

The Central Texas Bioregion Is Bumping With Biodiversity

Travis County in Central Texas is 30°18' north latitude and 97°45' west longitude. The Texas Northern Blackland Prairies make up the majority of my bioregion but the Edward's Plateau Woodland, Llano Uplift, Limestone Cut Plains and the Balcones Canyonlands border its edges.

Classification of agroecosystems in this bioregion includes a variety of crops, cattle, sheep, grains, poultry, greenhouses, and mixed farming systems. There are a large number of backyard gardens and community gardens. Ecological energetic processes in the agroecosystem include the use of mechanization and chemical fertilizers on the non organic farms that grow grains. Intensified agriculture in this bioregion includes semi-industrial and full industrial (Altieri 1995, 50).

The growing season is about 270 days however there are crops that can be grown year round (Smyrl 2010). The Blackland Prairie is predominantly clay and the Edward's Plateau is a mix of caliche and clay. Agricultural systems include grazing systems for cattle, while there are wildflower programs in place to incorporate native species back into the land along the highways (Altieri 1995, 40). There are gradient changes where ecoregions intersect like in Edwards Plateau and the Blackland Prairies. Cropland, pasture, urban development, industrial growth, and organic farming have altered the Texas Blackland Prairies (Glenn Griffith 2007). "Less than one percent of the original vegetation remains. Restoration activities in some of the protected prairies include prescribed burning, haying, and bison grazing (Glenn Griffith 2007)."

Some examples of the biodiversity in this bioregion include native plants, grasses, trees, succulents, flowers, herbs, and cactus. Trees include Oak, Pecan, Black Walnut, Dogwood, Mesquite, Cedar, Mexican Buckeye, and Texas Ash (Texas A & M

Agrilife Extension Service 2013). Shrubs and smaller trees that can be found here include Bottlebrush, American Beautyberry, Crepe Myrtle, and Mexican Redbud (Texas A & M Agrilife Extension Service 2013)

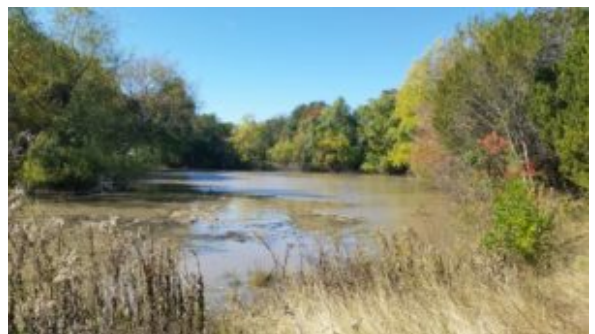
Some of the capital resources include the Ogallala Aquifer and the LCRA controls water from the Colorado River to six dams including the Highland Lakes (Lower Colorado River Authority 2014, Texas Water Development Board n.d.) An extinct volcano makes up part of the Edward's Plateau (Smyrl 2010). Soil formations are attributed to Cretaceous shale, chalk, marl and of these irregular plains, gradient streams of silt, clay, and sandy substrates are located at an elevation between 300-1050 feet above sea level (Glenn Griffith 2007). The average temperature for Travis County is 67.51°F and the average rainfall for my bioregion is 35.22 inches of rain per year (World Media Group, LLC. 2014).

Spanish settlers and the Mexican government have been a crucial part of indigenous lineage also in the Texas Blackland Prairies (Smyrl 2010). Human resources and the metapopulation include nonprofit organizations, parks, neighborhoods and east side organic farms. The ever-changing region hosts a myriad of culture, industrial development, fauna, agricultural opportunities, native and adapted flora, soil variations, geological land shifts, warm weather, light precipitation, and is a college mecca.



Just after you

cross the street to get back on the trail you are able to enjoy the beautiful maple trees turn colors in the fall. This illustrates how the landscape significantly changes within a 2 mile stretch.



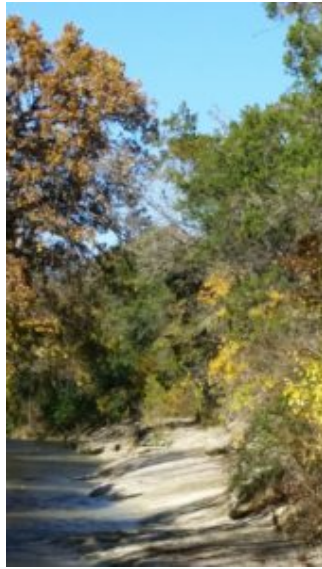
The Blackland Prairie ecoregion meets the Savannah ecoregion opening up into this beautiful wetland that is thriving as a result of habitat management.



When the river is high you can kayak alongside.



Fossilized seashells indicate oceanic activity years ago. This indicates Edward's Plateau ecoregion.



Hiking along the
bank of Walnut
Creek



Hiking with my cousin
Tabitha near the end of the
2.2 mile hike one way, at
Copperfield Greenbelt Trail
in Austin, Texas. Loop back
for a hike over 4 miles.



