There’s not much we can do about the weather, but we sure talk about it a lot. Right now it’s simple: it’s hot and dry. To make matters worse, Mr. Weatherman isn’t giving us much of a chance for rain anytime soon. I’m hoping he’s wrong, and I’ve never liked his attitude anyway. He’s always way too happy with long sunny dry spells and gets overly alarmed when storms are promising. With June rainfall down from the annual average, we’ve got the first signs of drought settling into our plant life. Are we afraid? No. Been there, done that. The good news is that we have an “automatic” watering system in our garden world! I’m Auto and Dawn is Matic. Seriously, if you add up all the valves at the Pineywoods Native Plant Center, Ruby M. Mize Azalea Garden, and Mast Arboretum, we have close to 100 valves in the ground. A serious drought means we get plenty of kneeling, wrist turning, and deep knee bends. I tell everyone it’s part of my plan for all of us to stay spry into old age.

Hey, Cullowheeeeee was great! This was the fourth time we’ve hosted the Cullowhee Lone Star Regional Native Plant Conference (May 28 – June 1, 2008) since the first way back in 2001. This year, about 125 participants enjoyed three full days of conference talks, plant sales, book signings, banquets, field trips, and the company of so many wonderful native plant enthusiasts. Everything ran smoothly; a miracle considering the long list of details that went into making it happen. Elyce puts another feather in her cap and Greg, Dawn, Barb, and a long list of volunteers get kudos for all the hard work thrust into their lives. Peter and Cassandra Loos deserve a big round of applause for all the behind the scenes detail work - and for hosting an eclectic speaker’s dinner at their estate near Chireno. The theme this year was “Lost Child in the Woods,” a play on Richard Louv’s blockbuster environmental education book, “Last Child in the Woods.” For the record, I came up with this play on words - and was amazed when the staff thought it was brilliant. Barbara Philipps created the wonderful caricature that represents one of our nation’s most important concerns – environmental education to a generation of kids becoming more and more disconnected from the natural world.

Is there a green roof in our garden’s future? Maybe! There’s little doubt that anything that smacks of cutting our energy bills might be a good idea right now. For the last year or two, Janet and I have been studying and visiting places all across the south that are heavy into green roofs, green walls, geothermal, solar, wind, permeable paving, recycled materials, and the list goes on. While SFA has always tested plants for their drought tolerance – sometimes intentionally, sometimes not – we’ve never taken our landscape talents over our heads. Maybe it’s time. Any casual search of the web reveals a plethora of green roof strategies from trays, to bins, to extensive, to intensive. Then there’s the reality of needing a structure that can support 35 or more pounds per square foot. Finding the perfect substrate is also a challenge. With costs at $3 to $5 per square foot of roof...
Next time you drive by the Ruby M. Mize Azalea Garden, notice how nice the northern entrance looks. A subcontractor to the Texas Department of Transportation completed the much-anticipated repair to the culvert under University Drive (FM 1275) the first week of June 2008. TX DOT Project Manager Dale Channel and the A-R Brothers Construction Services, Inc. contractor crews did amazing things (with huge equipment!) to remove the old eroded sides to Burrows Creek. Then they created two 10-foot by 10-foot cement culverts, then finished the job by adding rock stabilization and sod to hold the soil. TX Dot's Lufkin Nacogdoches Area Engineer David Selman said the design was revised a bit to make sure the extended wing walls from the culvert didn’t encroach on existing trees or the trail along the southern bank.

A thousand thanks go to TX DOT for this wonderful job. Our Azalea Trail visitors will be so happy to see our “new improved” entrance, and we will be happy to see Burrows Creek stay in his banks.

