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Water Markets Key to Long-Term Growth in Texas Economy

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Drought in Texas

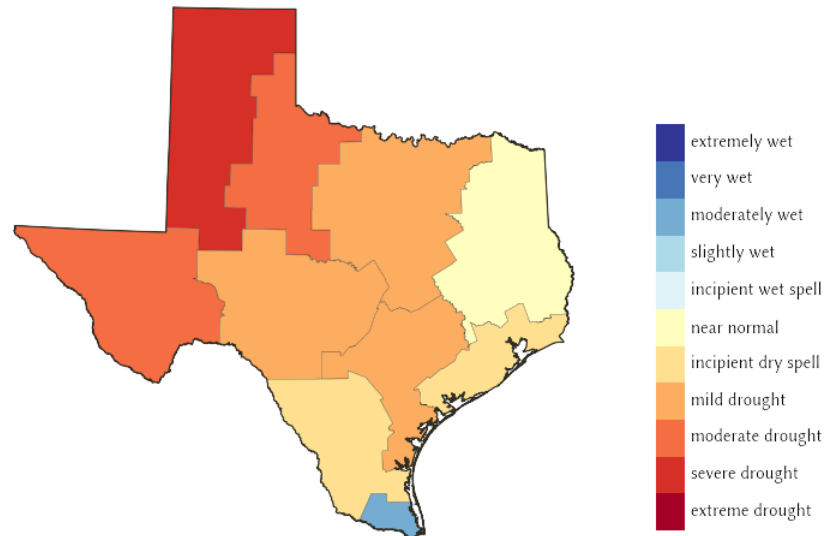
Medina Lake 2014



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Drought in Texas

- 80 percent of Texas is abnormally dry
- Outside of East Texas, most of the state is suffering from mild to moderate drought.
- 2011 saw the most severe drought in the state since 1956, and recent years have seen continued arid weather



Water Supplies

- Surface water supplies drying up throughout West and South Texas
 - Medina Lake near San Antonio at 3 percent, less than 8,000 acre-feet available out of 250,000 capacity
 - Twin Buttes Reservoir in San Angelo, with 200,000 acre-foot capacity, has been empty since November
- As summer approaches, many reservoirs remain far below their capacity and will continue to be strained further



Water Supplies

- Due to rapidly growing cities, water demand is projected to rise by 5.4 percent by 2020.
- Over the same period, due to weather, excessive pumping, and lack of infrastructure, statewide water supply is projected to fall by 3.3 percent.



Who Uses Water

- Agriculture accounts for 60 percent of water use in Texas
- Municipalities use just 27 percent but this share will continue to rise as cities grow rapidly
- In Texas, little movement of water between agriculture and municipalities or across geography



Surface Water

- Surface water accounts for 40 percent of Texas' water supply and 62 percent of water for metros
- While the state owns surface water, property rights to its use are well defined.
- Well functioning markets exist in some areas of the state such as the Lower Rio Grande Valley



