

FIELD NOTES



Jason Cox



Meeting

At 6:30 for 7:00 on July 27th, 2011, come and join us for a presentation by Dr. Caitlin Gabor, Associate Professor at Texas State University in San Marcos. She will be offering insight into the predator-prey dynamics and the effects of introduced fish on the San Marcos Salamander, plus she will be discussing some results from hormone analyses on stress levels in captive San Marcos Salamanders.

Regular Monthly Meetings are normally the last Wednesday of each month (except December when we do not meet) and are held at 6:30, at the Austin Nature and Science Center, Zilker Park Map to Austin Nature Center <http://bit.ly/hJ2Pli>. All meetings are open to the public so bring a friend!

CAMN Board Meeting

Join the Board of Directors for a spirited discussion about CAMN business at our next meeting on September 8th, 2011 (notice date change). Contact any Board Member for more details and for the location of the meeting.

Volunteer and Advanced Training Opportunities

Visit the CAMN website at <http://camn.org/> and log in to the CAMN Volunteer Calendar to start fulfilling those volunteer hours.

Visit the CAMN yahoo group for On-line networking

FROM THE PRESIDENT

I am not going to state the obvious but let's really hope that we get something from the promised abundant tropical storm season! With that in mind, please remember to keep your water features for the outdoor critters full.

This is an amazingly full issue and jam packed with things about what we have all been up to — even though you would think we would be inside in the cool. I would like to thank everyone who has sent me things for the NL and remember, if you write something for the NL you can get volunteer time, as it is telling all of us what you have done and lets all of us know what opportunities there are to be enjoyed.

I would especially like to thank Jason Cox for his article and amazing photographs. Because of the way I have to reduce the file to be able to publish the

Field Notes online a lot of the resolution is going to be lost. For that I have to apologize to you all and especially Jason. If you would like to see how beautiful they are in a higher resolution, please let either Jason or myself know and we can get those to you.

The Curriculum Committee held its first meeting this last Sunday and a lot of progress was made in a very short amount of time. they still need people to help so please step forward if you can. See page two for more information. It is a wonderful opportunity to get really involved with our new members and learn in the process.

Have a great month everyone - the end is in sight and cooler temps are just around the corner (we hope). As always, thank you for all you do, for CAMN and our community.

Christine Powell

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Do you have a Sighting to share?

Please send your sightings and interesting images of your volunteering events to the Editor so we can all share in the fun!



Curriculum Committee Charges On!

The CAMN Curriculum Committee has begun accepting applications for the Class of 2012, and is continuing to organize the program. Our co-chair, Kris Thorne, hosted a planning meeting at her home on August 7. Because of a recent move, Julia Osgood is stepping down as the other co-chair. If you are interested in this position, please contact Kris or Christine Powell. Our first class will be held on January 28, after an orientation session on November 19, with commencement on April 21. Class coordinators are in place for all but two of the ten class sessions. If you are interested in coordinating the Geology and Soils class on February 25, or Birds and Spiders on March 10, please contact Kris. There will be some minor reorganization of subjects this year, in the light of comments from the Class of 2011. One significant change is that class members will be asked to participate in a volunteer opportunity on at least one of the dates on which there will be no formal class (February 18, March 17, or April 7). This will give them some experience of CAMN's real work, as well as practice in filling out the report forms.



Even the insects are having problems in all of this heat this year. I did however find large numbers of native bees at the LBJWC this last week - great fun to watch, not so good to photograph though! Ed.

CAMN Composts!

The City of Austin has recently launched a program to promote composting, as a part of its long-term goal of reducing landfill use by up to 90%. City solid waste customers can receive a rebate of up to 75% of the cost of a home composting system or \$75 (whichever is less) if they downsize to a 32-gallon (green) garbage cart and take a free home composting class. On July 27, Daniela Ochoa of the City Solid Waste Services Department, in conjunction with department consultant, Jason Sanders, presented just such a class at the monthly CAMN meeting. As it happened, it was far from the usual basic lesson. Because most CAMN members already recycle and compost, the audience asked questions and engaged in a give-and-take that made this a highly educational experience for everyone... even the people from the City!



Composting is good business for city government, as well as for the environment. A very high proportion of all

landfill volume is currently taken up by materials that could be recycled, including food waste and lawn clippings that could be composted. It is almost cost-prohibitive to start a new landfill. The “Not in My Back Yard” syndrome guarantees opposition from neighboring landowners that can drag out the permitting process for years (if not decades). Therefore, cities and private waste

disposal services must do everything they can to make existing landfills last as long as possible. Diverting volume from garbage trucks to backyard compost piles is one of the most effective ways to do this.

Additional benefits include keeping Austin literally green by returning organic matter to the soil, while protecting our water resources from runoff polluted with the chemical fertilizers and pesticides that would otherwise be needed. Landowners save money because they don't have to buy soil amendments and treatments, and because they don't have to replace as many plants. When the compost is used as mulch, it cuts down on the amount of water needed for landscape maintenance, which saves the landowner money on monthly utility bills and saves the City the cost of providing unnecessary infrastructure. Runoff filtered through compost has fewer solids, oil, grease, and heavy metals that would otherwise require detention and treatment before reaching waterways. There is no significant downside to this approach. So, the City of Austin is happy to provide composting rebates and even the 50 free kitchen composting pails that CAMN members took home along with their eligibility for the rebate program.

Go to http://www.cityofaustin.org/sws/zerowaste_composting.htm for more information.

What is Composting?

Composting is nature's way of recycling. Rather than sending your biodegradable items—such as food and lawn clippings—to the landfill, you can compost them and use the result as fertilizer for your garden or lawn.

Benefits of Composting

- Helps regenerate poor soil.
- Helps clean-up contaminated soils.
- Helps prevent pollution.
- Reduces the need to water, fertilizers and pesticides.
- Suppress plant diseases and pests.
- Reduces or eliminate the need for chemical fertilizers.
- Promotes higher yields of agricultural crops.
- Facilitates reforestation, wetlands restoration, and habitat revitalization efforts by amending contaminated, compacted and marginal soils.
- Removes solids, oil, grease and heavy metals from stormwater runoff.
- Captures and destroys 99.6 percent of industrial volatile organic chemicals (VOCs) in contaminated air.
- Provides cost savings of at least 50 percent over conventional soil, water and air pollution remediation technologies, where applicable.

Amphibian Watch at Bauerle Ranch Park

This summer has been an interesting season for Texas Amphibian Watch at Bauerle Ranch Park. CAMNers have adopted several ponds around Austin to observe amphibian populations over time for changes in population. The data is used by Texas Parks & Wildlife Dept. to help determine whether amphibian populations in Texas are following a worldwide decline in amphibian populations.

In May, a little rain the night before our monitoring excursion made for a spectacular night of frog viewing and hearing. We saw American green tree frogs, gulf coast toads, and a bullfrog. We heard cricket frogs and eastern narrow-mouthed toads.

With no break from the drought in June, the frogs were not as active,



Gulf Coast Toad - *Bufo valliceps*



American Green Tree Frog - *Hyla cinerea*

but we did spot green tree frogs and gulf coast toads. Other wildlife was very active, so it turned out to be a good night to observe birds and snakes in addition to the amphibians. A whitetail deer snorted and bounded away when we got to the pond. Several diamondback water snakes swam along the bank to feed. A pair of yellow-crowned night herons perched motionless on a log in the pond. Whistling ducks floated on the water, and a red-striped ribbon snake slithered from a tree.

To get involved in studying our local amphibians and to see other fascinating nocturnal wildlife, look for Texas Amphibian Watch in the CAMN Weekly Reader.



Diamondback Water Snake - *Nerodia rhombifer*

Yellow-Crowned Night Heron
Nyctanassa violacea



Red-Striped Ribbon Snake
Thamnophis proximus rubrilineatus

For the latest issue of the *Texas Nature Tracker* from the Texas Parks and Wildlife Department, see with an article by CAMN froggers go to:

http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_br_w7000_0360_08_11.pdf

**Important Note
for Amphibian Watchers**

Some of you may have noticed that the Texas Amphibian Watch scientific permit expired in July of this year. Because of staffing reductions, and because very few of the volunteers actually handled amphibians, TPWD has decided not to renew the permit. If you would like to handle amphibians, you will need to have an educational permit or a hunting license.



Everything's Hot!

During this unprecedented hot spell, please remember that humans aren't the only sufferers. We all know the essential elements for a wildlife habitat: water, food, shelter, and a place to raise young. The current drought affects all four, not just water supplies. Hummingbirds, for example, have far fewer natural nectar sources available, because so many plants are conserving resources rather than flowering. When trees and bushes drop their leaves, this also affects the insects, birds, and other animals that normally shelter and raise their young in those plants. The heat itself can kill, particularly when wildlife is already weakened. There is also an indirect impact. Most animals cool themselves through increased respiration, sweating, or other strategies that involve evaporation and can lead to dehydration.

This isn't just an example of "nature taking its course." Even apart from the issue of global climate change, cities and suburbs create heat islands with elevated temperatures and altered rainfall patterns. Since humans are part of the problem, we should also be part of the solution. In these times particularly, be conscious of the need to provide water, food, and shelter for our nonhuman neighbors.

As just one indication of how serious this drought is affecting wildlife, consider our large local bat colonies. Because there has been no rain, there is very little standing water breeding mosquitoes, and because so many crops and other plants are dying, moths and other insects are scarce as well. So, our local bats are having to fly out earlier in the evening and come back later in the morning, hunting for more hours to avoid starvation. On August 7, the sun did not set until 8:20, but the bats under the McNeil bridge in Round Rock were already flying out in large numbers by 6:50. The Congress Avenue Bridge colony is being similarly affected.