Of course this new “clean slate” needed our Arboretum touch. Since the contractors were able to save the Bald Cypresses *Taxodium distichum* and Mexican Bald Cypresses *Taxodium mucronatum* along the southern side of the creek, we have kept our evergreen background. Azalea Garden Technician Jonathan Roach and his workers worked hard to install more split rail cedar fencing to continue the design motif along the front of the garden. This fall, which is prime azalea-planting season, we will extend our line of purple “spider azaleas” (*Rhododendron stenopetalum* ‘Koromo Shikibu’) along the fence line. The overall effect will be a continuation of the purple hedge that greets us spring and late fall.
Planting Seeds, One Child at a Time
By Elyce Rodewald

My garden at home is a mess...so far from “Southern Living” it isn’t funny. Wild lettuce and McCartney rose crowd around sturdy crinums and old roses. Faithful milkweed and coneflowers fight to be seen above the greenbriar. The diseased camellias manage to bloom prolifically in the fall and the beleaguered gardenia struggles to produce a few blooms in the spring. The bird bath and headless St. Francis statue have disappeared into a mass of goldenrod, Johnson grass, and a bumper crop of garlic.

You would never know that I am still an avid gardener and that I have been diligently planting seeds...thousands as a matter of fact. I have had lots of help from wonderful volunteers, students, and staff who share my love of gardening and spend countless hours helping to plant, weed and care for the garden. So why is my landscape in such disarray? Because the garden we are growing is different from the beautiful displays at the Arboretum or the PNPC. Our seeds are ideas, opportunities, and experiences that we throw out to the fertile minds of children.

Spring planting started in February at the Arboretum with second graders exploring flowers, making soil soup, discovering the wonder of seeds, and visiting with the ever-popular honeybees. In March, third graders visited the PNPC to “Go Wild” over native Texas plants and ecosystems, and in April, fourth graders were “Wild About Science”—learning to use a compass, determining water quality in the marsh, measuring trees, and collecting data about camouflaged “worms.” We met fifth graders at the SFA Experimental Forest during the Texas Forest Service Forest Awareness Tours to help them experience the nitrogen cycle. By the end of April we were in a planting frenzy as 80-plus SFA Elementary Education interns, led by Dr. Alan Sowards and Dr. Cheryl Boyette, introduced thousands of children to science and nature during the 9th Annual Bugs, Bees, Butterflies, and Blossoms Festival. A few more school groups in May, then the Lone Star Regional Native Plant Conference and we were in the home stretch—June and four wonderful weeks of Pineywoods Camp.

Do we see the fruits of gardening efforts? Yes, definitely! Pre-visit and post-visit testing shows in a very concrete way that children learn very well outdoors with hands-on lessons. I also look for less tangible measures of success: a smile, a sparkle in the eye, an “A-ha!” moment when a child spots a tree frog hiding in the cattails. Kids leave us happier and dirtier than when they came, and I notice Raguet Elementary students riding their bikes and playing hide-and-seek in the woods after school. A camper from last summer knocks on my office window late one evening to tell me about an amazing lizard he saw. Another camper, terrified of snakes four years ago, is excited to hold a corn snake this summer.

Is it difficult to cultivate this garden? I think really not so difficult at all. We hear a lot about “nature deficit disorder” these days. I certainly understand what all the fuss is about, but I also feel that the remedy is pretty simple. Let the kids play outside, or better yet, play outside with them. It is difficult to stop a child’s natural curiosity and sense of wonder. Most school children who visit us are very reluctant to sit on the ground for any reason. However, once we insist that they sit down, their hands immediately start to run through the grass. They automatically start to examine sticks, dig in the dirt, and hunt for pill bugs. They tend to fuss at spiders and ants, but are amazed at acorn caps, galls, and lichens.

I offer a huge “thank you” to all the people who understand how important it is to bring children outside—school administrators who stretch the field trip budget, teachers who push their own comfort level to bring their classroom outdoors, parents and grandparents who go the extra mile (literally!) to bring their kiddos to camp. A very special thank you, too, to our Advisory Board members who offered scholarships to campers who would otherwise not be able to attend. This garden we are tending is an important one, and we are all planting seeds, one child at a time.
Knock, Knock. Who’s There?
By Greg Grant

To most folks, a dead tree is an eyesore waiting for an arborist to bring it down. But to me it’s a sign of beauty and life beyond death. Ever since I was a kid, my favorite birds have been woodpeckers and bluebirds, both East Texas staples. It turns out that both need dead trees to live. It sounds crazy but it’s true. You’ve heard that all of life is connected, right? Heck, we’ve all seen The Lion King. In reality, the woodpecker needs dead trees, and the bluebird needs woodpeckers.

