The SFA Pineywoods Native Plant Center – A Case Study in Divine Intervention

Dr. Dave Creech
Director, SFA Gardens
2900 Raguet St.
Nacogdoches, TX 75961
Email: dcreech@sfasu.edu

The Pineywoods Native Plant Center (PNPC) is a 40-acre mix of uplands, mesic mid-slopes, and wet creek bottomland that lies on the northern edge of Stephen F. Austin State University (SFASU) in the center of Nacogdoches, the “oldest town in Texas.”

Edward and Mimi Tucker on right; son Edward II and Edward’s sister Elizabeth

The PNPC was formerly the estate of Edward and Mimi Tucker who were special citizens in Nacogdoches for many years. In 1941, they built a fine Georgian style home on Raguet Street and Mimi went to tending a large garden. She enjoyed azaleas, lilies and other garden plants of that era. The Tuckers hosted an annual Easter Egg Hunt for the neighborhood that became quite popular. The property has been in continuous forest for over a century. Mimi’s passing resulted in the land being put out for bids by the family and SFASU acquired the property in 1986. Once acquired, the property, referred to as the Tucker Woods, became the home of the first ‘Tucker trails”, a College of Forestry effort that created the first trails in the forest and the historic home was used to house KSAU, the University Radio Station, and as storage. In 1998, Drs. Dave Creech (Agriculture) and James Kroll (Forestry) met in the SFA Mast Arboretum on a bench for an early morning coffee. With the Forest Resources Institute in place, Dr.

Kroll was convinced the idea of a “native plant center” had good merit, that the time had come. The Arboretum was doing well, but our interest in native plants was somewhat lost in the mix of the Arboretum collection and the pending Ruby M. Mize Azalea Garden development was looming around the corner. Still, it made sense to have a property that would showcase the best ornamental natives, as well as add significant research on the rare, threatened and endangered plants that call east Texas home. The deal was sealed with a handshake and after several meetings a proposal was developed, discussions were made and the idea was presented to the SFA Board of Regents. With this concept in place, a mission statement was created via the SFA Arboretum’s Board of Advisors and outside parties:

MISSION STATEMENT

1. Feature the best native ornamental plants in a well-designed display garden with appropriate interpretive signage.
2. Maintain a documented germplasm collection of rare, threatened, and endangered plants of East Texas.
3. Contribute to endangered plant conservation horticulture by linking with federal, state, and private institutions charged with monitoring and saving those plants.
4. Educate students and the public in the areas of native plants, conservation, ecology, and the natural environment.