Kathy McCormack sent me these images this week that might at any other time be comical. However, it drives home just how much everything is suffering in these dreadfully hot days. Remember, we all can do our bit to help out. Even a bowl of water left out can help some distressed animal or bird. I know all of my water features in the garden are being well used and all day I hear a cacophony of bird song from my water fall and ponds. However, this doesn't mean all is well with my wildlife. Just the other day Dale came in and said he had had to duck as a large raptor flew down over his head through the trees. Personally, I was excited and wanted to know what sort of raptor while Dale just wanted to get out of its way. I'm afraid we have no idea what it was...

I have also been hearing reports from other CAMNers and friends that they are finding evidence of what is clearly more animals lower in the food chain being killed and eaten by larger creatures that are not normally present in such large numbers at their ponds and stock tanks. Unfortunately, this cannot be prevented but in this crisis we can only do what we can. *Ed.*



My Big July Outing!

Mom took me to the Weber's house on Saturday the 23rd. There were lots of people there to watch some bicycle thingy on the big screen, but all I cared about were all the great cat smells on the dining table and a nice big platter that I could hide under.



Mom pulled me out of my cloth carry-bag, and I heard a lot of 'ooooo's' and 'aaahhhhs.' Must be lookin' good right after that last shed.



I was ready to get down on that table and start exploring.



What's this? *Elaphe bairdi*. Hmmmm - well nice picture, but I can't get any scent off the silly thing. What's it all supposed to mean? The humans seem to be entranced, but I have better things to do.



Time to get busy and slither around for the "Meet and Greet." I'm really good at this - like to give everyone a good show, and I'm not shy.



Oh, yeah - always pay attention to the hostess. Lynn had the best arm for coiling. This was one of my favorite parts of the morning. It's nice to be appreciated.

Whew - that turned out to be a lot of handling and climbing and coiling. Glad to get back in my box and go home. I knew I was going to get a big, fat mouse as a reward for a job well done. I was a good snake, and I kept everyone entertained.

Until next month - Ssssssssss. Keep the shiny side down.

Paco

Sue Anderson is Paco's Mom and uses her for education and outreach at various events. Paco kindly agreed to give us regular updates on his Outings! Ed

Tails of Summer

Flower blooms in summer are often visited by large, colorful butterflies in the swallowtail family. These insects are so named because of the tails on their hindwings that resemble the forked tails often found on birds in the swallow family. They are even more unique when in the caterpillar stage, because they possess a hidden structure behind their heads called an 'osmeterium', a fork-shaped organ that is exposed when under threat (or forced out with a gentle squeeze) and can emit a smelly and bad-tasting secretion. As such, swallowtails are distasteful to many predators in both the caterpillar and adult butterfly forms.

The smallest and darkest swallowtail you will see this time of year is the Pipevine Swallowtail (*Battus philenor*). Its upperside has blackish-brown forewings and hindwings that have an iridescent metallic blue sheen. The undersides of their hindwings have bright orange dots surrounded by black and blue, with subtle white markings. The Pipevine Swallowtail caterpillars, which are reddish-brown with rows of fleshy red tubercles rising up from their backs, normally feed in small groups on plants in the pipevine family. It is these plants that give the insect their poisonous quality.

One of our bigger and brighter swallowtails is the Two-tailed Swallowtail (*Papilio multicaudata*). Growing to over 5 inches wide, their distinctive yellow wings have black tiger-like striping, with a row of bright blue spots along the trailing edge on both sides of the hindwings. Each hindwing also has two primary black tails, giving this insect its common name. The Two-tailed Swallowtail caterpillars are carrot-orange with a pair of pale yellow eyespots on top of the head and a pale yellow band behind the head, making them resemble a small snake. In our area, these caterpillars feed on the leaves of the wafer ash or hop tree.

Our largest butterfly is also a swallowtail, is aptly named the Giant Swallowtail (*Papilio cresphontes*), and can often have a wingspan of over 6 inches. Their wings are dark brown to black



Pipevine Swallowtail

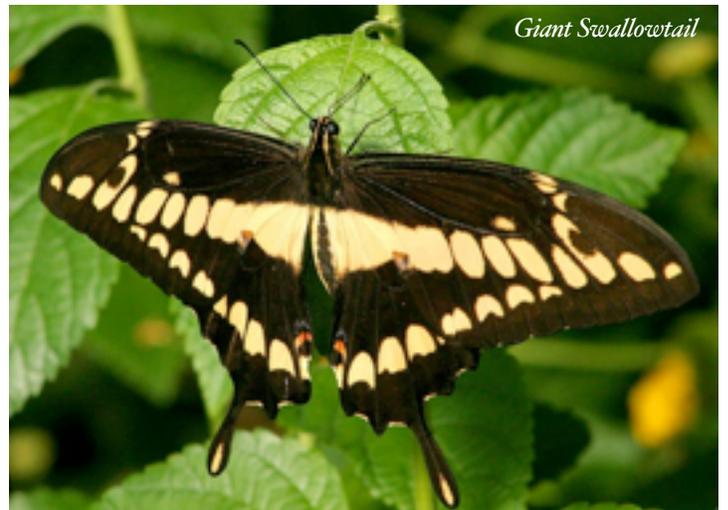
with yellow bands and a yellow spot in the center of each tail on the hindwings. Their young caterpillars look like bird droppings, which are effective at deterring predators. Giant Swallowtails have distinctive flight patterns, with the females tending to beat their wings slowly but move quickly over long distances, and the males having a more rapid, jerky flight due to their slightly smaller wings.

At times you may find an adult swallowtail butterfly missing some or all of its tails. While the true purpose of the tail-like extension on the hindwings of these butterflies is unknown, it is often believed that they trick predatory birds into biting off this expendable part of their wing, giving the swallowtail a chance to fly yet another day!

Send your nature-related questions to naturewatch@austin.rr.com and we'll do our best to answer them. If you enjoy reading these articles, look for our book, Nature Watch Austin, to be published by Texas A&M University Press, and now available for pre-order through Amazon.com.



Two-tailed Swallowtail



Giant Swallowtail

We're Texabama Bound

As we stood looking over an entire hillside covered with Texabama Croton (*Croton alabamensis* var. *texensis*), it was hard to believe that this is a rare plant. The 6-10 foot perennial shrubs dominated the understory beneath the deciduous canopy, with distinctive waxy green leaves that have silvery to coppery undersides like nothing else in the Hill Country. Those leaves turn bright orange in autumn. In the areas where it is found, mostly rocky slopes and terraces of limestone canyons, the native croton can seem very common. Yet it is found in very few locations, mostly west and northwest of Austin, where development is restricting its habitat. Although the Texabama croton is not on any official endangered or threatened lists, it is one of the 27 species of concern protected by the Balcones Canyonlands Conservation Plan.

The stand we were observing is on private property near one of the Canyonlands preserves. We were there with Flo Oxley of the Lady Bird Johnson Wildflower Center and Master Naturalist Jean Nance as part of a project to study and preserve this rare native shrub. Because there are so few professionals working in this area, plant studies must rely heavily on the citizen scientists that Flo calls her "Ubervolunteers."



The Texabama croton is a plant that has it all. It is a conspicuous semi-evergreen shrub whose foliage alone makes it stand out. Throughout the growing season, the leaves are a rich green with shiny silver to copper undersides but in autumn when that foliage turns a bright orange color — the foliage of this large shrub is strikingly different from any other plant species of the Edwards Plateau.

The crotons are members of a genus of the same name within the spurge family, *Euphorbiaceae*. There is another euphorbia known as "croton" that is a popular plant in southern Florida, but *Codiaeum variegatum* is a tropical import from Australia and neighboring regions. The true crotons, or rushfoils, are found throughout the tropics, with a few species like our local croton extending into temperate regions.

Although it is hardly inconspicuous, our species, *Croton alabamensis*, was known until just over twenty years ago from only a few locations in central Alabama and south-central Tennessee. In 1989, it was almost simultaneously discovered at Fort Hood and on the Balcones Canyonlands National Wildlife Refuge. The initial population in the mid-South is now known as *Croton alabamensis* var. *alabemensis*, while the Texas population is *Croton alabamensis* var. *texensis*. The two varieties differ primarily in the pigmentation of the scales on the undersides of the leaves. The high degree of similarity suggests that the separation between the two populations must have occurred relatively recently, at least on the evolutionary scale of time.

We had initially surveyed this stand of crotons in spring, when they were covered with small white to pale yellow-green flowers, then had returned to place almost two hundred mesh bags over fertilized female flowers to prevent their seeds from escaping. On this final trip of the season, we walked through the woods to hunt down the bags and clip them from the bushes. This had to be done carefully, as it was important to identify the genetic lines by keeping the fruit from separate plants truly separate. Because the croton often has multiple stalks, this wasn't as easy as it sounds.