Woodpeckers are the king of carpentry in our forests. East Texas is home to eight different species. These fascinating creatures excavate holes in dead and dying trees for nesting as well as roosting. They often make more holes than they need and most make completely new nesting cavities each year. This means there are many extra holes left over for other cavity dwellers. And there are plenty of cavity dwelling critters that need them. This amazing list includes all owls, American kestrels, beautiful wood ducks, chickadees, titmice, house wrens, nuthatches, tree swallows, and my beloved bluebirds. Without woodpeckers, these gals have no place to call home. Artificial nesting boxes help, but are certainly no substitute for the large numbers of homes needed for natural populations. And to make matters worse, the imported European starling and Eurasian sparrow vigorously colonize these boxes and cavities too.

In case you were wondering, woodpeckers don’t nest in live healthy trees. They only excavate decaying ones. And the really loud “drum rolls” you hear them make are communication, not excavation. The big pileated woodpecker is famous for this loud drumming as well as his loud laugh-like cackling. He was even the original inspiration for the Woody Woodpecker cartoon character. Who’d a thunk it?

So there you have it. Acorns turn into large oaks, which turn in to old oaks, then dead oaks, then woodpecker and bluebird homes, then compost, then baby oaks again. So if it’s not going to fall on your head, house, or Honda, leave them dead, so others can live.

Woodpecker Species in East Texas

**Downy Woodpecker:** The smallest of the bunch. It has a black and white checkerboard back, a white stomach, and just a bit of red on the back of the male’s head.

**Hairy Woodpecker:** Looks just like the Downy but larger with a longer bill.

**Red Cockaded:** This endangered little thing barely clings to existence due to loss of specific habitat. It requires large old pine trees with heart rot for nesting cavities. The trees must be alive in order to bleed sticky sap that protects the holes from intruders. Don’t look for the red cockade because it’s pretty much invisible.

**Yellow Bellied Sapsucker:** This is the one that makes the straight lines of little holes in the trunk of live trees so it can feed off of the sap. They are only here during the winter. I’ve never seen a tree die from their tapping so I just leave them alone.

**Red Bellied Woodpecker:** One of our most common. Doesn’t have much of a red belly at all but does have a red striped down the back of its head. They make a loud call that led Audubon and others to refer to them as “chaw chaws”. We have plenty of these at the PNPC.

**Red Headed Woodpecker:** This is my favorite! They are so beautiful and striking with their completely red head, black body, and white wing tips. They’re fun to listen to and a hoot to watch with their acrobatic style.

**Northern Flicker:** Most folks don’t even recognize this one as a woodpecker. They are gray-brown with black spots and just a touch of red on the back of their heads. The males wear a black mustache too. It’s the state bird of Alabama and also known as “the Yellow Hammer”. They primarily eat ants.

**Pileated Woodpecker:** Our largest (and loudest) woodpecker in East Texas. They are mostly black with a red crest on the male. I’ve loved their jungle-like call since I was a kid. They can really pound a tree and are responsible for all of the large holes out there that owls and others use. The stomach of one of these guys had 500 carpenter ants in it!

**Ivory Billed Woodpecker:** This majestic and noble bird was once the largest woodpecker in America but due to loss of habitat (old growth forests) and hell bent collectors killing them, they are extirpated in Texas and possibly extinct in America. The same thing happened to it’s even larger cousin in Mexico. We can always hope that they’re still around somewhere.
Make New Fronds
By Dawn Stover

As simple as ferns seem, they are most complicated little things. As I read about ferns to write this article, I find myself learning a different language. I have a degree in biology and a degree in horticulture, yet the language of ferns is one that never graced my lips throughout my college years.