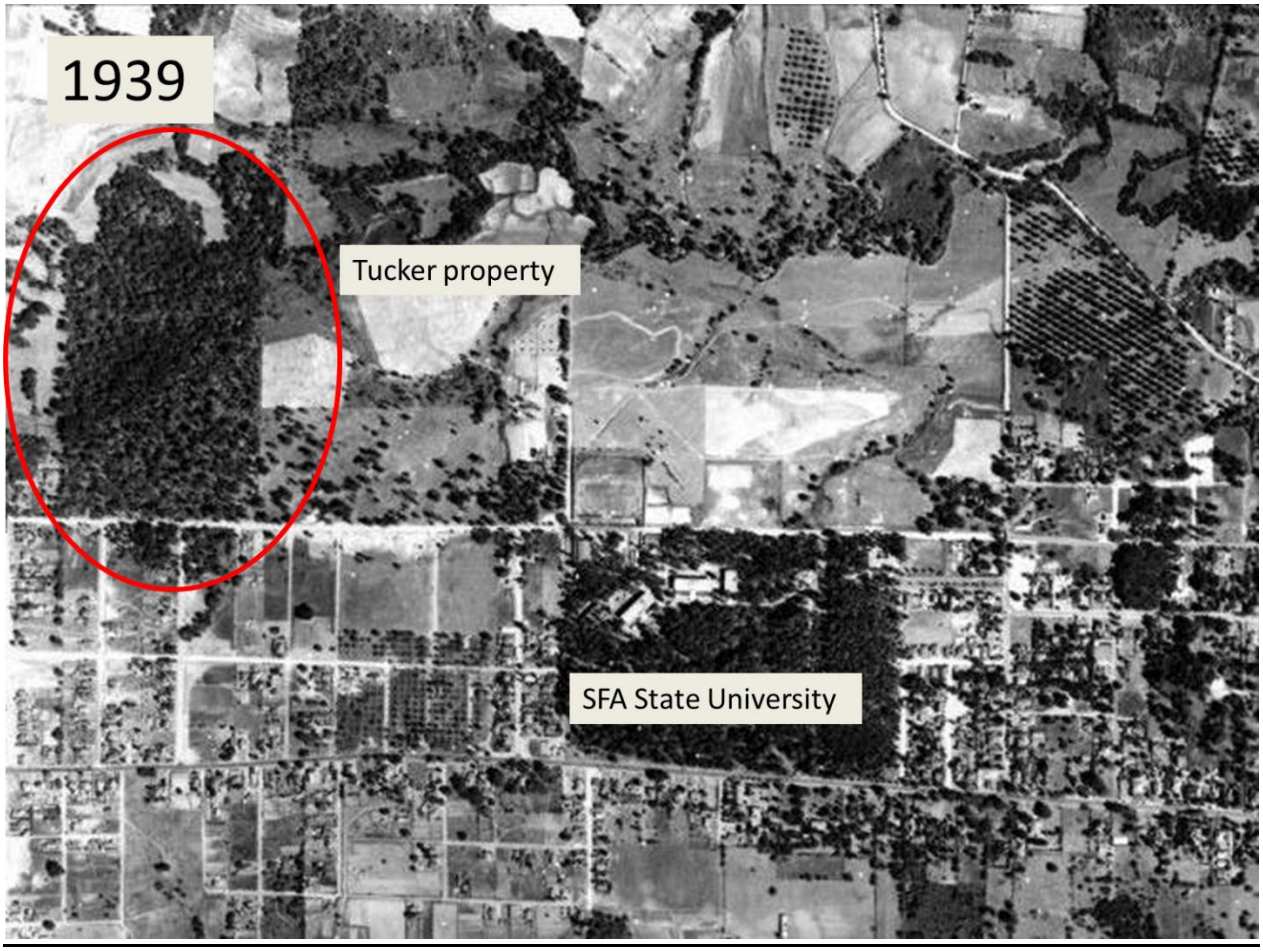
THE VISION

The first case of divine intervention was in 1999. Ellen Temple, Lufkin, Texas, was instrumental in encouraging the SFA Board of Regents approval of the Pineywoods Native Plant Center concept. While the Board of Regents approval was not accompanied with state funding, there was a bigger vision. Ellen was instrumental in the details of the dedication of the property in an outdoor gala event March 27, 1999, which was attended by the SFA Board of Regents, SFA administrators, faculty, involved community leaders and native plant

enthusiasts. Her long association with the wildflower and native plant movement and our past work with native plants led to discussions with Bob Breunig of the Ladybird Johnson Wildflower Center. This would eventually lead to Ladybird's visit and a special dedication moment in the history of the PNPC. Ellen served as president of the board of the Lady Bird Johnson Wildflower Center (LBJWC) for 3 years, (1997,98,99) and helped Dr. James Kroll and I raise money for the PNPC, and served for years on the PNPC Advisory Board, which all led the way to establish the PNPC as an LBJWC affiliate garden. Ellen convinced Mrs. Johnson to join us for the dedication in April, 2000, which she graciously, agreed to do.

HISTORY

The PNPC has a long history as a forest along the western banks of LaNana creek. There are very few aerial images of the property that go back to the early years. This 1939 image indicates the meandering LaNana creek stream in our valley, channelized in the 1970s. It also illustrates that SFA lay between North Street and Raguet Street, the latter once running all the way through the campus and south to downtown.



SUNLIGHT ARRIVES AT THE PNPC

The second case of divine intervention happened in 1999. At the time of the PNPC dedication in 1999, the property was essentially forest and understory, almost 100% shade. We had recently requested the opportunity to thin about eight acres of forest on the east side of Raguet street to create more opportunity for sun loving plant materials. We also requested that Biology relocate an old barn on the property that was being used for boat storage. Both requests were denied, based on resistance to clearing by some in the administration and community, and the fact there was no funding to rebuild the boat barn elsewhere. The result was the property was destined to be a 40-acre native plant shade garden, not our original mantra. It greatly limited our palette and it wasn't what we had in mind.

To end the lack of sunlight as an issue, an EF2 tornado set down about 7PM in Nacogdoches on May 4, 1999. This was a very quick solution to the lack of sunlight issue. The boat barn was destroyed and many of the boats were not salvageable. The tornado's thirteen-mile path went from west to east and was estimated as 200' wide. The tornado skipped over Raguet Elementary school, set down on the Tucker property and proceeded east, tearing a path through the forest before heading east.

The Dr. Jack McCullough, Aquatic Biologist, boat barn was destroyed May 4, 1999

LADY BIRD COMES TO TOWN

With the dedication of the PNPC completed, there was little time to prepare for what was about to happen next, the third case of divine intervention. With the approval of the proposal to become the third affiliated garden of the Ladybird Johnson Wildflower Center, a ceremony and grand opening of the PNPC was held April 8, 2000, behind the Tucker house. It was a bright sunny day and a good crowd was on hand. Ladybird was in good spirits and I had the privilege of several hours of conversation in the back of her suburban, followed, of course, by Secret Service Mike and Julie. I was blessed to give her the grand tour of some great sandy land ecosystems on the S.B. Hayter Trust on Highway 21 west of town. We also toured the LaNana creek trail project, the campus and the gardens. The dedication was under a festive red and white tent behind the Tucker House. The crowd included city and university administrators, faculty, staff and the local community. A Fredonia Hotel fund raising dinner that night was a great success. Arthur Temple was so moved he generously donated $50,000 that day for the PNPC. It bought a tractor. Ladybird was gracious, insightful, blunt, humorous and relaxed. This was the last official visit by Ladybird before her passing. Ladybird's wand over the property changed the future of the place.