It was a lovely day, despite the heat and drought conditions. We spotted a family of golden-cheeked warblers, just as they spotted us. The adult male and female watched from afar, but the juvenile flew over and perched almost close enough to touch while he

Distribution of Texabama Croton

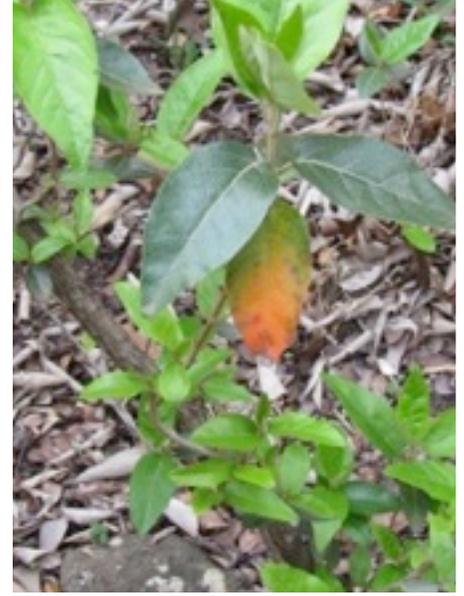
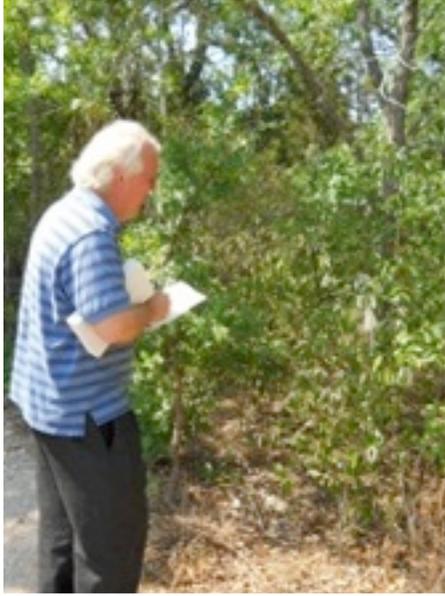


As you can see from the above map the known range of the Texabama croton is limited to three counties, Bell, Coryell, and Travis. It seems logical that there could be populations in western Williamson and probably Burnet and Lampasas counties as well. Texabama croton tends to grow on woody hillsides and close to creeks and streams which makes it the perfect plant for a riparian environment.

We would love to find more so we could extend our studies. Have you seen this plant on your property? Please contact us if you have.



Flo Oxley studies the unisexual flowers and a small percentage of those that appear to be pollinated are bagged for later collection.



Dale Rye acted as our recorder as Flo, Nancy and Christine located bagged seed-heads which were carefully cut free. The bags are needed as the fruit debris in early June and would be totally untraceable. A single leaf gives a glimpse at the incredible show this plant has in store for the Fall.

checked us out. There were many other interesting birds and insects as well. As relatively inexperienced citizen scientists, we had many questions that Flo was willing to answer with her usual good humor.

Flo and Christine got together about a week later to clean the collected seeds. It was clear that the drought had severely affected the plants, as this was not as robust a collection as Flo had seen in the

past. There were many aborted fruits and obviously dead seeds. Nevertheless, the 398 fruits bagged on 97 distinct plants yielded 309 seeds. Sean Watson in the Wildflower Center nursery department now has 42 of the seeds, which he will use to establish a germination percentage that should reflect the viability of the remaining seeds. Those 267 seeds will be sent to the National Center for Genetic

Resource Preservation in Fort Collins, Colorado, for long-term storage.

Flo is already putting together plans for work on the Texabama croton next spring, which may include collection within the Canyonlands preserves and other regional venues. We plan to be there, and we hope that Flo can inspire other Ubervolunteers for this and other projects to preserve the native plant heritage of the Central Texas region.



The less glamorous part of the job - sorting and cleaning. However, I got so caught up in the process I forgot to take any more photographs!

Spring Plant Survey at WilCo NW Regional Park (Williams Tract)

The Wisemans hosted an intrepid group of eight CAMN and NPSOT members for the second plant survey of 2010. It was a warm afternoon.

Along with plants there are many pieces of old farm and ranch equipment on this site. This is a maintainer, so you can imagine the conditions of the ranch roads.

Several new species were added to the ongoing plant list making a total of 240 so far. We are sure there are many more but need more pairs of eyes to help us find them. The most



spectacular of these new additions is *Justicia Americana* (American Water Willow) (pictured top left).

In addition, to the plant above we got the opportunity to see *Asclepias asperula* (Antelope Horn Milkweed) seeding (shown below left). We also saw *Menodora heterophylla* (Red Bud) with seeds, a first for many of us. Amongst the grass we found an *Echinocactus texensis* (Horse Crippler Cactus) that had gone to seed.

We took a long walk around the former pasture above the river and identified many species most were rather stunted due to our lack of rainfall.

These expeditions are all a matter of timing because on the previous Friday we had been to the Williams tract to see what might be in bloom and the fields were covered in *Copperia drummondii* (Rain Lilies). If only we could have some rain so that they might appear again.

We hope that more of you take the opportunity to visit this special piece of Williamson County. This is a great way to learn about native species as we try to find new species we are always checking the list to see if we have overlooked something, so I encourage those of you who wish to improve your knowledge of the plants of our area to come.

Having asked you to join us, with the lack of rainfall we may be calling off our walk on August 27th. Since we drive on unimproved roads we do not wish to create a fire with our vehicles' exhaust system. Please check our website for update.

All images by Bob Kamper



Menodora heterophylla (Red Bud) with seeds.

A view down the river taken from the pasture area above.

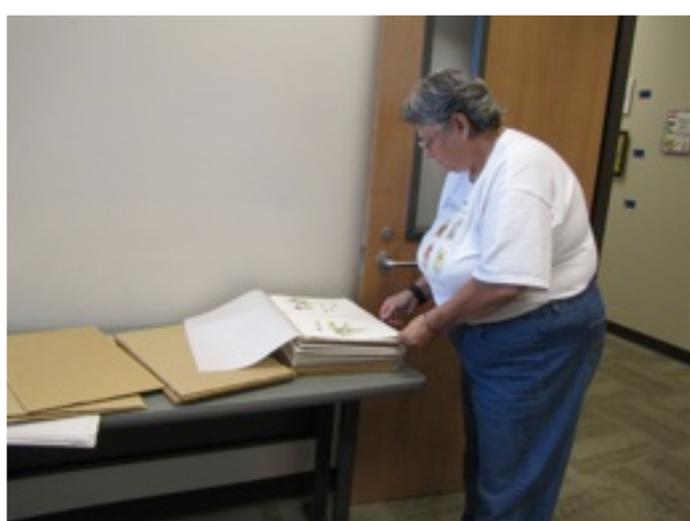


The group included from left to right, Kathy Comer, Sue Wiseman, Dick Galloway, Kathy Galloway, Charles Wiseman, Jim Abreu, Ilse Meier, and Bob Kamper (not pictured) at the ranch house parking area.

Taxonomy Classes Continue

Quite a number of CAMNers were present at the taxonomy class at the Georgetown Library when Flo held another of her wonderful plant identification classes on Saturday July 30th, 2011. This time the *Solanaceae* (Nightshade family) was under scrutiny. This is a fascinating family that we all know very well even if we don't think we do. I imagine all of us have eaten any number of this family — potatoes, tomatoes, eggplant, chile peppers while others of us have unknowingly been prescribed their use by a doctor or ophthalmologist while still others have tried over the years to avoid or give up its use (nicotine). This is a very widespread and heavily utilized family of plants.

Quite a number of the nightshade family are local wildflowers and native we all use in our gardens. Silver-leaf nightshade, pictured right (*Solanum elaeagnifolium*.) is currently in bloom and can be seen all over the county right now. It has the distinctive five petaled flower with the “banana” anthers that are so familiar in so many members of this family. We all



managed to complete our own herbarium sheet for future referenced here you can see Flo adding each member of the class specimen to the press.

New classes starting from the beginning are in the works for early next year and if interest is big enough sooner! [Contact me](#) if you would like to know more.

ACC Agronomy Class, Fall 2011

As part of its Erosion and Sediment Control advanced technical certificate, Austin Community College's (ACC's) Environmental Science and Technology department will be offering an Agronomy (soil science) class for the Fall 2011 semester. The course will give students an understanding of soils, soil formation, soil types and classification, distribution of soil types geographically, the rates of soil formation, collection and analysis of soils, and the causes and methods to address soil erosion. The student will learn soil collection and analysis techniques, as well as the causes of soil loss and degradation and the methods to prevent soil erosion. The Agronomy class will held on Mondays and Wednesdays from 5:30 – 8:10 PM at the Rio Grande campus. Registration for the Fall 2011 semester runs from May 16th (current/former students) or June 13th (new students) through August 17th, and the first class will be on August 22nd.

Details can be found at:

ACC – <http://www.austincc.edu/>

ACC Env Sci & Tech dept – <http://www.austincc.edu/envrnsci/>

ACC Agronomy class description – http://www3.austincc.edu/it/cms/www/catalog/coursedescriptions_fox.php?year=2012&deptcode=ESTE#AGCR1494

ACC Agronomy class schedule – <http://www6.austincc.edu/schedule/index.php?op=browse&opclass=ViewSched&term=211F000&disciplineid=TFPHH&yr=2012&ct=CC>

Texas Bluebell — *Eustoma exaltatum* ssp. *russellianum*

A real show-stopper, Texas bluebell can be found throughout the midwest, from Montana south into Mexico, in moist sand, loam, or clay soils. It grows in full sun or part shade and blooms in the hottest of our summer weather. The plant will reach a height of 1 to 3 feet, with the waxy blue-grey leaves and stems appearing almost succulent. The large, bell-shaped, upright flowers are found in shades of purple blue, and bloom even when other plants around them have turned a crispy brown. Occasionally white flowers can be spotted in the wild. Wonderful stands have been seen this summer in Williamson County on CR 254 and 255, west of Sun City, and on FM 1869, west of Liberty Hill. Why don't we see more bluebells? According to the Wildflower Center website, their beauty is part of the reason — they have been picked in such numbers that populations have not been able to adequately reseed!

Texas bluebell can behave as an annual, a biennial, or even a short-lived perennial! It will be happy in good garden soil with sufficient water. You can find plants at some nurseries in the spring. The seed is black when it ripens in late summer or early fall, exceptionally small, and somewhat difficult to germinate. For outdoors, the Wildflower Center recommends surface seeding (since sun is needed for germination) and fall planting to provide the best chance of blooms the following year. The Texas bluebell is considered deer resistant. I have noticed deer will eat the blooms but, with a little luck, the plant will generate more flowers.