It began simply enough with a partnering grant between our gardens and Dr. Shiyou Li at SFA’s Center for Medicinal Plant Research. Thanks to that grant, the Arboretum now boasts a pretty extensive fern collection, and I wanted to share the ones which seem to be leading the pack in performance. I tried to pick just one particular fern, but several outstanding species and hybrids made it hard for me to choose, but I found plenty of what I was looking for. Sori, the plural of sorus, are fruit dots containing spores. Spores are the fern’s reproductive unit, but spores don’t actually create a new fern. Spores create something called a prothallium which is an actual plant with a simple root system. This is the structure that grows male and female organs (antheridia and archegonia respectively) which in turn produce spermatozoid and eggs, which when fertilized create a sporophyte - which we lay folk call a fern. I digress, and have bypassed those reniform indusia mentioned earlier. Indusia are simply the protective covering over sori, and reniform means that the indusia on Dryopteris are kidney shaped. Are your eyes glossed over yet? Mine are even though I actually find this stuff pretty fascinating. Beyond reproductive structures, we can learn more words like: stipes, lamina, rachis, pinna, pinnule, costa, and costule.

And these are simply words for structures, we haven’t even scraped the surface on the words describing those structures.

Whew. That was a mouthful! In practical terms, I will tell you that Dryopteris are pretty easy ferns to grow. They are pretty to look at too. They truly are the ideal example of a fern. Leaves, pardon me, fronds are sturdy yet elegant and are often a glossy, dark green. Most species are evergreen or semi-evergreen, and are quite frankly the best addition you can make to a shady garden.

So which are my favorites?

Dryopteris erythrosora ‘Brilliance’, a cultivar of the autumn fern, boasts bright coppery new growth on plants that grow about eighteen inches tall, and about as wide. It takes a good bit of sun, although not full sun, and is drought tolerant once established.

Dryopteris ludoviciana, the southern shield fern, is a native to the southeastern United States, including Texas, which makes it a no-brainer when trying to choose the right fern. It’s a stately specimen with an upright habit and leathery fronds that can reach three feet. It can also take some sun provided with enough moisture.

Dryopteris celsa, or log fern, is a naturally occurring, fertile hybrid of two U.S. natives - D. ludoviciana and D. goldiana with a vertical yet arching habit. Plants can reach three feet tall, on a good day, and two feet wide.

Dryopteris x australis, or Dixie wood fern, is another naturally occurring hybrid between natives D. x celsa and D. ludoviciana. The result is a dramatically vertical plant with lusciously thick fronds. Plants can grow to four feet high.

Dryopteris tokyoensis, or Tokyo wood fern, caught my eye the minute I first saw it. The foliage is so perfect it looks fake. This deciduous fern grows about eighteen inches tall with a semi-upright habit. It’s native from Japan to Korea, but makes itself at home here in Texas.

So if you’re interested in adding texture to a shady location, ferns are an easy option. Start with a wood fern and you might just find yourself speaking Fernspeak and making new fronds!
**Good grief! Isn’t this an invasive species?** Isn’t this the dreaded “Kudzu of the beach,” now threatening the Carolina dunes? Isn’t this the focus of all kinds of eradication campaigns? Why would any serious horticulturist even talk about a plant like this, much less write about it? Well, we’d just like to quietly point out that there are many areas of the southern USA where it’s quite common in landscapes – and it’s simply just another interesting non-invasive exotic plant. That’s the case in our region of Texas. With over thirty years of experience with this hardy evergreen species in the U.S. – it’s an immigrant from Hawaii, believe it or not – we can now say there are many parts of the South where beach vitex is rather tame. This is a species grown in fairly large numbers from a wide range of wholesale nurseries in Texas, Alabama, and Louisiana. Considering the fact that this is one tough immigrant from Hawaii, and the fact it’s easy to keep alive, it shouldn’t surprise anyone that it is here to stay. Given a little positive horticulture, the plant can be downright beautiful, and it’s in that vein the plant can be used.

