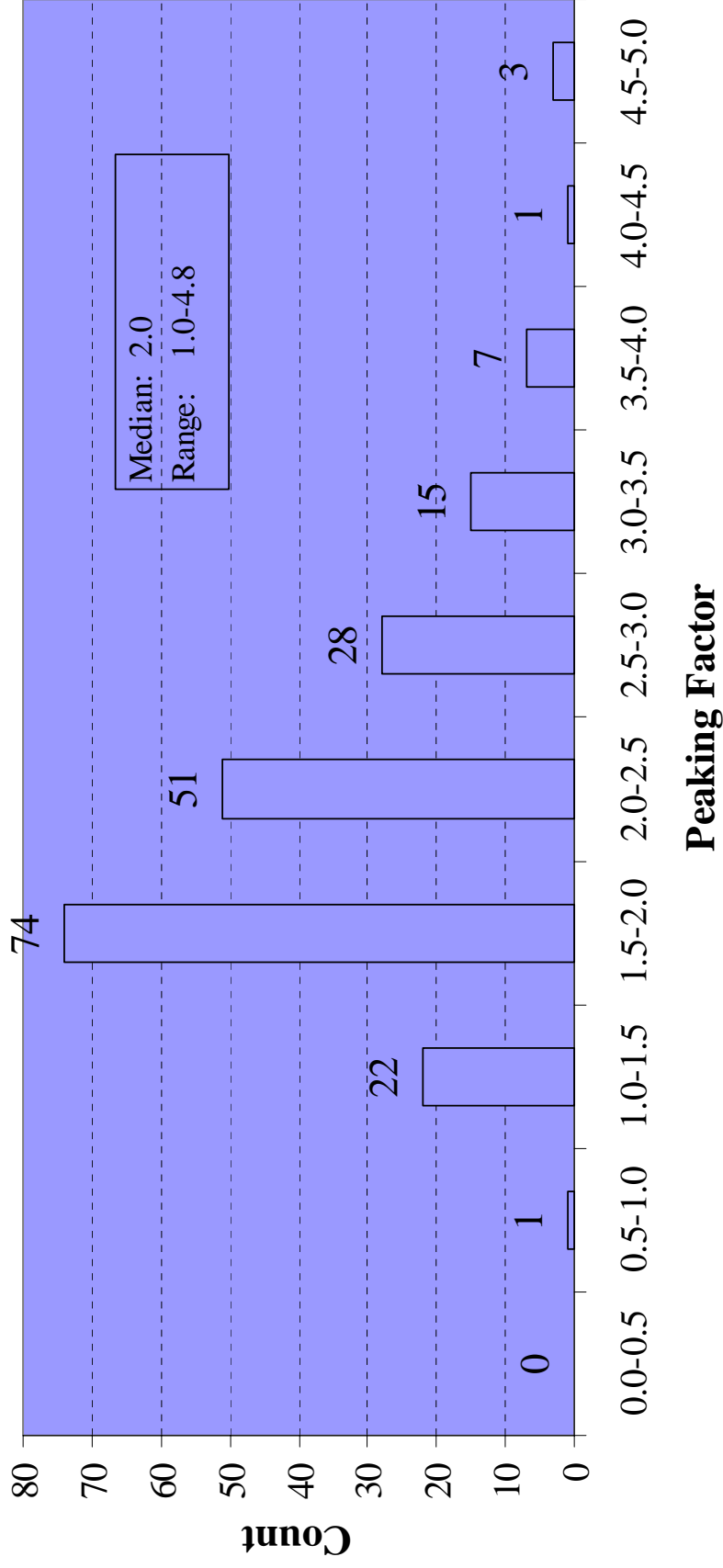
- **Region C 2000 Municipal Water Usage**
 - 202 WUGs: 1,062,430 ac-ft (89%)
 - Region C: 1,196,451 ac-ft
- **Water Sources for 202 WUGs**
 - Surface water 1,010,105 ac-ft (95%)
 - Groundwater 52,325 ac-ft (5%)
- **Per Capita Water Usage**
 - Resolving discrepancies in data