Information compiled on data from Native American Seed (www.seedsource.com/catalog) and from the 'Explore Plants' database of the Lady Bird Johnson Wildflower Center (www.wildflower.org/plants).

Top Predators Leave Big Holes

For most of their existence, human beings have been the “apex consumer” at the top of the food chain in whatever environment they entered. That put them into direct competition with other large animals, which they have tended to relentlessly extirpate. This has been a factor in numerous extinctions, including the disappearance of the American ground sloth, the Australian diprotodon (a bear-sized wombat), and most of the large proboscids like the mammoth and mastodon. Among predators, the sabre-toothed cats, dire wolf, and American cheetah disappeared long ago, with many modern animals on endangered lists today. This might be seen as just an ethical problem, except that recent research has shown extensive cascading effects on ecosystems when the keystone is removed from the pyramid. An important article by James A. Estes, et al. in *Science*, “Trophic Downgrading of Planet Earth” (15 July 2011, Vol. 333, no. 6040, pp. 301-306) describes this process.

To give just four examples: (1) over-fishing near Alaska has reduced the number of seals, which removed the major food source for killer whales. The orcas were forced to seek alternative food sources,

including sea otters. The crashing population of otters has led to a population explosion among sea urchins, which has resulted in massive damage to kelp. That has had untold impacts, including pressure on the eagles that fed on fish that used to breed and shelter in the kelp forests.

(2) With the elimination of large numbers of African lions and leopards, baboon populations have risen sharply, which has led to a major increase in the incidence of parasitic diseases passed back and forth between the baboon and human residents of the area.

(3) Because shark fins are an Oriental delicacy, shark populations are dropping. With fewer top predators patrolling coral reefs, reef ecosystems are seeing a cascade of effects on other fauna and flora. Some of these changes seem to be affecting the competitive advantage of reef-building corals and coralline algae, species that were already under pressure from warmer temperatures.

(4) The American bison was nearly exterminated in a successful effort to displace the Plains Indians. However, this also meant that the herds were no longer a factor in the prairie ecosystem, which

fundamentally changed as a result. For example, wolves were forced to seek other prey than vulnerable buffalo calves, including human livestock, which led to the wolf’s near elimination by bounty hunters. Without the wolf, elk and deer multiplied and began eating tender young plants, which nearly eliminated the woodlands along Western stream courses. That, in turn, affected other wildlife, fire regimes, and downriver flooding. With the return of wolves to Yellowstone National Park, these woodlands have started to recover. However, political pressure from ranchers is well on the way to allowing unrestricted hunting of wolves elsewhere in Wyoming, and permitted hunting throughout the West.

These cascades were certainly not anticipated when human beings set them in motion. They have had profound consequences in areas as diverse as public health, wildfire, carbon sequestration, invasive species, and geochemical cycles. The *Science* article concludes, “These findings emphasize the urgent need for interdisciplinary research to forecast the effects of trophic downgrading on process, function, and resilience in global ecosystems.”



DNA Detectives Seek Pollution Sources

Back in 1972, the Clean Water Act declared a national policy to make every significant body of water in the United States fishable and swimmable by 1985. It hasn't happened yet. Point sources of pollution, like industrial plants and city sewer outfalls, can usually be identified with some ease. They are required to get permits, and to comply with strict water-quality regulations before discharging into a lake or stream. The remaining problems are mostly with non-point sources such as storm runoff. Master Naturalists in many parts of the state, including our Capital Area, are involved in water sampling and other activities related to this problem.

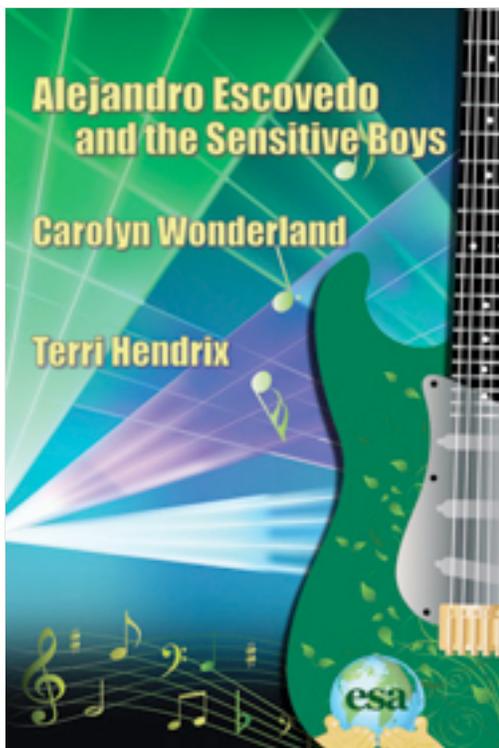
Among the 405 impaired streams in Texas are Gilleland Creek in Travis County and parts of the Leon and Lampasas Rivers that come together to form the Little River near Belton. The Leon flows for 185 miles from around Eastland (110 miles west of Fort Worth), while the Lampasas flows for 75 miles from its headwaters about 70 miles west of Waco. Both rivers have problems with bacteria levels, including the usual marker for fecal pollution, *Escherichia coli*. Since the watersheds are primarily rural, the

issue cannot easily be addressed with the kind of runoff filtration measures that can be required or retrofitted in developed areas. It would be very helpful to identify the primary sources of the bacterial load, so that measures could be taken to address the biggest problems first.

Scientists from the Texas AgriLife Extension Service are pursuing a fascinating approach to identifying where the fecal pollution is coming from. Although it is designated as a single species, *E. coli* is actually a complex of related strains of bacteria that may have as little as 25% of their genotype in common (compare that to 99.9% for humans). Different strains have evolved for different environments, including the intestines of different species or of individual animals eating different diets. Each strain has its own unique DNA "fingerprint." It may thus be possible to identify the sources of pollution by comparing the strains of *E. coli* in the rivers with the strains associated with possible sources. Dr. June Wolfe, who is based at the AgriLife Blackland Research and Extension Center at Temple, has been pursuing this Bacterial Source Tracing

approach with his research associate Tony Owen.

Samples have been taken from 15 points along each of the two rivers and the *E. coli* has been "genetically fingerprinted" by Dr. George DiGiovanni at the AgriLife Research Laboratory in El Paso. This will be compared to a database of fingerprints from over 100 fecal sources within the watersheds sampled by Wolfe and Owen. These include not only the usual suspects, like city sewage and cowpats from beef and dairy cattle, but also droppings from birds that roost on river bridges, feral hog scat, and pet poop from city parks. It is hoped that the research will eventually allow identifying what is causing most of the contamination in the rivers. These findings can then be incorporated into the water protection plans for the Leon and Lampasas Rivers. If bacterial source tracing works there, it may be expanded to identify sources of *E. coli* contamination in other bodies of water as well. If the fingerprinting technique can eventually identify individual major sources of pollution, it may make controlling water quality in runoff as comparatively easy as controlling point sources now.



An Austin Night For Nature

Thursday August 11, 2011

Austin City Limits Live at the Moody Theatre

8:00 PM (doors 7:00)

Tickets \$19 - \$30

(at Waterloo Records, or <http://www.acl-live.com>, or 877-435-9849)

For the benefit of local environmental organizations near Austin, TX

Presented by:

The Ecological Society of America

Austin's awesome music culture mixed with its tradition of environmental awareness inspired ESA (<http://www.esa.org>) to organize this public concert for the benefit of Austin environmental groups. Austin's culture is closely aligned with ESA's message of Earth Stewardship, dedicated to "shaping trajectories of social-ecological change at local-to-global scales to enhance ecosystem resilience and human well-being." ESA is holding its annual meeting in Austin Aug. 7-12 at the Convention Center.

Chiggers—Scratching Away the Myths

Scratch, scratch, scratch. Itch, itch, itch. Nothing ruins a hike in Texas so much as chiggers. We try to keep them off, yet we've all experienced the frustratingly itchy red bumps they leave. So what exactly are chiggers?

Chiggers are not insects; they are arachnids. They are specifically the larval form of a type of mite, family *Trombiculidae*, or commonly called harvest or scrub mites. These mites are so tiny—about 1/150 of an inch in diameter—we don't see them hitch a ride on our shoes or pants as we walk by grasses or other flora. The adult mite has 8 legs; the juvenile chigger has 6 legs. All are reddish orange in color. Like ticks and spiders, these mites develop from eggs, into larvae, then into nymphs, and finally adults.

Adult female mites lay 3-8 eggs in a clutch, typically under leaves, roots, or grasses. Females can lay eggs every day, thus the mite's lifecycle can repeat many times before cold weather sets in. These mites are rarely found in far northern areas of the US, high mountains or deserts. In most of Texas, they typically have a dormant stage, surviving under the soil in colder temperatures, but as the soil warms to above 60°F, becoming active. Chiggers are most active between temperatures of 77 and 86 degrees. Research has also shown that chiggers avoid objects hotter than 99 degrees, thus finding a rock or other object heated up in the Texas sun might be a safe place to get away from them.

While the nymph and adult form of the mite lives in the soil and are vegetarian, the larval form, or chigger, needs vertebrate animals to feed on, thus after hatching, migrates to grasses, leaves, brush or any other perch from which to crawl onto their victims. Chiggers can move very fast—and must do so to move from their perch to their intended victims. It has been estimated that even as minuscule as they are, they can climb from our feet to our waists in about 15 minutes.

Much folklore exists about these critters, including a common myth that chiggers burrow under our skin and feed on our blood, thus causing the itching. Not true. In reality, despite the fact that we can't see them, chiggers are too large to enter through our pores. However, their tiny mouths can bite through the skin at softer points such as at pores or hair follicles. Typically, chiggers climb to find skin that is thin and tender, such as around ankles, behind knees, and under armpits. They also settle at points where they find resistance or restriction to further travel, such as at a beltline or banded clothing.