Top left, clockwise: 1) Arthur Temple and Ladybird Johnson, 2) Florence Patton and Ladybird, 3) Ellen Temple, Dave Creech, Lady Bird, Secret Service Mike, James Kroll and Bob Breunig, 4) Raguet Elementary children at the Lady Bird Johnson dedication.

Stonewall, Texas

APRIL 12, 2000

DEAR DAVE,

WHAT A ROYAL WELCOME YOU GAVE ME LAST FRIDAY! I LOVED VISITING THE BEAUTIFULLY PRESERVED MILL CREEK CROSSING AND LANANA CREEK TRAIL, AND I COULD HAVE STAYED ALL AFTERNOON JUST DRINKING IN THEIR BEAUTY!

THE DEDICATION WAS SO WELL PLANNED AND JUST RIGHT IN EVERY WAY FROM THE BEAUTIFUL SUNSHINE, SCOUTS BEARING COLORS AND LEADING THE PLEDGE OF ALLEGIANCE, TO THE INFORMAL BUT ENJOYABLE SPEECHES, THE GRAND OLD TUCKER ESTATE AND THE DEMONSTRATION GARDEN! AND THE LUNCHEON WAS NO LESS ENJOYABLE -- I ESPECIALLY LOVED THE WILDFLOWER TABLE ARRANGEMENTS AND LITTLE POTS OF WINKLER'S WHITE FIREWHEEL!

TOMORROW THE MEN WILL PLANT MY WHITE FIREWHEEL AND I CAN'T WAIT TO SEE THE BEAUTIFUL RARE BLOSSOMS GROWING IN MY VERY OWN YARD! THANK YOU SO MUCH FOR YOUR GENEROSITY IN ALLOWING ME TO TAKE ENOUGH FOR THE RANCH, MY HOUSE IN AUSTIN AND THE WILDFLOWER CENTER!

HOW HAPPY YOU AND JAMES MUST HAVE BEEN TO SEE YOUR DREAM REALIZED, AND I COMMEND YOU FOR YOUR PRESERVATION WORK AND ESTABLISHMENT OF THE PINEYWOODS NATIVE PLANT CENTER AND LADY BIRD JOHNSON DEMONSTRATION GARDEN -- I HAVE THE HIGHEST HOPES FOR BOTH OF THEM! IT DID NOT HAPPEN WITHOUT THE LABOR OF A LOT OF CARING AND DEDICATED HANDS, AND I HOPE EVERYONE CONCERNED IS BASKING IN THE KNOWLEDGE THAT THEY HAVE CREATED SOMETHING OF ENDURING IMPORTANCE FOR THE AREA. PLEASE CONVEY MY BEST REGARDS AND GRATITUDE TO ALL OF YOUR STUDENTS WHO SO ABLY ASSISTED YOU.

WITH A HEART FULL OF THANKS,

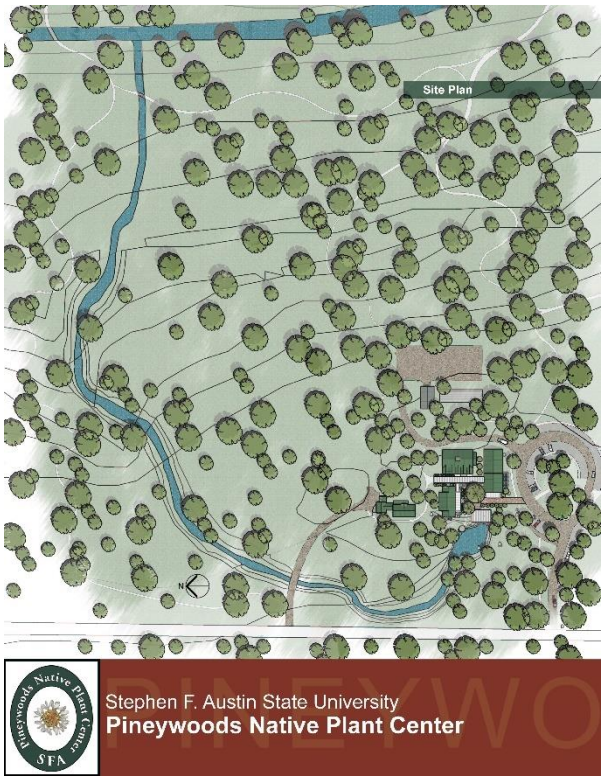
Lady Bird Johnson

DR. DAVID CREECH
ROUTE 8, BOX 3295
NACOGDOCHES, TX 79561

CTJ:SJ

DEVELOPIING A SITE PLAN

With the generous help of Ellen Temple, the PNPC secured the services of Darrel Morrison in 2000, a noted landscape architect from the University of Georgia. Darrel created the design for the Lady Bird Johnson Wildflower Research Center in Austin, Texas. His charge was to develop a concept plan for the property. Darrel camped on the property and imagined the trail system, an educational center and a horticultural complex. After his visit, Drs. Kroll and Creech agreed to follow the trail design as closely as envisioned, which remains the strategy to this day. With Darrel's work and a plan in place, presentation boards were created and the SFA Board of Regents approved the concept plan December 12, 2007. We had permission for a capital campaign to build a Conservation Education Building.



