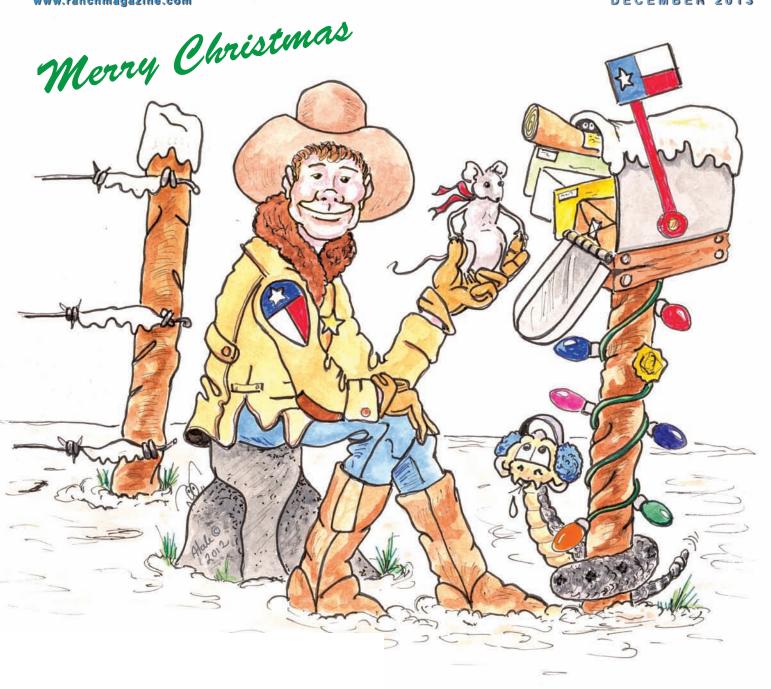
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water

Is the Drought Over Yet?

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Some weathermen, TV news folks and just plain ol' Texans are wondering aloud about this now. Yes, large parts of Texas have received considerable rain this year—some got awful floods. We have some green pastures, and some fall small grain is growing well. Livestock would be fat and happy—if we had not sold most of them. The Texas drought map now looks much better than it has in a long time. So, isn't the drought over?

Well, from I-35 west, I would have to say a strong "No!" East Texans seem to be better off on water than the rest of us. Sure, things are greener and you do see some ponds with water, and developers want to develop, builders want to build, and politicians want to bring more new people to Texas! But, that is not the bottom line as I see it.

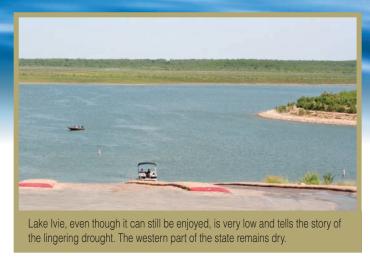
Now, "for the rest of the story!" to borrow a famous line from my favorite radio host, Paul Harvey, which fits here very well. I still miss his show. Let's take a brief look at some of my reasons for being negative on the drought.

Groundwater Levels—Many aquifers are lower than normal and still dropping. I just read an article on the critical condition of the largest US aquifer, the Ogallala of our South Plains and Panhandle regions (it extends clear to the Dakotas). This crucial aquifer provides drinking water to millions in eight western states and irrigation water supplies supporting an estimated 25 percent of our nation's agricultural production (*Texas Tribune*, "Texans Look Beneath the Surface for Water" by Neena Satija, 11/19/13).

The aquifer has been heavily pumped for over 60 years and receives very little recharge (new water). Across the Hill Country, other aquifers, which provide vital spring water for many rivers, are very low and many of their springs and seeps have dried up. These aquifer-fed springs are not only key to local ranchers, but to maintaining river flows in the upper Nueces, Guadalupe and Colorado river basins.