Chiggers are so tiny that we don't feel the bite, but they attach themselves to our skin and begin injecting a digestive enzyme,

which begins to dissolve skin cells. Our skin reacts by starting to harden the tissue along the path of the injected enzymes. In about 3 to 4 hours a tube has formed, called a stylostome, which allows the chigger to suck the skin cell fluids. Chiggers do not suck blood but are after the proteins in the cells. Left undisturbed, a chigger will

continue to inject enzymes and feed on our dissolved skin cell fluids typically for 3 to 4 days before dropping off to become a nymph, then adult mite.

It is actually the stylostome that the chiggers create that causes the itching and irritation that we feel and causes red welts to appear on our skin. The longer a chigger feeds, the deeper the stylostome, and the larger the welt. Typically, the irritation peaks within 1 or 2 days as we humans have an allergic reaction to the chigger's enzymes. For most people, it takes from 7 to 10 days for our bodies to re-absorb the stylostome—and for the itchy feeling to end—at last.

Tips for minimizing possible chigger bites:

- Wear tightly woven socks, long pants, long-sleeved shirts, and high shoes or boots. This will help keep the fast-wandering chiggers on the outside of your clothes.
- The usual brands of mosquito sprays will repel mites. Spray around the edges of openings in your clothing and any exposed skin. Re-apply after three to four hours.
- Powdered sulphur also works against chiggers. However, some people may develop a skin irritation from it. In addition, sulphur has a strong odor to contend with.
- As soon after your outing as possible, take a soapy shower or bath to remove any chiggers before they attach, making sure to scrub your skin all over.
- If bitten, apply a cream or salve that contains antihistamines (caladryl or hydrocortisone).
- Mite bites don't carry diseases; however, keep any bites clean and minimize scratching to avoid infection.
- Never apply ammonia, turpentine, alcohol or cleaning fluid. Nail polish doesn't help much either. All these household products are all part of the myth about how to "cure" chigger bites. Only soap and water are needed—and a little salve or cream to minimize the itch.

Sources:

Chiggers! at MDC Discover Nature, Missouri Department of Conservation website

Trombiculidae, Wikipedia

How Stuff Works: What are chiggers and how do they bite? Discovery website



Photo: copyright by MDC, Discover Nature

Jacob's Well — A Wonderful Day Out

Lucky CAMNers! Even though the Jacob's Well outing was a June event, the weather is miraculously spring-like. The morning offers blue skies and a light, cool breeze, adding much to the morning drive west from Austin toward Wimberley.

Our Jacob's Well tour starts at their center, where maps and diagrams along the walls explain the geology and physics behind why and how the spring flows. Jacob's Well runs along the Wimberley fault zone. Like the Balcones fault line, it was created after limestone rock was created millions of years ago by the buildup of skeletons of sea creatures that once lived in the sea that covered this area. With the weight from thousands of feet of limestone, the east sank as the west rose, buckling and cracking and creating fissures throughout the hill country that allowed groundwater to seep into the earth. At Jacob's Well, the softer limestone has worn down to expose an older layer called the Glen Rose layer, which is 60-100 million years old.

Jacob's Well is fed from water flowing deep underground from lands north and west of the spring, typically pushing thousands of gallons of water per minute from the Middle Trinity Aquifer through the spring's mouth, and becoming the headwater of Cypress Creek. The creek flows through Wimberley feeding its famous swimming spot, the Blue Hole, and then serves as the



David LaVergne

primary water source for the Blanco River, which eventually flows into the Guadalupe, and then into the Aransas Bay estuaries along the Texas coast.

After introductions, we move outside where Hays County members, Ray Franklin and Jeff Vasgaard, gather everyone around a water conservation station to demonstrate the difference that native grasses can make in getting water into the aquifer versus other vegetation, such as juniper and St. Augustine



CAP



David LaVergne

Left we demonstrate our inability to be herded together for a group shot! Most of us are in it but I don't think I snagged everyone. Ed.

Ray Franklin (top) demonstrates the interaction between native grasses and rainwater.

Above, Jeff Vasgaard proved to be a wonderful guide and made sure all our questions were answered and then some.

grass. As we all know, native grasses are the best conductors in directing and allowing water to reach into the aquifers. The taller the grass, the longer the roots and the deeper the penetration. About 60 percent of rain is absorbed by grasses compared to 35 percent absorption for trees. Tree canopies and leaf litter tend to block more water, even though they do let some of it back into the water cycle as transpiration as well as provide paths for water to penetrate the soil through their roots.

As we begin our short walk to the spring, Jeff tells us that the area we are walking was once a mobile home park. Tons of asphalt was dug up so that rain could again soak into the ground and help replenish the aquifer beneath our feet. Jeff also mentions that even though we won't go see them, several recharge holes are uphill from us that lead directly into the aquifer.

Jeff also points out various areas where the environment is out of balance. The terrain is overrun by junipers, resulting first in a loss of biodiversity then in habitat loss. Because of this as well as misuse by humans, non-native plants have also invaded the habitat. Volunteers have attempted to increase biodiversity by bringing back natural grasses and wildflowers, and by managing rather than eradicating the junipers. By trimming lower branches of the junipers, more light penetrates the ground, which allows new plant life. As these new plants stabilize the soil, then the younger junipers will be cut out, while maintaining a selection of the old-growth junipers.

At another point, we reach a small savannah. Jeff explains that this area had been platted for 60 condos and a hotel, with a road coming through where we stood. Recognizing the ever-increasing criticality of recharge lands for the spring and creek, the Wimberley Valley Watershed Association (WVWA) formed and began purchasing the land around the spring in 2005, including the savannah slated for condos. By late 2010, the WVWA had purchased a total of 100 acres with help from Hays County and The Nature Conservancy. The WVWA renamed the 100-acre area the Jacob's Well Natural Area.

Our short walk to the spring takes us down several switchbacks and by overhanging cliffs that reveal geological layers of sediment. Since we are walking a path much worn by footsteps, we are reminded that various native tribes as well as early settlers enjoyed the spring before us. In fact, a burned rock midden has been found near the spring, indicating that Native Americans for many years gathered at the spring and used these stones for lining their cooking hearths. The big difference from then to now at the spring is that the water pressure in the past was much stronger, often reported to be fountain-like in appearance, and capable of pushing one back out of the spring after jumping in.

As we approach the spring, we can see through the clear water deep into its twelve-foot wide, circular limestone opening. At water level, a weir extends out on one side of the spring, built after massive floods in 1997 and 1998 clogged the spring. Neighbors banded together and paid to have the well dredged out and the weir built to keep debris and sediment from clogging the spring in the future.

This artesian spring rises up from one of the longest known underwater caves in Texas. The shaft drops approximately 70 feet vertically where it enters a porous layer called the Cow Creek layer, at which point it opens up into two large caverns. At about 150 feet, the passageway reaches a nonporous layer that roughly parallels the horizontal bedding and continues several thousand feet. Several smaller channels branch off this main shaft, most of these remaining unexplored. Divers have mapped more than 5,000 feet of passages that link to Jacob's Well. However, scuba diving is not recommended here due to so many constrictions, which have in the past resulted in eight deaths.

In 2005, USGS gauges were installed that monitor the water here. Recent

Each person can make a difference

Estimates suggest that we can save 40 percent of our current water usage.

- Consider rainwater harvesting and gray water for watering
- Drinking: Use only 1 glass a day. It can take up to 7x that amount to wash it.
- Dishwashing: Make sure the dishwasher is full; Use low phosphate and unscented detergents
- Faucets: Don't let the water run when washing hands or teeth; Use low flow (aerators) on faucets
- Bathing: Take a puddle-depth bath; Use low flow showerheads and take short showers
- Washing clothes: Wash only when dirty; Wash only full loads; Use eco-friendly detergent; Consider buying a low flow washer
- Flushing: Buy a low flow toilet; Don't use it as a trash can
- Fix leaks immediately
- Lawns: Plant native plants that use much less water; Remember that watering lawns is currently 60% of our water usage.
- Fertilizers: Plant native plants that don't use fertilizers; Before using, always test your soil to see what is actually needed (Your county agricultural department can do this)
- Cars: Wash your car less often, use sites that recycle water (most do)
- Know what pollutes water: Paint, fertilizers, hazardous chemicals, NiCad batteries, phosphates in detergents, birth control pills, medicines put down the toilet
- Don't: throw trash, wash paintbrushes out into the drain, leave dog poop
- Share this message with friends and family

Tips provided by Jacob's Well Natural Area

radioisotope dating confirms that some of the water at this spring fell on earth 2,000 years ago. Water from lower levels in nearby wells was dated as far back as 35,000 years ago. CAMNers can log on to the USGS site and check the Jacob's Well information online at anytime.

We learn that the spring had stopped flowing the day before, one of only 3 times it has done so in recent history. (At the time of this publication date, the well is flowing again.) Previously, the spring had been known only to stop flowing in the summer of 2000 and the fall of 2008. Quite clearly, the population growth, increased groundwater demands, and pollution are directly threatening Jacob's Well, and thus the need for conservation is very real, both for the long-term sustainability of the spring and for the entire habitat surrounding it. Drought is not the main cause for the spring to stop flowing. During the seven-year drought in the 1950s, Jacob's Well continued to flow.

The suspected culprit is the approximately 6,500 wells that currently draw off the aquifer that feeds Jacob's Well. Both Woodcreek and Woodcreek North landowners are allowed to pump 25,000 gallons a day. Aqua Texas, a water utility, also has rights to fill its storage tanks for its customers on a regular basis. Interestingly, the pressure at Jacob's Well drops significantly at exactly the same time Aqua Texas fills its tanks. In addition, local golf courses heavily impact the spring's water level. The result of all this is that the spring is being over-pumped by 2,000 acre-feet a year.

