Water Management Strategies Discussion

John Boyer and Ashley Reid

Agenda Item 6

Planning Framework Definitions

- **Surface Water Management Strategy** – a water management strategy proposed to eliminate a Surface Water Shortage, reduce a Surface Water Shortage, or generally increase Surface Water.
- A River Basin Plan is a collection of **water management strategies** supported by a summary of data and analyses designed to ensure the surface water and groundwater resources of a river basin will be available for all uses for years to come, even under drought conditions.

Group Reports – Q1: Existing Strategies in the Basin

- Water system loss review (e.g., Greenville has dedicated staff)
- Drought management plans (up-to-date/current)
- Golf courses and industry are mindful about water use for irrigation and recreation
- Supply side, impoundments and reservoirs
- Regionalization around a larger source (e.g., Pickens and Easley Central WD)
- Low-flow management strategies – a lot of it is voluntary. Not a lot of enforced actions.
- Water loss programs
- Management of lakes by USACE is effective; improvements considered.

Group Reports – Q2: Effectiveness of Existing Strategies

- We haven't run out of water, so something is working
- Reservoirs provide ample supply of water and water availability from reservoirs has met demand during past droughts.

Group Reports – Q3: Can Existing Strategies be Expanded

- Rebates/incentives to save water
- Although we are blessed with a lot of water, we need to be proactive. Communication message should not be that we have all our water problems solved. Perception matters.
- Educational programs/conservation – getting future generations to be proactive. Look at critical intakes downstream, in case flow releases are reduced
- Work with USACE to consider adjustments to their Drought Plan. For example, start conservation earlier. Also, current plan shows dropping level in winter in Level 2 or 3.
- There are differences in cost to maintain water systems, esp. on distribution side. Hard to improve distribution side to achieve better efficiency. Need to adjust grants to allow smaller systems to keep up, especially considering inflation
- Ag – Conservation irrigation, covering cropping, expansion of easements
- Ag – NRCS provides funding and education.

Group Reports – Q4: What Strategies are Relevant in the Upper Savannah basin and Should be Further Evaluated? (page 1 of 2)

- Not encourage tie-in of private wells
- Interbasin transfer regs that reflect forecasted needs of the basin
- Is there a way to keep more of the water that is withdrawn in the US basin, in the basin (limit or reduce interbasin transfers?)
- Increase water monitoring – make sure data is publicly available
- Drought management plan that align with each other and/or have realistic triggers and reductions
- Industry – have water reuse incentives and water loss controls
- Alternative energy sources (e.g., solar, natural gas, which don't use as much water)
- WaterSmart and EnergySmart appliances
- Sediment management above reservoirs
- Coordination between basin councils in SC and GA

Group Reports – Q4: What Strategies are Relevant in the Upper Savannah basin and Should be Further Evaluated? (page 1 of 2)

- ASR? Stream bank recovery/infiltration?
- Water Reuse? Could it work in upstate?
- Stormwater capture and infiltration?
- Building codes? Do they protect?
- Public education campaigns? Who's doing what and what messages? Common messaging. Comprehensive and holistic approach.

Demand Side Strategies

Important Considerations:

- Water users have different financial and technical resources.
- Not every strategy is applicable to every water user.
- Due to **uncertainty** of future water availability, it is becoming increasingly important to use water as efficiently as possible.
- Some strategies may be identified as part of an **adaptive management plan**. They are only recommended if certain risk triggers occur, or conditions change beyond what is expected.

Adaptive management is a framework that can be used to implement options as the future unfolds in a structured way to avoid the pitfalls of either **under-performance** or **over-investment.**

What Are Some Potential Uncertainties?

Upper Savannah RBC identified Uncertainties

What Strategies Were Considered and Supported in the Saluda River Basin?

Water Conservation and Efficiency Strategies

RBC Decisions

Agricultural Portfolio of Water Efficiency Strategies	Level of Support	Priority?
Water Audits and Nozzle Retrofits	Supported by RBC	No priority was assigned, given that each may apply differently to different growers
Irrigation Equipment Changes	Supported by RBC	
Soil Management and Cover Cropping	Supported by RBC	
Irrigation Scheduling	Supported by RBC	
Crop Variety, Crop Type, and Crop Conversions	Supported by RBC	
Future technologies	Supported by RBC	

Water Conservation and Efficiency Strategies

RBC Decisions

Municipal Portfolio of Water Conservation and Efficiency Strategies	Level of Support	Priority?
Conservation Pricing Structures / Drought Surcharge	Supported	Not prioritized by the RBC. Each may have different priority depending on the utility and their customers
~~Toilet Rebate Program~~	Low (Remove)	
Landscape Irrigation Program and Codes	Supported	
Leak Detection and Water Loss Control Programs (and Replace Aging Infrastructure)	Supported	
~~Car Wash Recycling Ordinances~~	Low (Remove)	
~~Water Waste Ordinance~~	Low (Remove)	
Public Education of Water Conservation (elaborate, add specifics, like rain barrel, native plants, etc.)	Supported	
Residential Water Audits	Supported	
~~Water Efficiency Standards for New Construction~~	Low (Remove)	
Reclaimed Water Programs	Supported	
Time-of-Day Watering Limits	Supported	

Water Conservation and Efficiency Strategies

RBC Decisions

Industrial and Energy Portfolio of Water Conservation and Efficiency Strategies	Level of Support	Priority?
Water Audits	The RBC generally expressed support for these strategies (although there was not a comprehensive discussion)	Not prioritized by the RBC. Each may have different priority depending on the utility and their customers
Rebates on Energy Efficient Appliances		
Water Recycling and Reuse		
Water Saving Equipment and Efficient Water Systems		
Installing Water Saving Fixtures and Toilets		
Educating Employees		

Questions and Considerations for the RBC

- Do you want to consider and model any other demand scenarios?
- Do you want to model the possible cumulative impact of demand-side strategies on water availability?
- Consider whether you want to establish a surface water condition or reach of interest.
- Are you ready to identify water management strategies to include in the Plan, especially demand-side strategies?