

**Austin Water Resources Planning Task Force
Development of Decision Criteria and Notes
May 27, 2014**

Goal 3: Evaluate potential water resource management scenarios:

Austin's current authorized water right of 325,000 AF/yr, in addition to the supplemental 250,000 AF/yr agreed for purchase in the future, is well sufficient to supply Austin's water needs into the distant future. However, as a result of the ongoing drought, the actuality of having those supplies available within the Highland Lake's system is questionable. With current predications for lake levels reaching a low trigger level of 600,000 AF (LCRA's declaration of the Drought Worse than the Drought of Record) in July/August of 2014, Austin is needing to evaluate options for alternative water sources and management options.

COA Water Management Strategies*

Optimize Existing Supplies/ Operational Augmentation via Efficiency	1. Conservation - <i>(Demand Management)</i>
	2. Direct Reuse - <i>(Demand Management)</i>
	3. Augmentation of Supplies - <i>(Supply Management)</i>
	<i>System Operational Improvements (Existing Supplies)</i>
	Longhorn Dam Gate Operation
	Reduced Lake Evaporation
	Walter Long Lake Off-Channel Storage
	SAR Discharge Relocation above Austin Gauge
	Lake Austin Varying Operating Level
	<i>Enhanced Operations (requires additional capital)</i>
	Automate Longhorn Gates
Operational Augmentation w/Signif. Capital, Permitting or Community Impact	Walter Long Lake Off-Channel Storage (enhanced storage)
	Capture Local Inflows to Lady Bird Lake
	Aquifer Storage & Recovery - Northern Edwards
	Indirect Potable Reuse - SAR to Lady Bird Lake
New Supplies	<i>New Groundwater Supplies</i>
	Blue Water Systems
	Forestar
	Northern Edwards Wellfield
	Vista Ridge
	Hays-Caldwell Public Utility Authority
	<i>Other</i>
	Brackish desalination in Edwards
	Reclaimed water bank infiltration
Colorado Bed and Banks	

***Water Management Strategies - (As identified by AWU, See "Preliminary COA Drought Response Decision Matrix"; Need to supplement with innovative-based ideas from the Task Force, as part of Task Force Goal 2, "Examine and make recommendations for future water planning")**

Various Ways to Categorize Strategies: *(Combination of 1 and 3 used above; Incomplete list)*

1. Sustainable Management Approach
 - a. Optimization of Existing Supplies
 - b. Augmentation through operational changes
 - c. Augmentation through operational changes, requiring significant capital, permitting or community impact
 - d. New supply development
2. Timing need
 - a. Short-term - Drought Response
 - b. Mid-term - Longer to implement
 - c. Long-term - Regional sustainable solution
3. Management focus
 - a. Demand Management
 - b. Supply Management
4. Source Diversity
 - a. Surface Water
 - b. Reclaimed Water
 - c. Groundwater
 - d. Rainwater

Development of Decision Criteria

An effective decision framework for evaluation and ranking of scenarios for COA future water management planning must go beyond a commodity-oriented analysis. The framework needs to include the primary and secondary environmental, economic and social benefits inherent with a secure water supply.

The following is a first draft of integrated quantitative and qualitative criteria to consider when conducting water supply alternatives analysis:

- Water Supply Benefits
 - Safe yield
 - Improved reliability and drought resilience
 - Improved reliability of existing supplies
 - Protect/extend Highland Lakes storage
 - Quality compatibility with existing distribution systems
 - Local control (resilience)
- Economic impacts
 - Appropriate metric for relative comparison (\$/kgal?)

- Effects to rate payers and affordability of essential water use
- Environmental impacts
 - Surface water, groundwater, stream, current land use, infrastructure, etc.
 - Effect on aquifer protection zone development
- Social impacts
 - Regional solution acceptable to neighbors
 - Imagine Austin Plan
 - Community values - Quality of Life
- Implementability
 - Required entity coordination
 - Complexities
 - Water Rights/Supply Contract required
 - Land purchase required
 - Discharge permit required
 - Timing
 - Regulatory approval
 - Political opposition -public acceptance
- Sustainability
 - Effectively balances economic and environmental impacts with community interests
 - Effects to carbon intensity of AWU
- Level of risk associated with various alternative supplies
 - Financial
 - Political
 - Potential impacts to quality of life
 - Accessibility of supply
 - Dependence on climatic conditions - Variability of yield
 - Local control
 - Hydrologic risk of conserving Highland Lake storage only to have it discharged by interruptible users for overall no significant net gain of storage (continue to work revisions to LCRA Water Management Plan)
- Benefit Cost Ratio

The above list needs refinement in scope and organization, but serves as a starting place for further discussion. Further enhancement of this criteria can help better define solutions specific to Austin and the surrounding communities, as well as serve as a basis for development a comprehensive evaluation matrix tool. A matrix tool could help to provide a tiered response, based on level of drought and need as well as prioritization based on decision framework criteria.