The concern at Jacob's Well is that as more water is pumped from the aquifer, the level of water goes down causing a chain reaction of decreased water quality, and the concern for species that rely on the water supplied through the aquifer. Studies are currently underway to evaluate whether any wildlife is endangered within the caves of Jacob's Well.

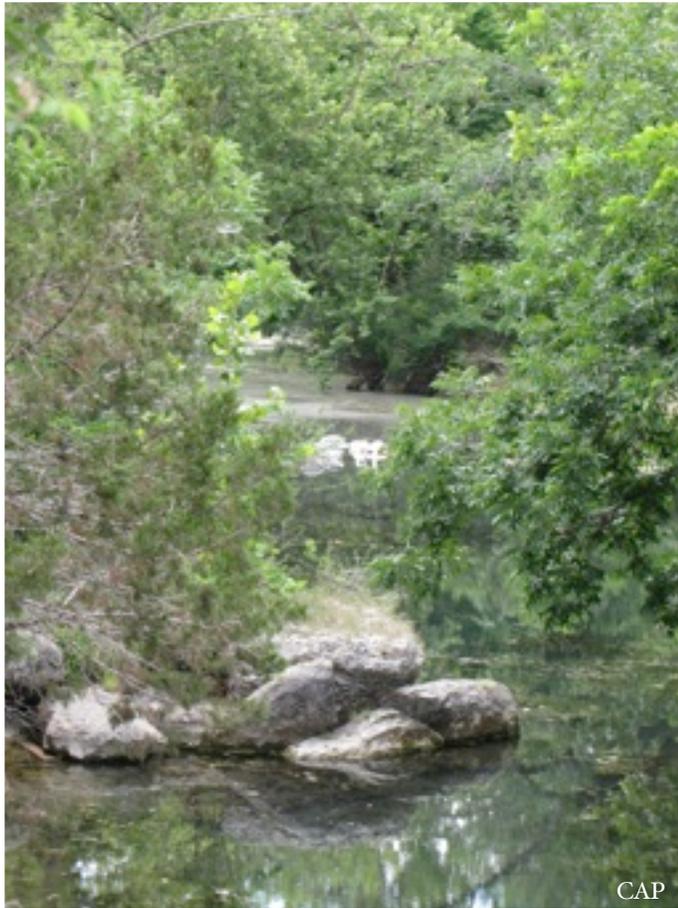
The danger caused by increased development, pumping from the aquifer, fertilizers and trash deposited in the aquifer's recharge zone, also impacts downstream species. Thus, the health of the aquifer is critical to more than just hill country species. Cypress Creek feeds the Blanco, which flows into the



Guadalupe, which feeds the bays at the Aransas Pass Wildlife Refuge. Whooping Cranes are an endangered species that inhabit Aransas Pass. The Aransas Project, a conservation group, has filed a lawsuit under the Endangered Species act to protect the water supply for the cranes. The suit addresses the fact that the Texas Commission on Environmental Quality has allowed too many water permits along the rivers that feed the bay.

Feeling the specialness of this place that has pulled so many people across centuries of time, and actually knowing that we were perhaps in the presence of ancient water flowing from the earth, was well worth the drive and the short hike. We all stood along the weir staring into the spring's vertical shaft. Jacob's Well is truly more the miracle once we understood its geologic history and its continued fragile nature.





*Above and below are the two views along the river. It is a well used spot but the locals and you can see some chairs set up in the middle of the river for later use. There were a good variety of riparian plants to be found and one of my favorites, *Cephalanthus occidentalis* L. (Common buttonbush, Buttonbush, Button willow) was getting close to flowering.*

To Volunteer:

The Jacob's Well Natural Area is under the umbrella of the Wimberley Valley Watershed Association. The WVWA is a non-profit whose vision is to protect the aquifer. If you would like to help conserve this natural area, link up with the Hays County Master Naturalists or visit the Jacob's Well site at: <http://www.jacobswellspring.org>

More Reading:

For another great article on Jacob's Well go to http://www.tpwmagazine.com/archive/2011/jul/ed_3_springs/index.phtml "Groundwater Gusher" in *Texas Parks and Wildlife Magazine*.



Jacob's Well – A Spiritual Place

It seems that places near our homes do not have the allure things far away offer. I grew up near Wimberley and spent a lot of time with friends there during school. For some reason, I never stopped by “The Well”.

I have recently moved back to that area to spend most of my time. When one of our CAMN members announced she is now the Education Director for the group trying to protect the spring and was looking for docent trainees, I signed on.

Wimberley is fortunate that a small group of people has taken on the project of protecting the well with passion. As a result, the Nature Conservancy became involved, as well as Hays County Government. A partnership of the two allowed the county to purchase the property, so the well now enjoys a degree of protection status. Not so with the recharge area north of the well, on which a golf course has recently been approved for construction. The education efforts of the Jacob's Well group was created to help people understand the need for conservation of the water resource, since this is the basis of the water supply for the city of Wimberley.

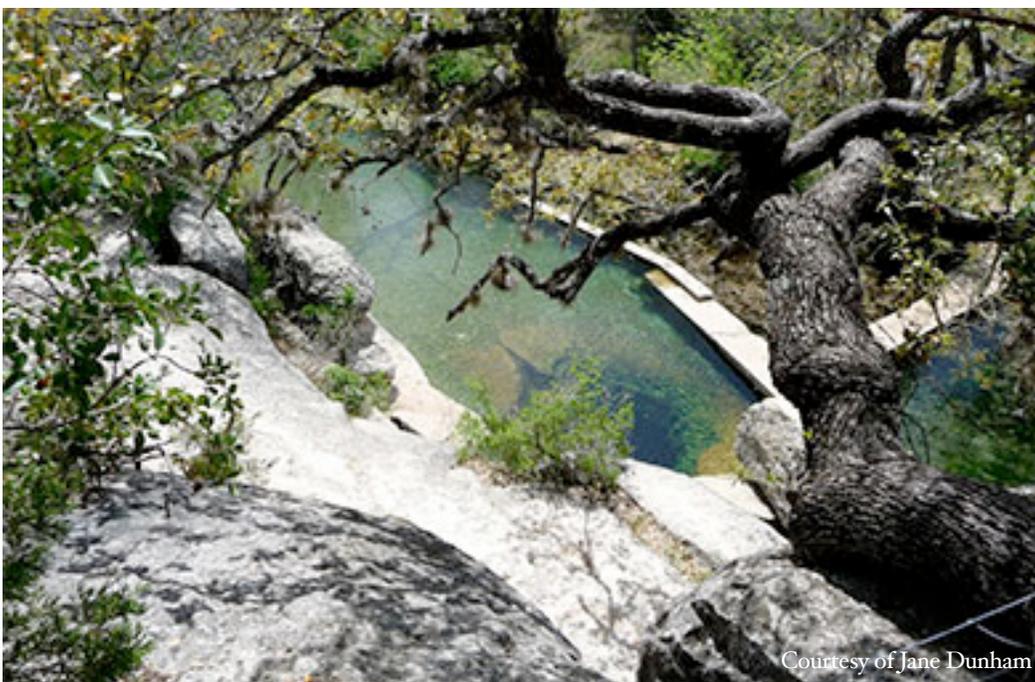
Historically this artesian well would send water up into the air three to four feet under normal circumstances, similar to a water fountain. Jokingly folks would say there was no reason to know how to swim when you jumped into Jacob's Well because the water pressure would push you right back out. Two times during the past few summers the well has discontinued its flow. As a result of the current drought, there is now still a small amount of flow but this too will stop if no recharge is collected soon.

This is a call to reality for all of us... and you can help. There are many volunteer opportunities available at Jacob's Well. They are in need of guides for visitors (training is available); they sponsor events for planting native plants on the property; they have a program for removal of invasive species; there are workdays scheduled for trail building; they are in need of volunteers to work special events to bring their message to the community. Any hours for work in this area will be approved for CAMN since the property is located in

Hays County and is contiguous to Travis County. If this is an area where you can help, please contact Barbara Attwell at battwell@earthlink.net.



Courtesy <http://jacobswellspring.org/>



Courtesy of Jane Dunham

Missed the Trip?

If you missed our field trip then public tours take place every Saturday at 10:00 am and by appointment. You can only gain access during tour hours. It is a must visit for any Master Naturalist so please think about going sometime this fall after we have some rain.

Visit <http://jacobswellspring.org/visit.html> for more information before going, and have fun, we all did! *Ed.*

FIELD SURVEY: CLAUDE MORRIS

Episode 63: A Tale Of Two Ecosystems

Austin Colony - Webberville, Travis, TX
Aug 6, 2011 9:00 AM - 2:00 PM
Protocol: Traveling
8.0 mile(s)

What a contrast between the lush green of the riparian area and the brownness of the drought. One comment I heard was in reference to the Elephant Ears and how healthy they looked. They are getting plenty of water and very green while the native grasses on the edges of the river are brown and dormant. I have included a couple of photos to help illustrate this effect.

Leading the list of our good bird sightings would have to be the Anhingas. One spent some time soaring overhead and everyone got good looks in the morning sun. Other species of interest were Barred Owl, Green Kingfisher, Greater Roadrunner, Tricolored Heron, and Orchard Orioles. In all we had 48 species. This is a really good list for us this time of year.

Today we thank Joan Bishop, Cora Shinaberry, Roni Kendall, Michael Portman, Bob West, and John Barr for braving the heat to paddle with us.



