

AUGUST 5, 2016

# Watershed Week in Review

Llano River Watershed Alliance

## Texas A&M Press Release Casts Doubts on Brush Control and Water Supply Enhancement *-but don't jump to conclusions-*

### An Opinion Piece by Tyson Broad

Last month, Texas A&M AgriLife [issued a press release](#) with the title,

*“Brush control no help for water supplies, lake sedimentation.”*

This ‘finding’ is based upon a [recently published paper](#) on the Lampasas River that found no change in stream flow despite striking changes in brush cover over an 85-year period. While the press release statement regarding brush control and water supply enhancement does represent the results of the study, the press release errs in attempting to draw parallels to the rest of the state:

*“We know some regions in the state include brush control as a key water supply strategy, theorizing that woody plant species use more water than grasses... But they will likely be disappointed.”*

–Agrilife Press Release, July 13, 2016

See [Jumping to Conclusions](#), page 2

## Taking a break

The newsletter arrives in your inbox a bit early this week as the ‘staff’ of Watershed Week in Review take a little vacation time.

Thanks to all of you for your support of this newsletter. See you in a couple of weeks.



## Jumping to Conclusions...from page 1

I believe it is not scientifically sound to equate the results of the Lampasas study to the rest of the state, specifically the Llano. Here's why:

1) A critical element in enhancing water supply from brush control is groundwater storage. The headwaters of the Llano, with its karst (caves) uplands, should be an ideal location for implementing brush control efforts to enhance water supply. Water previously lost to evapotranspiration from brush can readily infiltrate into the ground, recharge the groundwater, and later emerge as springflow in the river.

2) The headwaters of the Lampasas River, where the study was done, is similar to the headwaters of the Llano; they are both fed by springs emerging from limestone. However, the limestone feeding water to the Llano is much greater in area and volume than the limestone feeding the Lampasas.

Consequently, the Llano receives much greater water supply from springflow than does the Lampasas.



3) The Lampasas study found no significant changes in the relationship between rainfall and runoff to streams over an 85-year period, despite changes in land cover. However, the study did find that baseflow (springflow) as a proportion of total streamflow doubled during the first portion of the study period, which the study shows was during a period when woody vegetation was decreasing. Such results, if they were to occur in a system more dominated by springflow (such as the Llano) could prove significant.

**Continued next page**

- 4) In developing the [Upper Llano River Watershed Protection Plan](#), Texas Tech University prepared an ecological model to simulate what hydrologic changes might occur if today we begin removing 9,000 acres of brush in the watershed annually, replacing it with grasses. What the simulations show is that it takes about 10-12 years to begin seeing changes in hydrologic response, specifically changes in evapotranspiration (i.e. how much evaporates into the air from brush compared to grasses). After year 12 however, the changes, or decreases in evapotranspiration and assumed increases in infiltration or recharge appear to be significant, suggesting that there may indeed be benefits to water supply from brush control on a watershed scale.

While I will be the first to use the adage, “all models are wrong; some are useful,” these results suggest that we do not yet fully understand the potential effects of brush control on water supply in the Edwards Plateau (and the Llano). Hopefully, future research at the Llano River Field Station and elsewhere will move us towards this better understanding.

Tyson Broad is a Board Member of the Llano River Watershed Alliance and editor of *Watershed Week in Review*. He is also the Watershed Coordinator for the Upper Llano River Watershed Protection Plan at the Llano River Field Station at Texas Tech-Junction. The views expressed in this opinion piece are his own.

## Llano County Ranch keeps with the changes

Joe Freeman, a former Texas State Soil and Water Conservation Board employee, continues the 132 year-old ranching tradition on the family ranch in northern Llano County.



*“When I was raised, we were kind of trained – you protect your country, you take care of it, and you pass it on. Those people I named a while ago, those are the people who slugged it out and worked their butts off out here. I was just born into it. I’d be pretty counterfeit to just cash it in and walk away”*

Joe and his wife Carol share their trials and tribulations of keeping a family ranch together these days in this [article from the Llano News...](#)

## The Family Fun continues this weekend at SLRSP.



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**Family Park Programs**  
South Llano River State Park  
Phone: (325) 446-3994



### Geocaching 101

Saturday, August 6th, 4:00 pm - 5:00 pm  
Meet at the Acorn Blind

(down the path from the restrooms, between campsites 39 and 41)

Experience the fun of Geocaching, a high-tech treasure hunt you can do anywhere in the world using a GPS unit or your smartphone! Loaner GPS units will be provided for this program. Good walking shoes, drinking water, sun protection, and bug spray are recommended. All ages welcome!

### Star Party

Saturday, August 6th, 8:30 pm - 10:30 pm  
Meet at the Day Use parking lot

(take road across from Park Headquarters, follow to the end)



Join Texas Tech Outdoor School, Mason Stargazers club, and the park ranger for a star party! We'll act out the legend of Perseus, find our way around the night sky, and look through telescopes at the crescent moon, Saturn and other celestial objects! We'll also find out what the park is doing to protect its dark skies. Bring a lawn chair, and a red light flashlight to protect your night vision. All ages welcome!



### Birding 101

Sunday, August 7th, 9:00 am - 10:00 am  
Meet at the Acorn Blind

(down the path from the restrooms, between campsites 39 and 41)

How do you tell all those colorful birds apart? Join the park ranger to learn binocular and bird ID tips, followed by a short bird walk. Binoculars provided, or bring your own. Good walking shoes, sun protection, and drinking water are recommended. All ages welcome!

*Park programs are open to the public and free with park entrance fee*