

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.



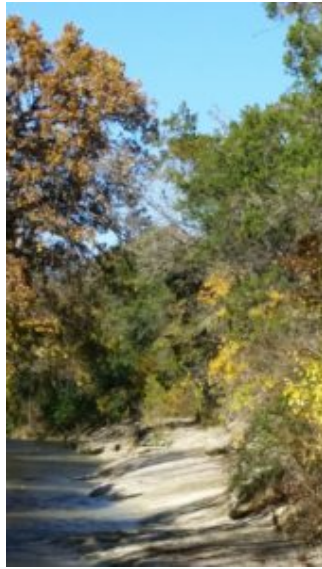
The Blackland Prairie ecoregion meets the Savannah ecoregion opening up into this beautiful wetland that is thriving as a result of habitat management.



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.

Bibliography

Altieri, Miguel A. *Agroecology: The Science of Sustainable Agriculture*. Westview Press, 1995.

Glenn Griffith, Sandy Bryce, James Omernik, Anne Rogers. *Ecoregions of Texas*. Austin, December 27, 2007.

Lower Colorado River Authority. *Energy, water and community services for Central Texas*. 2014. <http://www.lcra.org/about/Pages/default.aspx> (accessed October 30, 2014).

Rose, Peter R. "The Walter Geology Library, The Balcones Escarpment: Pipeline Oil Spills and the Edwards Aquifers, Central Texas." *The University of Texas Libraries at Austin*. January 31, 2012. http://www.lib.utexas.edu/geo/balcones_escarpment/pages163-183.html (accessed October 30, 2014).

Smyrl, Vivian Elizabeth. "Travis County: Handbook of Texas Online." *Texas State Historical Association: A Digital gateway to Texas History*. June 15, 2010. <http://www.tshaonline.org/handbook/online/articles/hct08> (accessed November 24, 2014).

Texas Parks and Wildlife Department. *Rare, Threatened, and Endangered Species of Texas*. http://www.tpwd.state.tx.us/gis/ris/es/ES_Reports.aspx?county=Travis (accessed November 24, 2014).

Texas A & M Agrilife Extension Service. *Native and Adapted Landscape Plants*. 5th. Austin: Grow Green, 2013.

Texas A & M University System. *Agricultural and Mechanical College Extension Services*. <http://aggie-horticulture.tamu.edu/vegetable/guides/the-crops-of-texas/appendix-1-descriptions-of-geographic-regions-in-texas/> (accessed October 31, 2014).

Texas Water Development Board. *Major Aquifers*. <http://www.twdb.state.tx.us/groundwater/aquifer/major.asp0> (accessed November 11, 2014).

World Media Group, LLC. "Travis County Weather." *USA.com*. 2014. <http://www.usa.com/travis-county-tx-weather.htm> (accessed November 24, 2014).

Mid Summer Garden

Well I don't think I can ever get caught up in the backyard these days! My gardens have become so large that I'm constantly cultivating the soil! It seems as if just as I've finished one thing, another bed needs redone!

It has been a very successful tomato season for us even though many farmers have said the complete opposite due to all of the rain! Plenty of heirloom tomatoes here! At this time I have planted about 102 in my small space. The reason for that is a greenhouse lesson learned. In the years prior I seed started in the house where the environment wasn't ideal for sprouting. Davin was able to finish the greenhouse coop last fall and I was able to start my favorite varieties successfully for the first time. I put 3 seeds in each pod, and guess what, they all came up! So, I was able to sell a few at the farmer's market, and donated about 40 to a few local families. Lesson learned! We will be expanding our greenhouse coop into a full greenhouse with aquaponics in one section and a chicken care station below, in addition to our seed starting stations. That will be our next big project after Davin remodels the new coop again. I swear, how many times can you rebuild something until you are satisfied with the end result?

Our chickens are 20 weeks old on Wednesday! One of our Campines has been laying for almost 2 weeks straight now but none of the other ladies have begun yet. The

campine eggs are tiny, a little smaller than a guinea egg actually. The new flock is having a hard time adjusting to the heat I think because we had so much rain in the spring that it was actually pretty cool for much longer than it usually is. Since it's dried up for the past month or so it's been pretty hot and they are struggling, even though it hasn't reached 100 degrees yet. Luckily we have multiple fans in both the new coop and the old coop so all of our hens are getting some relief. It does help them to lay in the summer if they have places to cool off. We have multiple locations for water and I like to give them refreshing frozen or chilled afternoon fruit treats.