First, let’s give testimony and respect to the species as a landscape candidate, without discounting its invasive potential in areas where it finds itself too much at home. Writing this piece conjures up memories – twenty years ago - of some officials of the U.S. Fish and Wildlife Department visiting J.C. Raulston, Director of the North Carolina State University Arboretum, and suggesting to him that promoting, growing, thinking about or touching this plant was just about the most horrible thing a horticulturist could do. Yes, this plant is easy to grow. In coastal sandy spots, it can go where you don’t want it to, and when it’s there it can and will smother native vegetation. It can be a bad boy. So here’s the rule: In those sections of the country that beach vitex is way too frisky for its own good, don’t plant it, and, when you see it, kill it.

In our Zone 8 region of Texas, we have never seen a seedling . . . and if landscapers used the plant as described in this treatise, the end result is no problem. As a groundcover in our region, beach Vitex is not that voracious. At the San Antonio Botanical Garden (a bit warmer than Nacogdoches), Paul Cox reports that it’s “manageable”. At any rate, experience is a good teacher.

First, how bad is this plant? Well, it is a native of the USA, but only due to it’s Hawaiian origins. First introduced as an exciting ornamental over 30 years ago as a potential groundcover for sunny dry spots, it made its way to the sand dunes of South Carolina, and it’s there that beach vitex has come to be quite frightening.

This brief note isn’t intended to stir up a fight in the horticultural crowd. The invasive exotic issue is real and one that deserves respect and attention. We know that. However, an invasive in one spot can be quite docile in another and it’s in that vein this article is presented.

If you happen to live in a region of the USA where beach Vitex never throws seedlings – and where it’s easily managed in a run – the plant has attributes. We have long enjoyed it as a vine in our “Lines of Vines” collection. The foliage is beautiful, clean and fully evergreen. The blooms are relatively inconspicuous coming in the fall as blue spikes. While attractive up close, they are never overwhelming. Our most conspicuous specimen in the Mast Arboretum has been trained to a post and never fails to gain approval by staff and visitors. We’ve been evaluating this plant for over 20 years. We’ve used the plant as a vine and as a groundcover and found that it responds to an occasional shearing. Once again, we’ve never seen a seedling in our Zone 8 garden and in our garden it’s not that vigorous nor does it generate any fear and loathing.

---

**The Newest Member of Our Family**

Lance and Kristin Craig welcomed baby number three on July 8th. You may remember Lance as our Research Associate at the Pineywoods Native Plant Center before Greg filled that role. Lance is now serving in the United States Army, and the Craig family is living in Fort Drum, New York. Slayton Ash Craig arrived at 12:30 pm on the 8th, weighing in at 6 pounds 6 ounces, and measuring 20 inches. He had a touch of jaundice and spent a few extra days in the hospital, but mom and baby are now home and doing fine. Brothers Carter and Lanin, who turn 6 and 4 in November, couldn’t be more thrilled. Mom may be outnumbered by the boys at this point, but at least she’s got some experience under her belt!
Top Ten Reasons to Visit the Arboretum in the Summer
By Dawn Stover

10. Take a walk on the wild side! It’s stays cool enough for brisk walks until 9 or 10 am. Why not get your heart rate up while taking in the scenery. One morning I saw no fewer than 8 different people on our trails between 8:00 and 8:05 a.m.

9. Exercise your options and leave the beaten path. In addition to walking or biking, grassy areas are a perfect place to throw down a yoga mat and strike some poses. There’s a neat group of ladies who treat themselves to a workout in the gardens one day a week. I threatened to photograph them for PR - but I got a pretty neat shot with one of their yoga mats. You’re safe for now ladies...

8. Take yourself back in time. Spend some time in the newest area to need a name in the arboretum. It’s just south of the Lines of Vines. We were calling it the “Dinosaur” or “Prehistoric” garden, but lately I’ve been leaning towards “Fern Gully”. We don’t really have any dinosaurs, and there are less than a handful of prehistoric plants, but there are plenty of ferns and luscious green companions. This garden was designed with an absence of color in mind. You’ll find many shades of green, but mostly you’ll find a tapestry of texture and form that is surprisingly as beautiful as any colorful bloom.