Creeks which normally flow across the region have been dry for a long time, cutting off water to livestock, wildlife and to some irrigators, and primarily to the rivers they support. Lowered aquifer levels due to over-pumping around Fort Stockton long ago dried up the once large Comanche Springs, and for those at the City of Big Springs as well. The huge Edwards Aquifer's levels have dropped to a point where water use from Uvalde east to San Antonio has been sharply

—CONTINUED ON PAGE 14—





reduced. Dropping aquifer levels have reduced some current spring flows as well, such as: Jacobs Well at Wimberley, 0cfs and 1.4cfs av.; Las Moras at Bracketville, 3.9cfs and 17cfs av. Most Texas springs are not gauged due to small scattered locations and size or a lack of funding.

As Texas' population and irrigation acres have exploded since the '50s, groundwater pumping has also grown with corresponding negative effects upon aquifer levels in most cases. The continuing projected Texas growth to "double by 2060" will be critical in managing our groundwater for the future of the state's resources and people.

Texas Reservoirs—As monitored and reported by the Texas Water Development Board, lakes across the western half of Texas (from I-35 west) are very low. Some of the larger and more critical lakes such as: Medina Lake, west of San Antonio, is 3.9% full; Canyon on the Guadalupe is 85% full; Choke Canyon on the Nueces is 35% full; the huge Amistad Reservoir on the Rio Grande is 48% full, and Falcon, below it, is 33% full.

Elephant Butte on the New Mexico side of El Paso, crucial to both cities and ag, is 10.9% full; Red Bluff on the Pecos 42% full; Meredith on the Canadian 0% full; O.C.Fisher on the North Concho is 3% full; and neighboring Twin Buttes on the Middle and South Conchos is 0% full; Spence Reservoir on the Colorado is 4% full; Ivie is 14% full; Buchanan is 36% full; Travis is 34% full; and Abilene is 6% full.

River Flows—Looking at some of the key, lower flows (present and long-term median flows for this date) across the western half of Texas according to USGS, you see: Brazos River at Aspermont, 1.8cfs (cubic ft./second) av. 5.7cfs; Brazos R. at Waco 70cfs and 540cfs av; Concho R. above San Angelo 0cfs; Concho R.@ Paint Rock 9.6cfs and 34cfs av; Pedernales R. at Fredricksburg 0.14cfs and 26cfs av; Colorado R. at Robert Lee, 0cfs av .8cfs; Colorado R. at Stacy (near Brady), 0cfs and 20cfs av;

Colorado R. at Austin, 101cfs and 411cfs av; Guadalupe R. at Kerrville, 27cfs and 99cfs av; Nueces R. below Uvalde, 0cfs and 35cfs av; Frio R. at Concan, 25cfs and 79cfs av.; Sabinal R. near Sabinal, 0cfs and 26cfs average; Medina R. at Bandera, 0.63cfs and 56cfs; Pecos R. at Pecos, 0cfs and 24cfs av.; Pecos R. near Girvin, 12cfs and 32cfs av.

River basins in central, western and Panhandle regions are the hardest hit by the continuing drought. So, you can see that a statewide reported average of lake levels being 62 percent full can be very misleading—especially if you, your family, your farm or ranch or your town depends upon one of the lakes listed above. It seems the drought is far from over! Wichita Falls just reported Stage 4 Drought Level and NO outside watering, as their lakes are at 30 percent full. Even Austin is cutting back on outside water use due to their very low major lake levels. Where's a good, wet tropical storm when you need it?

Summarizing, it can be seen that even a good year of precipitation and some green grass and weeds do not make a drought disappear. The rate of rainfall, its timing and a high quantity of God's gift to us can do more to recharge aquifers, springs and rivers, plus put significant water into almost dry lakes. In many areas now, due to that improved upper soil moisture, a heavy downpour in the right location might fill some of these disappearing reservoirs and put a smile on Texans' faces.

Climatic features such as wind, sunny days and high temperatures are all hard on surface water levels. Increased irrigation in these times by both irrigators and urban residents can drop water levels quickly. Replacing deep soil moisture lost by years of drought is often a lengthy affair as well. This deep moisture is often what keeps our trees and deep rooted crops or the better native grasses alive and healthy.

Too many climate experts have told us we are in a period of climate change—hotter and drier, with some decent years. Hope they are wrong! In the meantime, be conservative as always and keep praying for rain. \Diamond



