



Assigning Available GW Supplies when Supply Exceeds Demands

GW Subcommittee Agenda Item 6.2

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Overview

- Methodology for allocating Modeled Available Groundwater supplies to users
- Situation to address: A WUG's GW supply exceeds demands. How to allocate the "excess" supply?



Process for Allocating MAG Supplies to WUGs and WWPs

- Available groundwater supplies
 - Modeled Available Groundwater (MAG) when available
 - Divided by Aquifer – County – River Basin
 - Utilize estimates from 2016 Plan when no MAG available
 - Minor, local aquifers
 - Aquifers for which no MAG was determined
- Allocation of MAG to WUGs and WWPs
 - Within each county/basin, allocate MAG to Municipal WUGs/WWPs based on installed well capacity
 - WUG/WWP Supply = rated capacity * 0.5 (2.0 peaking factor) * 0.95 (assumes 5% downtime for maintenance)
 - County-Other Supply = 125 percent of 2010 use
 - Non-Muni WUGs
 - Steam-Electric and Manufacturing Supply = 130 percent of 2010 use
 - Irrigation, Mining & Livestock Supplies = projected demands
 - Supply is pro-rated down for all users if MAG would be exceeded
 - Trinity Aquifer constrained supply due to DFCs (large water level declines)
 - 2010 use assumptions will be re-evaluated to most reasonable estimate (2016?)



What if a WUG/WWP supply greatly exceeds demands?

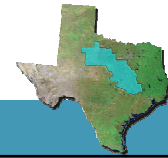
- Groundwater is viewed largely as a “shared resource” – users affect each other
- How to use the MAG that remains after the demands from **current users** are met?
 - Supply could be available for use within recommended water management strategies
 - Can be increased if supplies are reallocated differently
 - Current approach for allocating groundwater supplies:
 - » Allocating based on installed well capacity controls that portion of water, regardless of actual demands
 - » Allocated supply can greatly exceed demands for some WUGs and WWPs
 - » This “unused” supply is not made available for new groundwater supply strategies
 - Alternative approach:
 - » Assume some portion of “unused” supply is available under the MAG
 - » Allocate some of the surplus supply back to the “shared resource” for use by recommended water management strategies
 - » Appropriate demand factor? – WUG/WWP retains 15%, 25%, 50%? greater than demands



“Unused” Groundwater Supplies

- Example: Texas A&M University (2016 Plan data)
 - Year 2040 supply: 13,632 acft/yr based on well capacities
 - Year 2040 demand: 6,309 acft/yr
 - Unused supply: 7,323 acft/yr
 - Some or all of the unused supply could be made available to new water management strategies

- Unused groundwater supplies in Brazos G (2016 Plan data)
 - Varies by county and aquifer
 - 60,976 acft/yr of supplies potentially available to water management strategies in 2040
 - Max: Brazos County – 9,963 acft/yr
 - Min: Milam and Palo Pinto – 12 acft/yr
 - Ave: 1,173 acft/yr per county
 - Total: 60,976 acft/yr of “unused” groundwater supplies in Brazos G



Question for Discussion and Recommendation

1. Can we reduce groundwater supplies to WUGs that don't utilize entire supply, and make the unused supply available as general groundwater available under the MAG for water management strategies?

Pros

- Makes fuller use of GW resources
- Doesn't limit available supplies based on unused well capacity
- Closer to how GW supplies are managed
- Eliminates some expensive water management strategies

Cons

- Removes one level of conservatism in the planning
- Doesn't consider capital investment made in supply capacities
- Doesn't consider that future growth might actually utilize the “unused” supply

2. If so, what portion of the unused supply should remain with the WUG?
 - Suggest total supply = 125% of demand