Species Recorded, Aug 6th, 2011 48 species

Wood Duck	3
Double-crested Cormorant	4
Anhinga	2
Great Blue Heron	6
Great Egret	5
Snowy Egret	5
Little Blue Heron	8
Tricolored Heron	1
Green Heron	32
Lots of juveniles, last month we had a big number too.	
Yellow-crowned Night-Heron	1
Black Vulture	24
Turkey Vulture	18
Red-shouldered Hawk	5
Red-tailed Hawk	1
Crested Caracara	3
Killdeer	1
Spotted Sandpiper	9
Eurasian Collared-Dove	1
White-winged Dove	24
Mourning Dove	8
Yellow-billed Cuckoo	2
Greater Roadrunner	1
Barred Owl	1
Belted Kingfisher	5
Green Kingfisher	2
Red-bellied Woodpecker	14
Downy Woodpecker	2
Eastern Phoebe	4
Great Crested Flycatcher	1
Western Kingbird	3
Eastern Kingbird	4
Scissor-tailed Flycatcher	4
White-eyed Vireo	32
Blue Jay	1
American Crow	15
Purple Martin	3
Barn Swallow	5
Cliff Swallow	28
Carolina Chickadee	34
Carolina Wren	17
Northern Mockingbird	6
Northern Cardinal	44
Indigo Bunting	1
Painted Bunting	5
Red-winged Blackbird	18
Great-tailed Grackle	5
Brown-headed Cowbird	5
Orchard Oriole	3

Scat and Frass



Share your passion for wildlife and help to Keep Austin Wild!

Become a **Certified Habitat Steward** and be a part of helping to create, maintain or restore wildlife habitats in backyards, schoolyards and in our City's public spaces. Your Austin Parks and Recreation Department, in partnership with the National Wildlife Federation, is offering a specialized training to provide you with the knowledge, tips and techniques to play a key role in the ongoing effort to **Keep Austin Wild**.

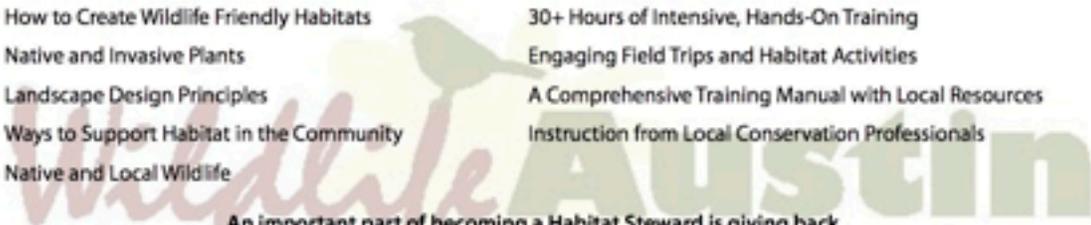


You'll Learn About:

- How to Create Wildlife Friendly Habitats
- Native and Invasive Plants
- Landscape Design Principles
- Ways to Support Habitat in the Community
- Native and Local Wildlife

Habitat Stewards Receive:

- 30+ Hours of Intensive, Hands-On Training
- Engaging Field Trips and Habitat Activities
- A Comprehensive Training Manual with Local Resources
- Instruction from Local Conservation Professionals



An important part of becoming a Habitat Steward is giving back. We ask that each Steward commit to 30 hours of volunteer habitat work in the community.



THIS YEAR'S SCHEDULE

Thursday, September 8, 2011 6:00pm-9:00pm
Saturday, September 10, 2011 8:45am-3:00pm
Thursday, September 15, 2011 6:00pm-9:00pm
Saturday, September 17, 2011 8:45am-3:00pm
Thursday, September 22, 2011 6:00pm-9:00pm
Saturday, September 24, 2011 8:30am-12:30pm
Saturday, October 1, 2011 8:30am-12:30pm
Thursday, October 6, 2011 6:00pm-8:00pm



The course fee is \$40 and covers the cost of materials. Scholarships are available. Deadline for registration is August 15, 2011

For More Information CALL 512.974.4009 or EMAIL wildlife@ci.austin.tx.us



The AWU – Center for Environmental Research

Austin Water Utility – The University of Texas – Texas A&M University A Partnership for Urban Ecology and Sustainability: Community, Education, Research located at the Hornsby Bend Biosolids Management Plant 2210 South FM 973, Austin, Texas 78725 Website: www.ci.austin.tx.us/water/cer2.htm

AWU-CER Lunchtime Lectures at Austin Water Headquarters Downtown September - December 2011

Each talk begins AT NOON Location - Waller Center [625 East 10th Street – between I-35 and Red River] Room 104
First Wednesday of the Month! Waller Center Room 104!
Free and Open to the Public – bring a lunch and learn

Urban Nature and Urban Ecology: Understanding Urban Ecosystems

Over the next four months, we will explore different perspectives and issues of urban nature and ecology. We will begin in September by examining a range of perspectives on nature in the city, including urban ecology, urban planning, restoration ecology, political ecology, and more. In October, we will focus on the issue of officially sanctioned urban nature versus non-native intruders, and the different views of nature in the study of urban ecology. Focusing on urban planning in November, we will look at how nature is incorporated into the urban landscape and how it resists our planning. We will wrap up in December by assessing encounters with urban nature as revealed by urban nature writers.

September 7 Noon-1pm

Varieties of Possibility: Perspectives on Nature and the City

October 5 Noon-1pm

The Weeds and the Wild: Invasive Species and Urban Ecology

November 2 Noon-1pm

The Proper Place of Nature: Urban Planning and Urban Ecology

December 7 Noon-1pm

Encounters with Nature in the City: Urban Nature and Literature

AWU-CER Coordinator - Kevin M. Anderson is a geographer and philosopher who is the coordinator of the AWU - Center for Environmental Research. Kevin has studied at Allegheny College in Pennsylvania [BA], Durham University, England, Ohio University [MA] where he taught philosophy and symbolic logic for several years. He received his Ph.D. in Geography from the University of Texas at Austin with a dissertation entitled: Marginal Nature: Urban Wastelands and the Geography of Nature. His research interests include soil ecology and sustainable agriculture, urban ecology and sustainability, riparian ecology, environmental philosophy and literature. He is a co-founder and president of the Texas Riparian Association.



**Texas Society for
Ecological Restoration**

Register Now for the 2011 TXSER Meeting

The [Texas Society for Ecological Restoration](http://www.txser.org) (TXSER) will be holding our **2011 Annual Meeting** on **September 23-25, 2011** (Friday evening Sunday morning). This year the meeting will be at Texas Parks & Wildlife's [Parrie Haynes Ranch](http://www.txparks.com) near Killeen, Texas.



Wild Basin Work Day

Land Management Workday August 20th, 8:30-12:30 PM - [more info](#). Participants in Land Management Work Day should bring gloves and a water bottle. Contact mitch@wildbasin.org or phone 512-327-7622 ext. 14 for more information.

Wild Basin Lecture

Investigating Climate Change in *Dodecatheon*., Shootingstars August 2011 9th, 7:00-9:30 PM Brad Oberle will be presenting his research on Shootingstars Tuesday, August 9th at 7 pm at Wild Basin. Describing how species responded to global warming since the end of the Ice Ages could improve our predictions of how they will respond to human-caused climate change. By combining genetic and ecological information of three species of spring wildflowers in the genus *Dodecatheon*., Shootingstars, we show that one rare species, *D. amethystinum*., is a glacial relict that is vulnerable to extinction, while another, *D. frenchii*, is a locally adapted variant of the widespread species *D. meadia* that might continue to evolve as climate warms. <http://www.sciencedaily.com/releases/2011/04/110411152631.htm>

Astronomy Program -- Stargazing

August 19th, 8:30-10:00 PM Saturn, summer constellations, stargazing. Moon rises at 11:00 PM Saturn sets at 8:45. Sky tour, star charts. \$5 for adults, \$3 for seniors and children ages 5-12. Call 327-7622 or email kimj@stedwards.edu to reserve tickets in advance to secure seating and telescopes.



Trees and Shrubs for Birders

September 10, 2011 9a.m.-1p.m.
September 17, 2011 9a.m.-1p.m.
This class is for everyone who's ever missed seeing a bird, or missed getting others on their bird, because they couldn't identify the tree it was in. We will cover a couple of dozen of the most common trees and shrubs in central Texas. Knowing these species will enable you to recognize at least 90% of what

you'll see in the area. The class will focus on identification in the field, and not on botany or any fine points of taxonomy.

An approximately one hour classroom session will be followed by an approximately 3 hour field trip on 2 consecutive Saturdays. Classes will meet in a different location each week, both 30-45 minutes northwest of downtown Austin.

The class will be taught by Diane Sherrill, a local native plant landscaper and property restoration consultant. Diane is a member and former President (1999) of the Williamson Co. Native Plant Society of Texas. She is also a member of Travis Audubon and longtime volunteer and tour leader for Balcones Canyonlands National Wildlife Refuge. Handouts will be provided, but it is recommended that students purchase *Trees, Shrubs and Vines of the Texas Hill Country*, by Jan Wrede, prior to class start. Participants will need to bring paper and a pen to the classroom sessions. Binoculars, hats, sturdy closed-toe shoes, sunscreen and water are needed for the field trips.

The dates for the classes are Saturdays, September 10 and 17. Tuition for the class is \$50 for TA members and \$65 for non-members. To register, contact Frances Cerbins at Frances Cerbins or 512 372 9039. Participants will be provided with additional information about the class and directions

Raptors of Texas

September 15, 2011 Speaker: Dr. Craig Farquhar
September is a great month to see migrating raptors in Texas, so it is a perfect time to have Dr. Craig Farquhar talk with us about the raptors of Texas. He is in the process of writing a popular natural history book to be titled "Raptors of Texas" which he is also illustrating. His presentation will include a discussion of our state's fabulous raptor assemblage (36 species), and brief overviews of basic natural history, distribution and photos of each of the more common raptors. And, we'll get a preview of some of his illustrations for his book. So whether you are a new birder or an experienced one, come ready to learn something new and interesting about our birds of prey.