RESOURCES

Property. The 40-acre tract is bounded on the east by LaNana Creek, on the north by Austin Street, and on the south and north by SFA property and the two-acre Jimmy Hinds Park on Raguet Street. It's a mix of mostly mesic midslopes and a wet creek bottom. About ten acres of "upland" on the property is home to the Tucker house, Horticulture facility, the Ina Brundrett Conservation Education Center, the upland marsh boardwalk and other features.

Tucker house. The Tucker house remains the PNPC's crown jewel. The home and the forest that surrounds it are known widely in the community as the Tucker property. The Tucker house is the original 1941 Georgian style home for the Tucker family which now serves as the office for the SFA Gardens staff and two office spaces are leased (Julie Shackleford, Texas Director of the Conservation Fund, and Sarah Fuller, Texas Agrilife, Natural Resources Communication Director). Via I-kai Huang, ATCFA, here is a walk-through visualization of the Tucker house interior: (3028 sq. ft.): https://my.matterport.com/show/?m=mfd5TeGKawC. Here is a walk-through visualization of the landscape surrounding the Tucker house https://my.matterport.com/show/?m=RfVfqQmh5sd

Horticulture Facility: In 2000, the newly formed PNPC Board of Advisors approved a plan to put a focus on developing a first-class horticulture facility. The horticulture facility lies just to the north of the PNPC's upland "marsh" – a naturally wet area best defined as a "perched wetland." The horticulture facility was designed so that all effluent from the plant producing areas would naturally flow into the marsh land, a situation that creates an opportunity for visitors to the PNPC to understand at a small scale the influence of horticulture and wetlands on water quality as it leaves this property on its way to LaNana creek. The Horticulture facility includes the following:

1) one 60' X 100' two bay poly house (6000 sq. ft.)

2) one 30' X 100' Quonset poly house (3000 sq. ft.)

3) a 50' X 100' full sun container yard, (5000 sq. ft.)

4) a 14' X 100' sun container yard (1400 sq. ft.)

5) One 40' X 117' nursery pad, includes a 24' X 67' shade house (4680 sq. ft.)

6) a 30' X 50" metal building (headhouse) with office and restroom. (1500 sq. ft.)

7) A 30' X 90' equipment storage barn, open sided. (2700 sq. ft.)

8.) The facility is encircled by a 6' fence to allow security and privacy.

The Ina Brundrett Conservation Education Building facility was built in 2012, also externally funded (2904 sq. ft. heated and cooled). This building was dedicated in 2012 after a five-year campaign to raise one million dollars. The facility serves as a resource for the SFA Gardens educational programming, and as a meeting space for other divisions on campus and in the community. One hundred events in 2025. The justification for the building was the strength of the environmental education program for children, the work of Elyce Rodewald, the SFA Gardens Environmental Education coordinator. The concept was presented December 12, 2007 to the SFA Board of Regents as a request for permission to initiate a campaign, not as a request for funding. The building is an example of environmentally conscious design. After the project was initiated, a grant from Green Mountain Energy provided the solar array on the south facing roof slopes which provides about 75% of the annual electricity needs. The facility was purposed to support what was then a vigorous environmental education program for kids, K-12. It is also utilized as a meeting place for various SFASU organizations, for the SFA Gardens monthly lectures, workshops and special seminars, as well as a meeting place for university entities, community associations and for weddings and celebrations. During the pandemic it was used as a university classroom because of student spacing issues. Elyce retired in early 2020 as the pandemic set in and the state funded position was empty for two years. When we went to make a hire, we learned the state funding was gone. Fortunately, the program was able to generate enough external support to keep the program alive, first by hiring Dr. Alan Sowards in a half-time capacity to keep the program alive. He did just that. After several years, Alan retired and we were able to secure a $50,000 grant from the George and Fay Young Foundation (Nov 2023) which allowed us to make a hire. Kay Jenkins arrived in February 2024 and has been the Environmental Education Coordinator ever since. After the first year, we have absorbed that salary into our external support funds.