We also have ten different breeds, within the 20 birds we own. Four of them are 16 months old and three of them are consistently laying. The Ameraucana hasn't been laying eggs but has a deformed dorsal, which I've read is how some of the original Araucanas were shaped. She did have some very soft shelled eggs and I'm not sure if she will lay again or not. So right now she's helping to control the bad bug population, and fertilization. She is one of the original ten pullets that we bought 8-10 weeks old and lost 60% for different reasons. Davin calls her Corky. For anyone considering raising chickens, get them as chicks, not as older pullets. They'll have a much better chance of survival and be much healthier if they grow up in the same environment.

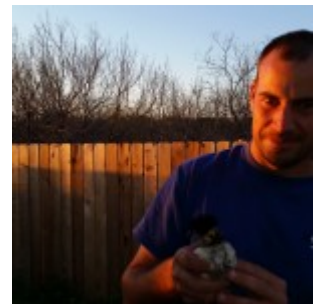
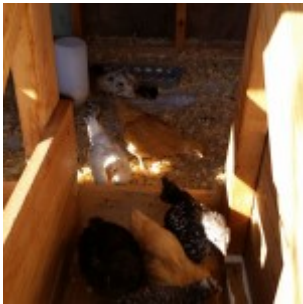
Here are a few pictures to show you what's new at our market garden-backyard homestead and some of the things we've done this spring and summer!



A few plants that
we got from
Sunshine
Community Gardens
annual spring
plant sale, 2015



Seed starts in
the greenhouse



Davin's favorite.



Adjusting the new
system.



Drip system runs
off of rainwater
and is very
efficient.



Drinking
harvested
rainwater, packed
full of
electrolytes!



Another compost
pile located in
Sustainable
Garden Bed



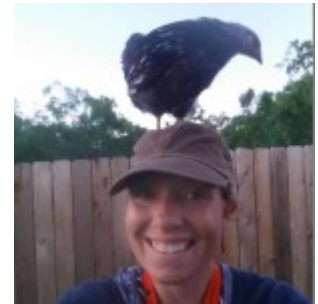
New grape bed and
added garage sale
decor to the gate



French Heirloom
Creme de l'ite
Carrot



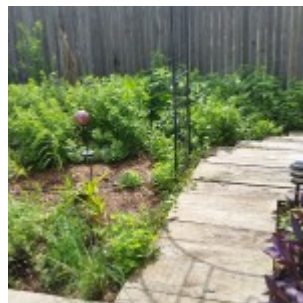
Walking onion



Yes, early
bonding. They
like to jump on
my head!



Table grapes from
Stark bro's.



Herb garden in
the spring 2015



Citrus and
succulents



New coop



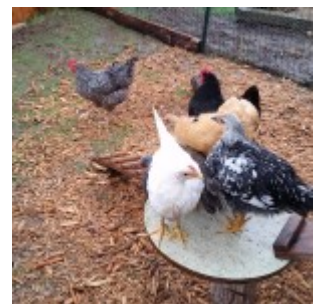
Just a little wet
from the rain



Grew buckwheat to
build the soil
with nitrogen, as
a beneficial
insect promoter,
and for chicken
scratch



Compost for the
chickens to
scratch in

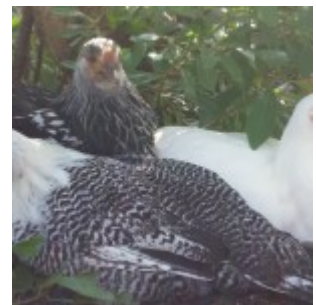




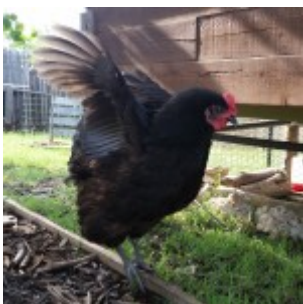
Everbearing
raspberries



1015, Red, White,
Texas Sweet
Onions, were
harvested early
because of all of
the rain and
flooding.



Silver Campine,
Leghorn, Heritage
Breed Hens



This was our
broody Australorp
hen this spring!
We got her back
on track after a
couple of weeks!



Buff Orpington,
Ameraucana, J

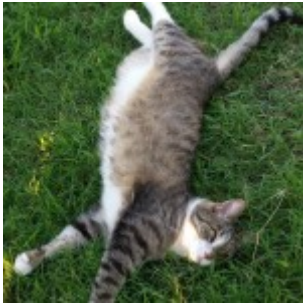




Brabanter
Heritage Breed
Hen



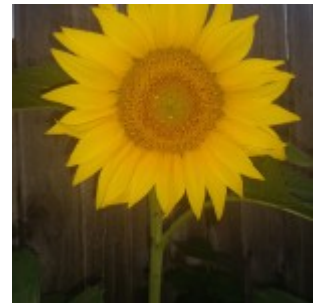
Norwegian
Jaerhons,
Heritage Breed
Hens



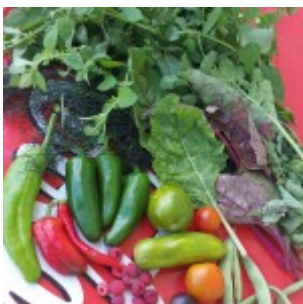
Mic relaxing



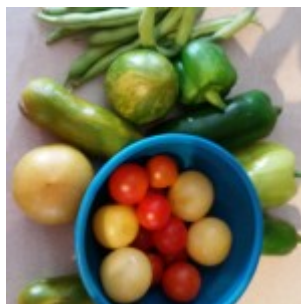
rattlesnake that
I went face to
face in while
cultivating the
corn bed



sunflower



late spring/early
summer harvest



Some of the first
harvests in the
spring.



