Landscape Irrigation Wells in Central Texas*

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There has been a sharp increase in the number of private wells being drilled in Central Texas for non-essential water demands such as landscape irrigation (Figure 7). This is especially prevalent in the urban areas and in response to drought conditions when homeowners are motivated to put in their own irrigation wells to avoid high water bills and watering restrictions (Figure 8).

Many are familiar with the recent court decision (*Day v. the Edwards Aquifer Authority*) that reinforced that groundwater in place is owned by the land owner, but the lesser known part of the decision is that groundwater conservation districts (GCDs), as the preferred method of groundwater management in Texas, may also regulate well drilling and pumping of that water. In the Barton Springs segment of the Edwards Aquifer, management of the aquifer involves both protecting water levels to ensure water availability for all groundwater users and protecting the environmental flows for the endangered species that call the aquifer home.

Under the District management plan, new Edwards irrigation wells operate under an On/Off permit (Class C Conditional), meaning, when we go into drought, pumping must stop entirely. This pumping restriction effectively preserves water supplies and spring flows during drought. As an alternative to the Edwards, permits are available for wells that would pull water from the Trinity aquifer, the aquifer beneath the Edwards. Trinity wells are generally 1,000+ feet deep and very costly to drill and operate, but pumping from them is less restrictive since demand on the Trinity aquifer is not as great.

Outside of a GCD, wells are required to be registered with the State and must comply with state well construction standards and all local codes and ordinances (e.g. plumbing and electrical codes). But pumping is not regulated. The troubling fact is that groundwater and surface water systems are connected--surface water recharges the groundwater system, then the groundwater reemerges through springs and flows into the surface water system. Depleting groundwater supplies will affect surface water supplies, though it may take years for monitoring programs to quantify that effect.

Philosophically, these irrigation wells are problematic because they enable landscapes that are unsustainable and out of place in Central Texas. And for areas outside of a GCD, these wells create new demand from a water supply that is not being managed or monitored. Groundwater is not a new and independent water supply and merely swapping surface water for groundwater doesn't fix the problem.

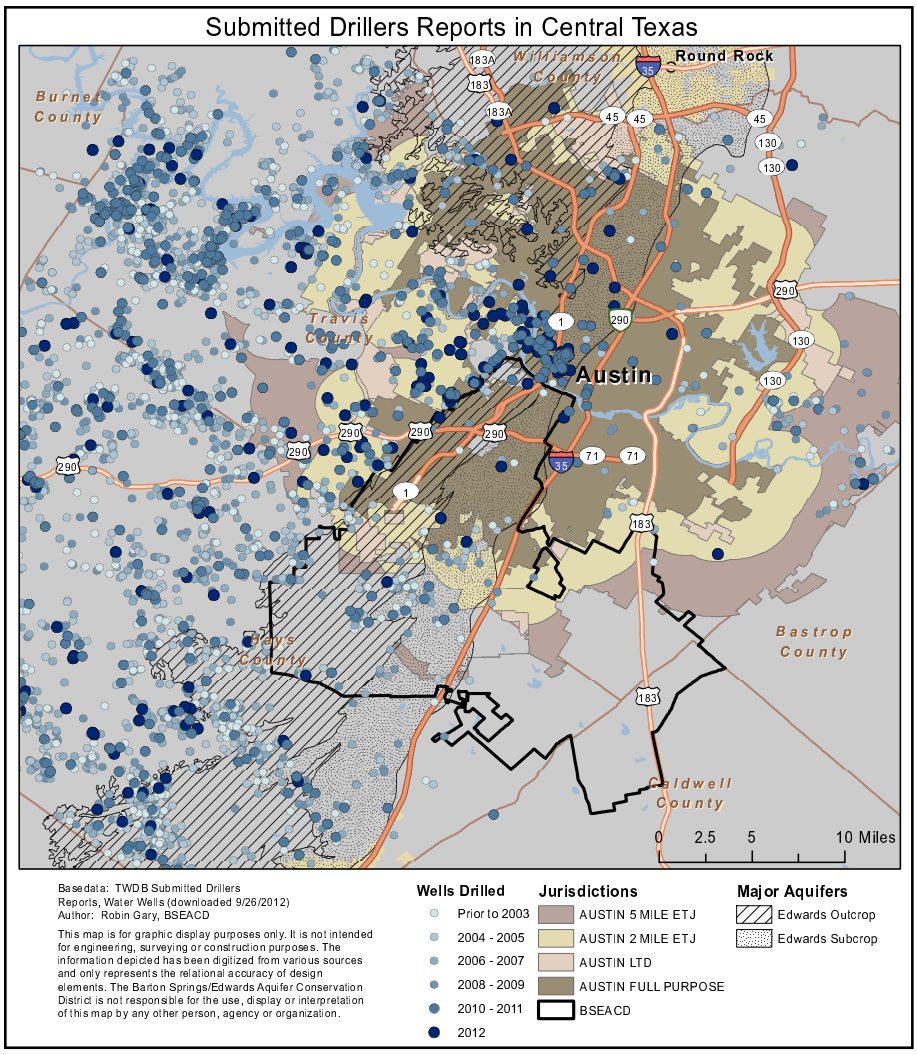

Figure 7. Map showing wells drilled by date in Central Texas.

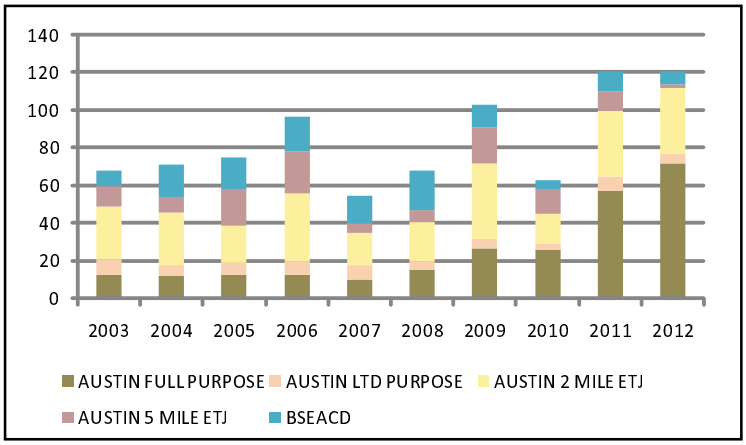

Figure 8. Graph showing number of wells drilled by year by jurisdiction. 2006, 2009, and 2011 were exceptionally dry.

Responsible water supply planning in Central Texas requires an emphasis on reducing demands from non-essential uses (landscape irrigation) and preserving that water for uses essential to the long-term health of Central Texas residents.

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