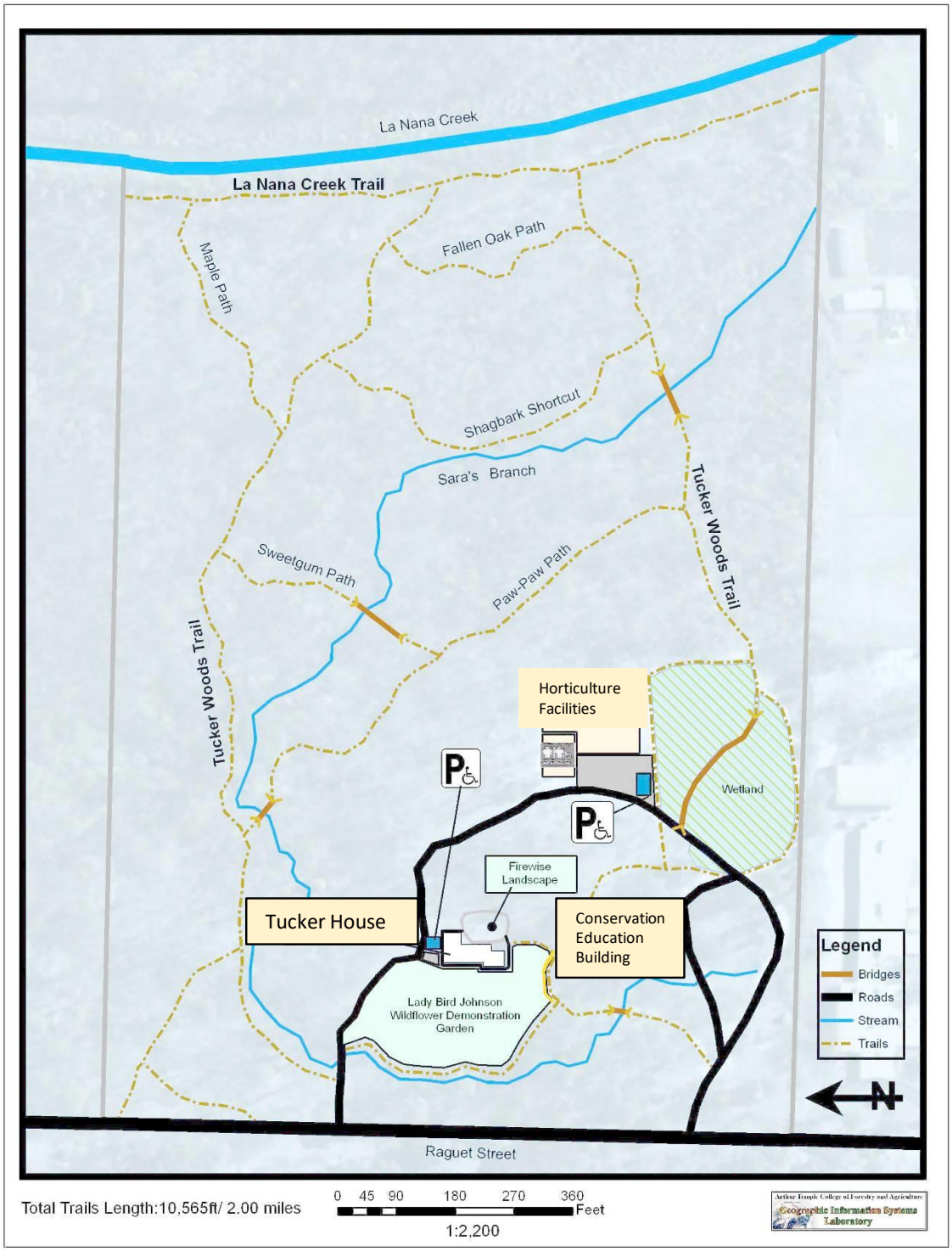
Trails and boardwalks: Through a mix of grants and help from the state, the PNPC was given a much-needed step forward in 2007 with the completion of a 2-mile trail system. With Drs. Creech and Legg as co-PI's, a Texas Parks and Wildlife Recreational Trails grant created a 6' wide ribbon of asphalt that still leads visitors through a variety of vistas, interesting habitats, and the horticultural demonstration gardens around the Tucker house. The match for this grant was provided by the PNPC and the Arthur Temple College of Forestry and Agriculture. Vic Shepherd, SFA transportation manager, was an asphalt artist, and it was exciting to watch him and his crew at work. The trails and boardwalks were dedicated April 21, 2007 with President Baker Patillo and SFA Board of Regents Chairwoman Valerie Erstz cutting the ribbon. In 2021, the three main boardwalks at the PNPC were falling apart and we were close to having to close the trail network. We secured a $140,000 grant from Keep Nacogdoches

Beautiful, who were awarded that amount from the Bright Foundation. The new boardwalks are Trex flooring and should be here for 25 years and more.

From top left, clockwise: Vic Shepherd with asphalt laying machine, 2) bicyclist on trail, 3) Vic Shepherd laying 4) President Baker Patillo and Chairman of the SFA Board of Regents, Valerie Erstz.

Ladybird Johnson Wildflower Demonstration Gardens: The gardens surround the Tucker house and features more than 200 species of wildflowers, trees, and shrubs native to Texas and the Southeast. Four plant communities (dry upland, mesic mid-slope, riparian, and marsh) are represented in the garden by native plants that have landscape appeal and provide food for local wildlife. In addition, a signed and interpreted “Firewise” demonstration garden surrounding the Tucker house illustrates how to create a survivable space by selecting, placing, and maintaining plants around one’s home that make it less vulnerable to wildfire and other disasters. In 2021, we installed signage and interpretation for the Elisabeth Montgomery trail, a walk way that showcases a few of the rare, threatened and endangered plants of the Pineywoods.

THE PINEYWOODS NATIVE PLANT CENTER TRAIL SYSTEM



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The PNPC Upland Marsh: This portion of the PNPC is just to the east of the Conservation Education Building and the Horticulture facility. It is encircled by an asphalt trail and a boardwalk and viewing area across runs through the upland marsh. Even though it's an upland it has long been known as a spot that held water. Underlain by Weches rock, water is held "perched and trapped above normal drainage to the ground water reservoir. Water from the greenhouse facilities drain into this area.