Balcones
Canyonland
Ecoregion near
the trailhead.

These photos were taken with my cousin Tabitha while on a hike at Copperfield Greenbelt Trail in Austin, Texas in the fall of 2015. We will cherish these memories forever as we instill her passion for adventure, nature, and life in our hearts.

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Polyculture Farming Must Serve As The Foundation

Last January I went on a road trip across California with my brother Adam in my Aunt and Uncle's VW Camper. I remember the awe we experienced as we gazed out the window at hundreds of acres of grapevines young and old. As we traveled along the countryside and outskirts of cities, we tactfully dodged mudslides in Big Sur, flooding, 80 mph winds in San Luis Obispo, where we hunkered down for the night at the El Chorro Regional Park next to the Botanical Garden, and a snow storm in Yosemite. Luckily the highway apps allowed us to safely maneuver our way between two beautiful National Parks in the winter. If you haven't visited Yosemite or Joshua Tree National Parks, they must be on your bucket list!

I never really thought to consider viticulture as a thriving monoculture movement until I was bombarded with rows of vineyards in my peripheral view. Just as the picture indicates, there's a succinct system in play within the viticulture industry and it's hard not to miss the lack of biodiversity in this industry alone. While there is a cover crop of grass in between the rows, there are other solutions that could be utilized to make viticulture production more sustainable. Encouraging organic viticulture is an ongoing debate but there are wineries all over the globe that work with nature to create a wine that is better for all living things.

In the twenty-first century the "tri-lemma; food, fuel, and the environment," are the driving forces that should propel biodiversity and agrobiodiversity. Power postulates that innovation is thwarted by decisions that farmers must make in response to policies and market trends, with landscape changes devised to meet these demands (2009). Power presents the dilemma that ecosystem services must support and detract between agricultural services and ecosystem services, and that they must be supported by biodiversity (2009). I believe that farming methods used to cultivate crops, like polyculture vs. monoculture, play an essential role in biodiversity and

agrobiodiversity.

Ecosystem services must incorporate polycultural agricultural systems in order to build the foundation for more sustainable food systems. Landis, Wratten, and Gurr (2000) previously discussed how monocultural cropping systems prevent the occurrences of beneficial insects to run their course due to the use of pesticides, and how polycultures provide a welcoming environment for multiple species to coexist and work with nature over time. Polycultural farming methods should serve as the foundation of policies and programs.

Agricultural systems are implemented as a result of agricultural practices driven by the demand in global markets (Power 2009). Agricultural systems must support alternative landscapes like permaculture in order to be effective at maintaining conservation, resource recycling, and water harvesting, while creating more biodiversity (Conrad 2013). Hesterman states that we are chipping away at transforming the food system through a systems change, emphasizing that we can't afford to wait, "we need to act more directly and forcefully now" (Oran B. Hesterman 2011, 43). Furthermore, policies should mandate that farms incorporate "adaptive landscaping" (Power 2009) on their farms in order to receive funding, and claim agricultural exemptions. Insisting that giant monoculture viticulture farms adhere to biodiverse systems would provide more sustainable solutions for dealing with drought.

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Sustainable Opportunities in Central Texas

Hi y'all! Hope 2017 has kicked off to a great start! I'm super excited to update you on all of the great sustainable transitions that have happened in the past few months! For those of you who were able to attend the Mother Earth News Fair in Belton, Texas in February, it was great to see you and thank you so much for attending my workshops! In case you missed either of them I'm pleased to tell you that you have another chance to attend the [Small Farmer Value Added Workshop](#) if you are in the Central Texas area this summer! I will be teaching that class June 22nd-July 27th on Thursdays from 6-9pm at Austin Community College through their Sustainability Program! Did you know that ACC offers the only sustainability program in the state, as well as many other awesome home and garden courses?

The Small Farmer Value Added Workshop is for beginning or existing farmers who want to incorporate a sustainable, holistic, values-based system that additionally brings to market niche

products to help generate more revenue. Workshop will cover a wide range of topics including Texas Cottage Food Laws/Production/Food Sampling, Waste Management, Sustainable Marketing, Triple Bottom Line, Certifications, Whole Farm Planning, Branding, Agrobiodiversity, and Resource Development. There will be individual and group activities as well as a student workbook provided.

As a Farm to School Ambassador for the Sustainable Food Center and Austin Independent School District I have really enjoyed engaging elementary students during lunch by offering samples from local sustainable farmers! AISD has been integrating the salad bar at various schools and 135 schools are a part of the Farm to School program in Austin! It has been a refreshing opportunity to volunteer on behalf of this social sustainability program! This past week we distributed a cilantro, carrot, and lime juice sample that the kids loved! Also check out School and [Community Farm Stands](#) or weekly SFC farmers' markets which also allow customers to use SNAP and WIC benefits. SFC F2S team assisted with citrus fundraisers offered at some of the schools this winter from fruit grown in the valley. Above is a picture of some citrus I grew last year.