Heirloom Garlic



Giant Zinnia



A peek in the new coop



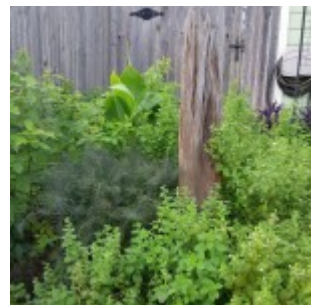
Garden in June



crimson
watermelon that
came up on its
own free will



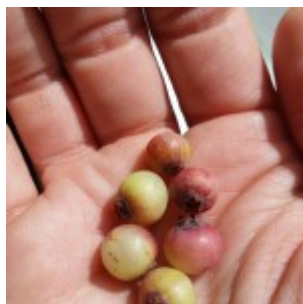
For some reason
we have two
banana spiders
hanging above our
nesting boxes on
both coops. I'm
ok with that too!
They are well
fed!



Melissa, fennel,
raspberries,
roses, cana, and
an old log that
we turned into
garden art in the
herb garden



Cinnamon basil



Pink lemonade
blueberries

SNAP, WIC, and Nutrition Build Community Based Food Systems and Food Security

Turning community supported agriculture into agriculture-supported community would allow community food security to thrive within the local food movement (Ackerman-Leist 2013). Community food security targets the local population and strives to, “make healthy, fresh food available to individuals, organizations, businesses, and government entities (Ackerman-Leist 2013).”

The food justice movement is present in Austin with organizations like Urban Roots, which targets lower-income families and troubled teens. The Sustainable Food Center (SFC) has created Farmer’s Market Incentive Programs (FMIPs) through the Farmer’s Market Nutrition Program (FMNP) to increase local food access among nutrition assistance beneficiaries (Jeanie Donovan 2013). They have also targeted mobile vending, community-based farm stands and grocery stores to reach beyond the farmers market (Jeanie Donovan 2013).

New policy recommendations include increasing electronic transfer benefits (EBT) availability at local food retail locations and making it mandatory for all farm stands and farmers markets (Jeanie Donovan 2013). This will be one of the biggest challenges

because out of seventeen farmer's markets/food stands in Austin only six are EBT equipped. Additionally Supplemental Nutrition Assistance Program (SNAP)-enrolled and WIC (woman, infants, and children) customers must be included in all the programs and locations in order for it to be the most effective (Jeanie Donovan 2013). However in order to be SNAP qualified one must apply to determine their eligibility and TBB (The Benefit Bank) assists our diverse population (Jeanie Donovan 2013). Installing EBT technology with the USDA's Food and Nutrition Service (FNS) program requires excess funding. Targeting public and private sources, available grants, annual reporting and reapplications can help sustain funding possibilities (Jeanie Donovan 2013).

Since other cities show the benefits of increased sales between SNAP customers as a result of FMIPs the SFC believes that this would be a successful program here. SFC doubles the value of SNAP, WIC, and FMNP benefits totaling up to \$20 per market per day through the Double Dollar Incentive Program (DDIP), but only for fruits and vegetables (Jeanie Donovan 2013). Consumers can save keep their incentives to use on other days as long as they use them by the end of the year.

By increasing the frequency of access for low-income consumers to obtain locally produced fruits and vegetables, the programs will redirect consumer spending to local agricultural producers (Jeanie Donovan 2013). This could also provide environmental opportunities like reducing food loss in conjunction with local composting programs and gleaning opportunities, as well as turning excess food into animal chow. It will decrease energy output by cutting transportation costs and minimizing distribution beyond

a fifty mile radius. Direct market sales and relationship development between consumers and farmers will be socially beneficial. Additional education benefits will help individuals learn new life skills; understand where their food comes from and empower better nutrition decisions.

Works Cited

Ackerman-Leist, Philip. *Rebuilding the Foodshed*. White River Junction: Chelsea Green, 2013.

Jeanie Donovan, Amy Madore, Megan Randall, Kate Vickery. *Farmers Market Incentive Program*. Policy Recommendations for Austin, Texas, Austin: Lyndon B. Johnson School of Public Affairs, 2013.