Blueberry Research Plot: SFASU's blueberry research program has a long history (since the 1970s), one that can be found in the author's resume on line. The blueberry plots are located at the North end of the PNPC. The plots are irrigated and surrounded by a deer proof fence. The Blueberry research program has cooperated with numerous institutions involved in blueberry research over many years, including the University of Georgia, University of Florida, Mississippi State and USDA. In addition, the program has six clones under evaluation from the blueberry breeding program of Professor Yu Hong of the Nanjing Botanical Garden. One is particularly promising, Selection A119. It's in commerce in China as 'Chaoyue No. 1' and it blooms late, ripens early and is especially fragrant at flowering. The plots have suffered in the last three years because of climate challenges but are being resurrected at this writing.

Muscadine Research Plot: This research plot is actually located in the Jimmy Hinds Park which borders the PNPC on the north side. This project is primarily a variety and selection screening trial. With over 70 varieties and selections involved, we typically gather data for vine health, yield, sugar content and consumer acceptance. This project capitalizes on collaborations with colleagues at TAMU, Mississippi State, USDA Poplarville and the University of Georgia. In the last few years, we have opened the plots to a Pick Your Own to generate funding for maintenance of the plots.

ENVIRONMENTAL EDUCATION

Since 2000, the SFA Gardens environmental education program has provided hands-on, experiential learning opportunities for all ages. Prepandemic, the program reached over 11,000 children each year and became a source of university pride. For twenty years, the Environmental Education program was led by Elyce Rodewald, who was blessed with strong personality skills to create, organize, and manage a wide range of educational efforts that included:

Arboretum Adventures – Action-packed explorations of Arboretum theme gardens, beehive, and compost exhibit encourage students to use their curiosity, ingenuity, and creativity to learn about water, soil, seeds, compost, animals, pollination, plants, parts of a flower, bees, trees, and forest ecology. Current learning excursions target four grade levels.

Bugs, Bees, Butterflies, and Blossoms (BBBB)–This activity-oriented, science field day focuses on trees, bees, insects, butterflies, flowers, and recycling. BBBB is a cooperative project of the SFA Department of Elementary Education, Texas Forest Service, and the SFA Mast Arboretum. SFA elementary education teaching majors participate in planning and facilitating lessons at BBBB to fulfill requirements for a junior-level "Teaching Science" course.

GardenQuest - Teachers and students discover the secrets of blossoms, bees, bottle trees, and more on this self-guided multidisciplinary exploration of the Arboretum.

Go Wild! School groups discover rare and endangered plants, investigate adaptations, and explore East Texas ecosystems while taking a guided hike. Students collect and analyze water samples, create rope from plant material, and learn about the benefits and uses of native plants.

Wild About Science Students participate in work performed by science professionals—data collection, orienteering, tree measurement, and water analysis. Fun, hands-on activities connect science to real-life situations.

Forest Awareness - Tours Students visit six activity stations at the SFA Experimental Forest to learn about snakes, soils, tree growth and measurement, insects, wildlife, and herbaceous forest plants. The PNPC provides a hands-on activity about the nitrogen cycle. This event is sponsored by the Texas Forest Service and Texas AgriLife Extension Service.

Earth Science Exploration Students meet ancient rocks and discover examples of constructive and destructive forces during activities that focus on the water cycle, soil, erosion, and observing geologic processes present at the Pineywoods Native Plant Center.

Trees Are Terrific PNPC staff join Texas Forest Service personnel to visit area fifth graders with a fun and informative message about the importance of trees. Students are introduced to tree identification, physiology, and ecology, and they are encouraged to demonstrate their tree knowledge and creativity by entering the National Arbor Day Foundation Arbor Day Poster Contest.

Pineywoods Camps Discovery learning opens a new and exciting world for 4 to15-year-olds to have an outrageously good time in the woods while learning about the natural world. Campers enjoy canoeing, fishing, hiking, exploring, creating nature crafts, singing silly songs, meeting new friends, and having close encounters with the flora and fauna of East Texas. Campers hone observation skills as they learn about outdoor safety, snakes, wildlife, water sheds, insects, water quality, food webs, endangered plants, competition, cooperation, connections, and so much more. Three 5-day sessions accommodate three age groups. The Advisory Board for the SFA Gardens provides scholarships for 25-30% of the campers who would not otherwise be able to attend.

The Tucker Memorial Easter Egg Hunt has been a popular family event for many years. Introduced in 2008 for families are the “Pirates in the Pineywoods Party” and “Nature Realized” series hosted by the Texas Forest Service. We will resurrect these educational and entertaining events and others as soon as we can replace the two staff we lost in the pandemic.

The Lone Star Regional Native Plant Conference. The LSRNPC is a major educational effort associated with the PNPC. This conference is affiliated with the Cullowhee Native Plant Conference (Cullowhee, NC) and connected well-known speakers and native plant experts with landscapers, scientists, and native plant enthusiasts for four days of field trips, lectures, banquets, socials, book signings, workshops, plant sales and networking. The Proceedings of the conference are online: https://scholarworks.sfasu.edu/sfa_gardens_lonestar/ . For most participants, this is a special event that would never have prospered without the help and support of Peter and Cass Loos, Greg Grant, Elyce Rodewald and an army of volunteers. For those who have attended, all would attest that it was a fun and education filled event. For the

historical record, five LSRNPC conferences have been hosted: 2001, 2003; 2006, 2008, 2020 and 2012. The LSRNPC conference was not sustainable and was dropped from the program in 2012. I propose a return of the conference in 2027.