7. Take a stroll down Lover’s Lane. This is not actually a theme garden, but we did get a donation of several hundred red caladiums planted in a way that leads to a private bench where you can get a little smooch from your special someone. Keep it clean folks. We’re a family establishment, you know.

6. Have a picnic. Picnic tables and grassy areas abound in the shade and are waiting for your favorite quilt and a goody-filled picnic basket. There are lot’s of spaces for the kids to roam, play hide-and-seek, or simply feel the summer breeze through their hair.

5. Take a ride through the sprinklers. There’s always a good chance in summer time that we’ll have sprinkler or two on in the gardens somewhere. I caught a family riding their bicycles on the trail and through the sprinklers late one hot afternoon. What a way to treat the kids!

4. Gingers and spice and all things nice, this is what gardens are made of. At least our shade gardens in the Arboretum. Those late-out-of-bed *Kaempferia* are finally making an appearance. Much like a teenager on a Saturday morning, albeit a bit prettier and much less surly. These peacock gingers are excellent groundcovers for subtropical areas as long as they are provided adequate drainage in the winter.

3. To fern or not to fern. The question is: which is your favorite? Many new fern varieties are scattered through the garden thanks to a partnered research grant last year with Dr. Shiyou Li. Come pick your favorite; I’ve already got mine!

2. Go cuckoo for coleus. There are 212 varieties of coleus lining one of the walks in Asian Valley. I have about 25 more on order and am still searching for more. Some cultivars are so-so, but others darn near glow! Yep - I’ve already got my favorites!

And finally…..

1. Unplug. Turn off the TV. Turn off the radio. Power down that cell phone, the Blackberry and the MP3 player. Take some time to reconnect with a long lost friend. You. If you simply can’t stand the silence, you can always chat up one of our squirrels. Just know that the Arboretum can be the calm in the midst of a today’s technological storm. Take some time just for you and just simply be.
Mr. Bucky Beaver Says it’s a Dam Shame
By Dr. David Creech

Beavers in our garden? Yep, it’s true. These rodents with flat tails made a dam across LaNana creek right between the Mast Arboretum and the Ruby M. Mize Azalea garden. The next thing I know is that one of our weeping bald cypresses by the bridge is gone and woven into the dam. Of course, as far as I was concerned, this meant war. But before any shots could be fired, the ladies around here – and a few others - were quick to let me know that this was a special gift from God. We’ve done such a great job that wildlife now loves the place as valuable habitat. Beavers are precious, and they’re cute and cuddly. Besides, if I took care of the problem my way - blowing up the dam - I would be staff-less. One blistering email from someone who must go unnamed comes to mind: “Really, Dr. Creech….practice what you preach Mr. Green Roof, Turn-Out-The-Lights, LEEDS-certified, Environmental Education…and now kill or move the beavers???” Classic NIMBY….I’ll go to the media and rat you out for cutting down the 200+ year old post oak at the PNPC so you could plant some stupid grapes. Maybe we should blow up your house and get rid of you for killing something that was just minding its own business. We should be thrilled we can provide a wonderful habitat for wildlife. Get over the mutant bald cypress…” Of course, I folded under this barrage of intense scolding and promised not to blow up the dam. Shortly after that, on my keyboard in my office, I found a beautiful glossy of Mr. Bucky Beaver in a field of wildflowers with the taped-on caption, “Thank you, Dr. Creech, for letting me live! Mr. Beaver.” Depressed that my life had come to this, I quietly removed the caption and carefully drew a crosshairs on the critter – just joking, of course – which I placed on Elyce’s keyboard, since she was the prime suspect. I may be laying low for a while, but Mr. Beaver shouldn’t think once about cutting down a rare Magnolia or two.

Editors Note: NIMBY translates to Not In My Back Yard. Also, the editor did not send the email, but may have cheered a bit when she read it.