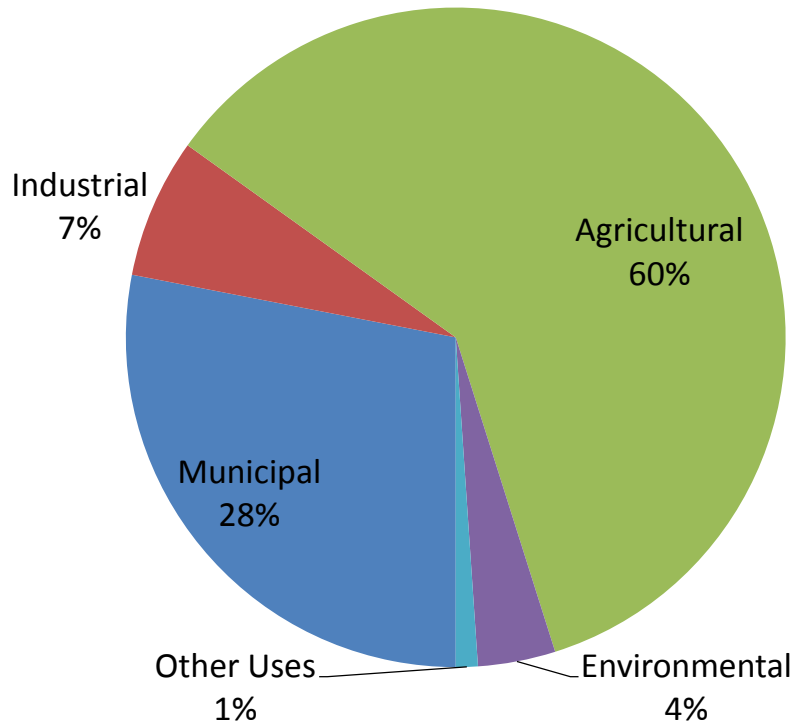
Market Challenges in Surface Water

- 23 water authorities own 70 percent of surface water rights
- Inflexible “take-or-pay” contracts give no incentive to conserve in times of scarcity
- Water often over allocated

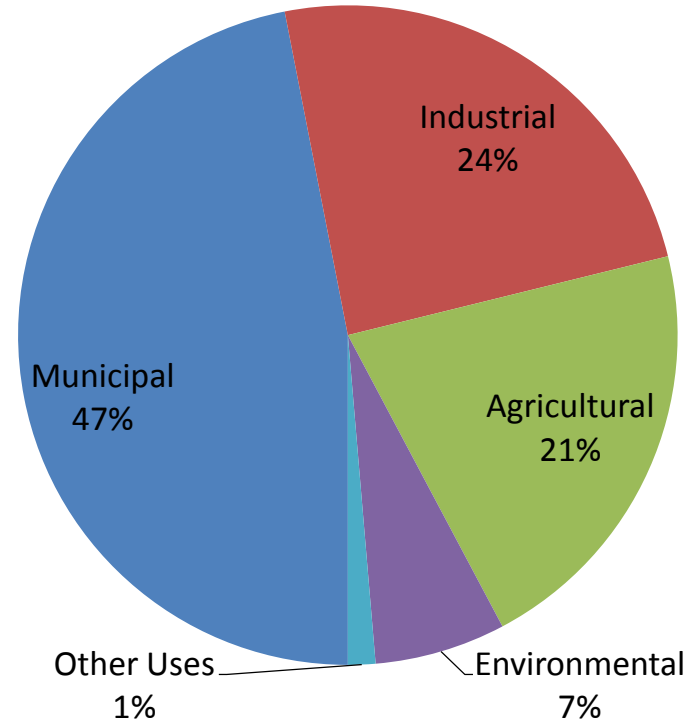


LCRA Decides who Gets the Water

LRCA 2011 Water Use



LRCA 2012 Water Use



Groundwater

- Groundwater accounts for 60 percent of Texas' water supply and 80 percent of agricultural irrigation
- Aquifers often very large and movement of water across users often very cheap
- “Right (rule) of capture” stipulates that water is not owned until it is pumped out of the ground.





Challenges for Markets for Groundwater

- Right of Capture results in the Tragedy of the Commons - Aquifer authorities have tried to get around the law by setting up co-ops but on shaky legal grounds
- In issuing rights, need lots of buyers and sellers – may need to take into account acreage above aquifer as well as historical pumping.
- “Use it or Lose it” provisions inefficient
- Need to deal with third party issues
- Minimize exempt wells



Things To Do Now

- Overturn rule of capture for groundwater
 - Use everything we know to issue private property rights in a manner that creates efficient markets – lots of buyers and sellers, anti-trust provisions, clear property rights
- In surface water, move toward more buyers and sellers, not fewer
- Eliminate/avoid inefficient rules such as “use it or lose it” and “Take or Pay”
- Encourage short-term spot markets



I am optimistic about the future

- If water markets can thrive in California then they certainly can in Texas
- 60 percent of water in Texas is used by agriculture, which represents less than 2 percent of state GDP – plenty of room for sales of water to thirsty cities and industries
- If we do things right (have efficient water markets) price of water will likely rise in the future, but this is much better than reduced availability and rationing