The essence of the PNPC's environmental education program can be found here: https://www.youtube.com/watch?v=6ATQjSpV3Yg

CONSERVATION

In the mid-1990s, Dr. Creech and Stacy Scott (Graduate Research Assistant) introduced and pioneered the concept of the "Three R's". This was a catchy slogan for an endangered plant "Rescue, Research, and Reintroduction" strategy, which was designed to find, identify, collect, propagate and study a wide range of endangered, rare and threatened Pineywoods species. The Mast Arboretum and now the PNPC have a long track record with *Hibiscus dasycalyx*, the Neches River rose mallow, *Gaillardia aestivalis* var. *winklerii*, Texas white firewheel and *Phlox nivalis* ssp. *texensis*, Texas trailing phlox. The PNPC is part of the Texas trailing phlox recovery project and has grown plants used in reintroduction efforts in the Big Thicket. There are great opportunities to exploit the skills of horticulturists to solve some of the problems facing precarious native species.

As a foundation, the PNPC recognizes that of the 30,000 species of plants in North America, 5700 are native to Texas, and 2300 reside in the Pineywoods of East Texas. That's lots of flora. While only four East Texas native plants are listed as federally endangered, there are at least 50 species in East Texas that deserve immediate conservation attention due to their small numbers or the fact they are in danger of extirpation from their native habitats. Jason Singhurst's thesis provided a fine foundation for our effort. For species in precarious condition, rescue simply means propagating the plant and getting it into a secure setting. Research means studying the species biology, seed, vegetative propagation and cultural requirements to keep the population healthy and sustainable. Reintroduction means introducing the plants back "into the wild," hopefully into appropriate sites in the plant's natural range, and hopefully on public lands where the species can enjoy some protection. Reintroduction work falls on the shoulders of a number of agencies including the Texas Parks and Wildlife, U.S. Fish and Wildlife Service, Texas Forest Service, Nature Conservancy of Texas, Center for Plant Conservation, and the Lady Bird Johnson Wildflower Center.

ELISABETH MONTGOMERY ENDOWMENT.

The PNPC receives an annual distribution from the Elisabeth Montgomery Endowment that supports native plant research and outreach. In 1997, Elisabeth Montgomery – "Baby Sis" – carved out a precious piece of property six miles west of town on the Hayter Trust land holdings for "conservation", and she created an endowment that yields funds annually for various conservation projects and environmental educational programming by the PNPC. It's a wonderful perpetual gift. In 2022 we used the funding to create new signage for 8 of our rare, threatened or endangered species in the demonstration gardens at the PNPC.

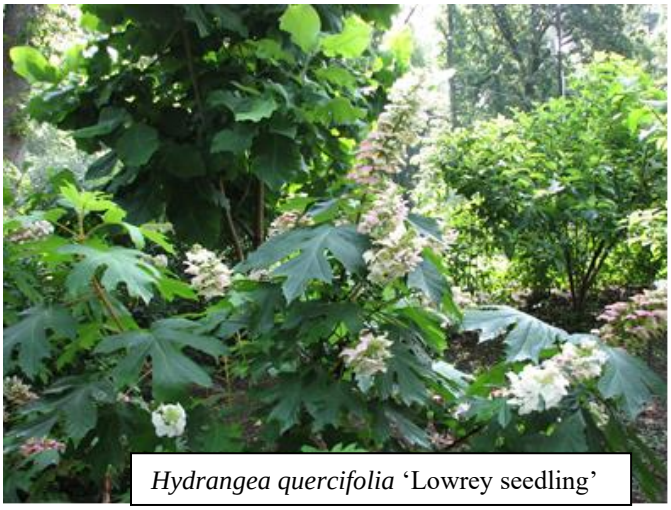
SIGNAGE AND INTERPRETATION

The PNPC has received a number of grants over many years that support signage and interpretation. The first element of this program is the Tucker House's "Firewise Landscape" signage and interpretation. This makes the most of the opportunity to connect visitors and students to the natural world through colorful and informative interpretative signage. It's all really a part of a PNPC promotion of landscaping with a "defensible space" strategy - whether from fire, hurricanes or herds of pigs. Intelligent horticulture recognizes how big trees can become – and how easily they can fall on your home. In East Texas, that's about 100' or a little more for most of the tallest. The PNPC has always been committed to the development of a strong interpretive sign program to educate local citizens about what to plant and how. It is our belief that signage and interpretation will further enhance the PNPC experience for students and visitors in many arenas - and create a loyal army of supporters eager

to see the PNPC become a permanent, long-lived center for environmental learning. After twenty years we are facing faded and worn signage and this has been evaluated.