Dr. C. Craig Farquhar is an avian ecologist employed with the Texas Parks and Wildlife Department. He currently coordinates the

Cooperative Endangered Species Conservation Fund at TPWD which provides funding for endangered species research, habitat protection and land acquisition. He is actively involved in conservation biology and planning for rare, threatened and endangered birds, including the Black-capped Vireo and the Golden-cheeked Warbler. Dr. Farquhar is the leader of the Golden-cheeked Warbler Recovery Team, and he has extensive research background with raptors, including American Kestrels, White-tailed Hawk, and the South American Variable Hawk.

BCP Hike & Lecture Series

For more information please go to <http://www.ci.austin.tx.us/water/wildland/online/registration/ecowebevents.cfm>

Sat. 8/13 9:30a-12:30p Underground Ecosystems (moderate/rugged)

Sat. 8/13 1:30p-4:30p Underground Ecosystems (moderate/rugged)

Sat. 9/10 9:00a-11:30a Birding Habitat of Westcave (easy/moderate)

Sat. 9/25 1p-3:30p Explore Wild Basin (easy/moderate)

Sun. 10/9 9:00a-noon Exploring Land Management (easy/moderate)

Sat. 11/12 1p-4:00pm Lecture Fall Color Native Plants

Sat. 12/10 10a-noon Streams and Salamanders

Friday Mornings Workday Reicher Ranch

Plantings, plant identification, and general yard work around Reicher Ranch. Every Friday from 9am-noon. Please contact Amanda Ross if you can attend a Friday morning workday.

amanda.ross@ci.austin.tx.us

Paleontological Society of Austin, Texas

Normally 3rd Tuesday of the month at 7:00 PM but always check the calendar Austin Gem and Mineral Society (map) 6719 Burnet Lane, Austin, TX 78757 (512) 458-9546. The public is invited.

NPSOT Wildscape Workshop

September 10, 2011

Fredericksburg United Methodist Church

Austin Butterfly Forum Meeting

Mon., Aug 22 Meeting : *True Flies - Masters of the Air*, by Val Bugh. 7 pm.; Zilker Botanical Garden Center. Free.

Vectors of disease, pests of livestock and humans, “worms” that damage fruits and vegetables: these are all typical associations that we have for flies.

However, this group of insects also includes predators, pollinators, waste recyclers, and a key component of all terrestrial and freshwater habitats. Through vibrant photographic images, we will explore the diversity, physiology, life cycle, and survival strategies of this important order of insects.

Upcoming events:

Sept 26: *Wild Silk-moths of the World*, by Richard Peigler, Ph.D, Incarnate Word College, San Antonio. 7 pm.; Zilker Botanical Garden Center. Free.

For more information on upcoming meetings and field trips, see <http://www.austinbutterflies.org/Calendar>, or call Mike Quinn at (512) 577-0250. For more information on upcoming meetings and field trips, see <http://www.austinbutterflies.org/Calendar>, or call Mike Quinn at (512) 577-0250.

Ecological Literacy Volunteer Day

Sat, August 27, 9am – 1pm at the CER Ecological Literacy Volunteer Day – Help maintain Hornsby Bend Trails! Did you know that all the Hornsby Bend Trails were built and are maintained by volunteers? If you enjoy birding or walking along the Colorado River here, please join us in keeping the trails open to the public. We do three hours work and one hour of learning about the ecology of the Colorado River and Hornsby Bend - Wear work clothes and work shoes, bring water if warm weather and binoculars if interested in birds. NEW – bring food to join our informal potluck lunch afterwards and watch a presentation on wildlife and ecology.

Let's Help McKinney Falls SP

I think we all had at least one training class at McKinney Falls State Park and all

of us said, “hey, this would be a great place to help out!” We all then went onto other places and finally ended up with what we have as our regular “volunteer jobs.” Well, now is the time to break the mold and get back to McKinney Falls SP. They need us now more than ever and remember, the original directive was to help our State Parks.

They are always looking for:

- Help in the Texas Wildscape Gardens
 - School field trips. For the field trips they provide several activities related to the flora and fauna of the park.
 - Guided hikes on the 2nd and 4th Saturday of each month that need guides and they are open to any ideas that CAMN might have for other ways we would like to be involved at McKinney Falls.
- Please contact Kelly if you have any questions or suggestions.
Kelly Serio (512) 243-1643 ex. 237
•Kelly.Serio@tpwd.state.tx.us

Entomology Specialist Program

Do your friends think you a little eccentric because of your interest in creeping/crawling things? The Texas Master Volunteer Entomology Specialist Program <<http://agrilife.org/insectspecialist/>> may be just the thing for you. Offered annually, this year's program will be held at the Research and Extension Center in Dallas. It's a great opportunity for any Master Naturalists with a special interest in insects to get a week of in-depth entomology training. The training will earn you certification as a specialist through your statewide Master Volunteer program.

The course is approximately 40 hours-long, with field trips and laboratories in addition to lectures by both Extension entomologists and local insect experts. Once the course is completed, students are required to contribute a minimum 15 hours of volunteer contributions to the county office (above and beyond the volunteer requirement for Master Naturalists) to receive their certification. To read all about this year's program contents, click here <<http://agrilife.org/insectspecialist/2011-training-in-dallas/>>. Registration must be completed and submitted online, but the form must also

be printed and mailed in with registration, per instructions on the website: <http://agrilife.org/insectspecialist/registration-for-2011-class/>

If you have any questions, don't hesitate to contact us through Ms. Kaye Garrison (972-952-9201). Registration is filling up quickly and is based on a first-come-first served basis. There is a maximum class size of 30 to keep the instruction as personal as possible and allow us to do all those cool hands-on activities.

Michael E. Merchant, PhD, BCE
Professor and Extension Urban Entomologist
Texas AgriLife Extension Service
17360 Coit Rd., Dallas, TX 75252-6599
972-952-9204 email: m-merchant@tamu.edu <<mailto:m-merchant@tamu.edu>>

Blog for professionals: <http://insectsinthecity.blogspot.com> <<http://insectsinthecity.blogspot.com/>>
Website: <http://citybugs.tamu.edu> <<http://citybugs.tamu.edu/>>

Free Newsletters

Keep up with the natural Texas is through e-newsletters and updates from Texas Parks and Wildlife, one of our program's sponsors. Check out this recent edition <http://sharing.govdelivery.com/bulletins/GD/TPWD-12CA7A> of Life's Better Outside, a free quarterly e-newsletter with conservation news, wildlife updates, and agency program information. It just takes a minute to sign-up https://service.govdelivery.com/service/multi_subscribe.html?code=TXPWD&origin=http://www.tpwd.state.tx.us/ for any of these e-newsletters and other outdoor updates that arrive free in your “Inbox.”



Symposium 2011

October 13 - 16

Omni Houston Hotel at Westside

Officers

President: [Christine Powell](#)
Vice-President: [Kris Thorne](#)
Past President: [Lynne Weber](#)
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[Jeri Porter](#)

Board of Directors

According to the CAMN By-Laws, our Board of Directors consists of the Officers and the Chair of each Committee.

If you have concerns you wish the Board to consider, please contact one of the Board members via email or come to a Board Meeting (please let us know you will be coming).

CAMN Board Meetings are held on the first Thursday of odd numbered months at: 6:45 p.m. at the Academy of Oriental Medicine at Austin, 2700 W. Anderson Lane, Suite 204, Austin, TX 78757. Check with a Board Member for more details.

The agenda for the next Board Meeting is available here.

Got info for the Field Notes?

Send info, photos and articles for publication in the *Field Notes* to: xtinepowell@verizon.net Deadline for submission is the 27th of each month.



Sponsors/Partners

Mission Statement

To develop a corps of well-informed volunteers to provide education, outreach, and service dedicated to the beneficial management of natural resources and natural areas within their communities.

Members of CAMN are dedicated to the conservation, preservation, and restoration of our natural resources. To that end, we encourage and support trained Master Naturalist volunteers in Austin and Travis County in providing community programs and projects that increase appreciation of our natural environment and promote, protect, and preserve native flora and fauna.

[Austin Nature and Science Center](#)

[Texas Parks and Wildlife](#)

[Lower Colorado River Authority](#)

[Austin Sierra Club](#)

[The Nature Conservancy of Texas](#)

[Lady Bird Johnson Wildflower Center](#)

[Wild Basin Wilderness Preserve](#)

[Hornsby Bend Center for Environmental Research](#)

[Bat Conservation International](#)

[Native Plant Society of Texas](#)

[Travis Audubon Society](#)

Committees

Administrative

Contact: [Simonetta Rodriguez](#)
Maintains database of students and alumni, including names, addresses, class attendance, volunteer hours earned, and advanced training completed.

Communications

Contact: [Dale Rye](#)
Webpage: [Dale Rye](#)
Field Notes: [Christine Powell](#)
Press releases: [Kelly Bender](#)
Responsible for the Internet web page and press releases.

Curriculum

Contact: [Kris Thorne](#) and [Julia Osgood](#)
Develops the CAMN curriculum, as well as plans the lectures, activities and field trips for each class.

Advanced Training

Contact: [Bill Dodd](#)
Plans, coordinates, and approves advanced training opportunities.

Food & Fun

Contact: [Stuart Bailey](#)
Facilitates the social aspects of CAMN including the Certification Ceremonies and holiday celebrations.

Field Trips

Contact: [Jerry Mayfield](#)
Facilitates and helps organize field trips.

Volunteer Opportunities

Contact: [Vernon Berger](#)
Develops criteria to determine whether volunteer opportunities may be counted for CAMN credit. Reviews, approves, and publicizes opportunities.

Education and Outreach Committee

Contact: [Whitney Milberger](#) and [Shaun-Marie Auckland](#)
Promotes CAMN and organizes Educational events.