Distribution of 202 Region C WUGs Annual Seasonal Water Usage, 2000

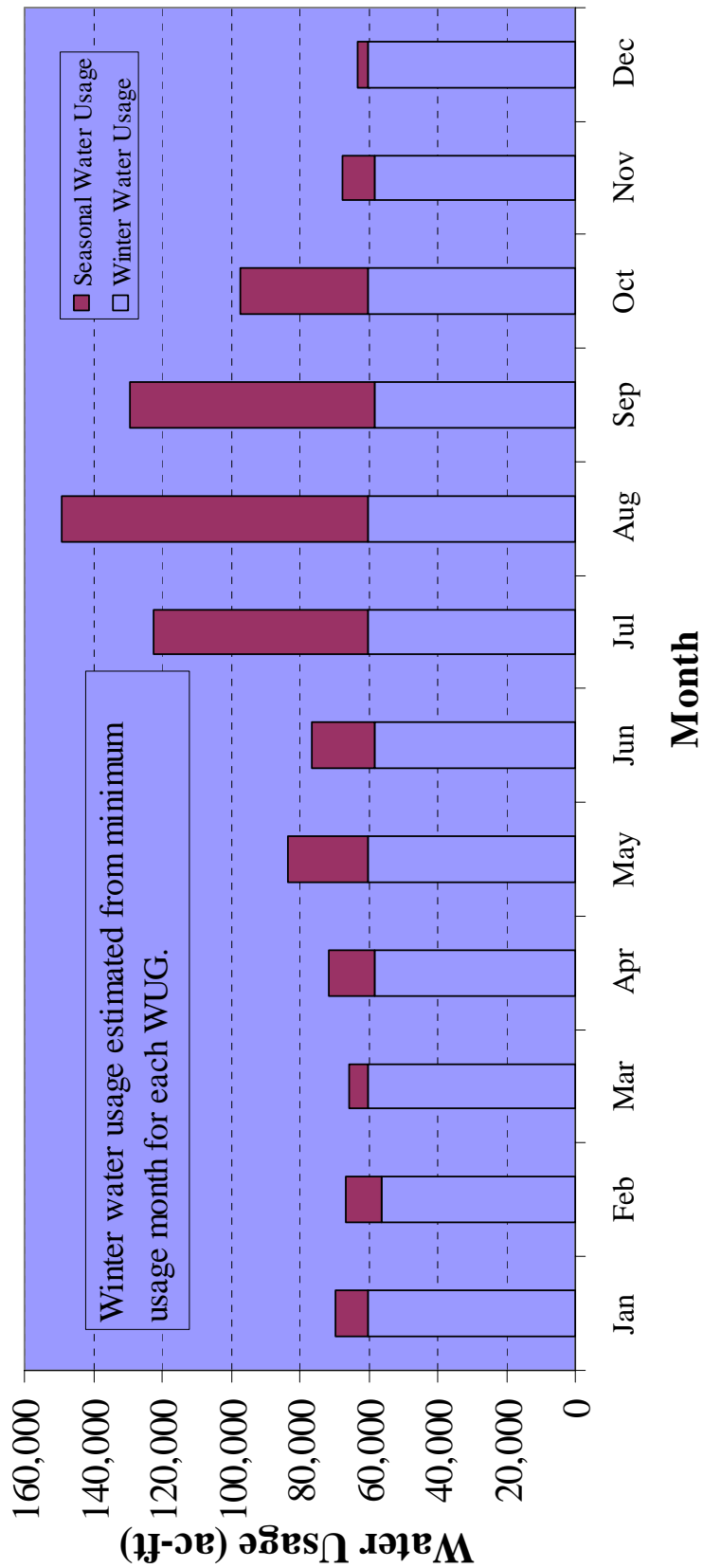


Seasonal Usage as Percentage of Annual Water Usage

**Distribution of 202 Region C WUGs
Ratio of Summer Average Use to Winter Minimum Use, 2000**



202 Region C WUGs Monthly Water Usage, 2000



Water Conservation Strategies

- Will review potential water conservation strategies at July meeting
- Analysis of potential water savings will require extensive evaluation
- To make best use of resources, plan to limit analyses for each conservation strategy by:
 - Creating profile of WUG that would yield most savings
 - Identifying WUGs that fit the profile
 - Evaluating potential water savings for only these WUGs

Evaluation of Water Conservation Strategies

- Example: Outdoor water use conservation strategies
 - Target WUGs with elevated outdoor water usage
 - Identify WUGs meeting criteria
 - Estimate potential water savings and costs for only these WUGs

Discussion Item

Summary of Speaker Comments
at April 19 RCWPG Meeting

Speaker Comments

- Speaker comments were posted on the Region C web site in advance of today's meeting
- www.regioncwater.org

Discussion Item

Update on Overall Status and
Next Steps

Schedule

- Recently completed tasks
 - Began follow-up phone calls for survey responses not received
 - Continued meeting with wholesale water providers to discuss surveys and future plans
 - Initial review of unique stream segment topic

Schedule

- Upcoming tasks
 - Continue working on unique stream segment topic (?)
 - Review potential unique reservoir sites
 - Discuss potentially feasible strategies by type over the next several months
 - Continue meeting with wholesale water providers
 - Complete follow-up phone calls to water user groups for survey responses not received by April 30

July Discussion Items

- Feasible Water Management Strategies
 - Water reuse
 - Water conservation
 - Connection of existing supplies
 - Surface water resources
 - Groundwater resources
 - Interbasin transfers
- Unique stream segments
- Unique reservoir sites

July Discussion Items

- Current water conservation strategies used in Reg C
- Key water quality parameters
- Memo summarizing current supplies
- Chapter 2
- Memo summarizing comparison of supply and demand
- Review desalination projects for future supplies

July Discussion Items

- Determine preliminary estimate of savings due to water conservation measures.
- Identify agricultural areas possibly impacted by water transfers.
- Draft survey on water conservation strategies - WUGs/WWPs
- Newsletter

July Action Items

- Feasible water management strategies
 - Desalination
 - Aquifer storage and recovery
- Neighborhood study report
- List of updated plans

August Discussion Items

- Feasible water management strategies
 - System operation
 - Conjunctive use of groundwater and surface water
 - Reallocation of reservoir storage
 - Brush control
 - Precipitation enhancement
 - Water right cancellation

August Discussion Items

- Memo summarizing unique stream segments, if any
- Review potential supplies not included in the 2001 plan.
- Guidance information for selecting water management strategies
- Potential impacts of water management strategies on water quality

August Discussion Items

- Quantify impacts on agricultural resources of transfer of water from rural to urban areas Model conservation and drought contingency plans.
- Chapter 1
- Chapter 3
- Finalize comparison of supply and demand
- Policy Topics - agriculture, rural, data

August Action Items

- Feasible Water Management Strategies
 - Water reuse
 - Water conservation
 - Connection of existing supplies
 - Surface water resources
 - Groundwater resources
 - Interbasin transfers
- Memo summarizing current supplies

August Action Items

- Chapter 2
- Memo summarizing comparison of supply and demand
- Approve survey on water conservation strategies - WUGs/WWPs
- Unique Stream Segments
- Unique Reservoir Sites
- Key water quality parameters
- Newsletter