We are pleased to report that a $350,000 Texas Parks and Wildlife Grant was awarded in 2025 and will be helping us refurbish our trail network, replace boardwalks that are in disrepair, and the grant includes 13 wayfaring kiosks, signage and interpretation. The PNPC will be part of that development work for the next three years.

ORNAMENTAL NATIVE INTRODUCTIONS



Hydrangea quercifolia 'Lowrey seedling'

Callicarpa americana 'Pink selection'

For the most part the, the PNPC collection is focused on the native flora of the Gulf South. It is also focused on introducing improved selections and encouraging their use in the nursery and landscape trade. New plants come from chance finds and selections from breeding lines. In the case of SFA Gardens, we have benefitted by a close working relationship with many breeders and nurserymen that have shared their material with our gardens. Our own work has produced interesting selections that are shared with our colleagues. Some have surfaced as ornamental natives and are in the trade. The SFA Gardens work with bald cypress improvement is well known in the nursery trade. Two introductions have performed well, one is 'LaNana' and the other is 'Banita', both bald X Montezuma cypress, hybrids with no knees and high alkalinity tolerance. We have introduced a number of native woody ornamentals, including a sweetspire, *Itea virginica*, 'Petite Blanc' that is a shorter statured version of sweetspire more suited to the landscape. Ornamental native introductions include *Wisteria frutescens* 'Dam B', *Hydrangea quercifolia* 'Lowrey,' *Callicarpa americana* 'Matt's Pink,' *Scuttelaria suffrutescens* – pink form, *Gaillardia aestivalis* var. *winklerii* 'Grape Sensation,' *Bignonia capreolata* 'Helen Fredel' and other clones, *Malvaviscus* 'Big Momma' and 'Pam Puryear', and *Hibiscus moscheutos* 'Peppermint Flare'. Ongoing projects involve development of improved ornamental salt marsh mallow (*Kosteletzkya virginica*) selections and further *Malvaviscus*, *Hibiscus*, and *Glandularia* hybridization and selection.

SFA Gardens has patented one plant, primarily to say we have and to understand the process. *Prunus* X 'Purple Pride' is a purple leaf plum with native genetics and we have licensees and there has been a small return. I am convinced that SFA Gardens and intellectual property opportunities are significant. However, the process at this small university has been difficult. New varieties could be capitalized on if this university was blessed with a foundation seed division, as is true at the land grants and larger universities. Working plant patents through a small university with no one dedicated to that arena can be a challenge. Licensee issues, branding, trademarking and other realities of the box store picture suggest an overhaul of how we deal with intellectual property at this institution. Being part of the University of Texas system (effective Sept 1, 2023) will be a positive with that institution's experience in patenting.

WILD HOGS, DEER AND BEAVERS

A major constraint in the PNPC and the neighborhood is the damage inflicted by deer, wild hogs and beavers. Deer and hogs, which were never a problem twenty years ago, have now both emerged as a major obstacle to our horticultural hopes and dreams. Pig damage in 2010 and 2011 was extensive due to drought which drove wild hogs into the city. Watered and manicured lawns were too tempting to pass up. Since the summer of 2025, wild hogs have returned with most of the damage occurring at the PNPC. Deer are an annual problem from herbivory and bucks rubbing their antlers, which can and does kill young plant material. Beavers are an aggravation on LaNana creek with the bald cypress collection but caging trees near the creek has been a good approach.

FUNDING

Currently, the PNPC relies almost completely on external funding. Until a month ago, there have been no staff dedicated specifically to the 40-acre property. We have hired John Carrillo as the Technician on the ground for the PNPC. Until recently, care, culture and activities have been collectively managed with existing on the ground staff in positions dedicated to our three named gardens: Mast Arboretum, Ruby Mize Garden, Gayla Mize Garden. The SFA Gardens staff and volunteers generate funding through plant sales and membership campaigns. Three foundations have provided much needed facility development and educational programming: the George and Fay Young Foundation (over $400,000 via 18 grants over twenty years), the Meadows Foundation ($107,000 in 2005), and the Bright Foundation ($140,000 for trail and boardwalk renovation in 2022). Volunteers provide much appreciated funding for special projects and day to day care and culture of the greenhouse and nursery operation. The membership campaign for SFA Gardens is an annual success and provides much

needed support for the budgets and activities of the PNPC, SFA Mast Arboretum, Ruby M. Mize Azalea Garden and Gayla Mize Garden, all unique resources at this institution of higher learning. Through a portion of the gifts, research grants, the "friends" group, and two plant sales per year, the PNPC manages a substantial landscape and still finds ways to improve each year.

THE FUTURE

The number one hardship for SFA Gardens is the loss of the state funded Environmental Education Programs coordinator. That said, we are now able to hire a coordinator on external funds. With the transition of SFASU to the University of Texas system we are hoping that our previous state funded salary lines will be returned. We are convinced the future should and will include strong support for the PNPC's environmental education support, the exact mix of state and external support yet to be determined.

Expand the native woody and herbaceous collections at the PNPC. We continue to develop extensive collections of small native flowering tree and shrub varieties that allow side-by-side comparisons in a garden setting.

CONCLUSIONS

The Pineywoods Native Plant Center is a unique property in the center of Nacogdoches. It has high teaching, research and outreach value in the region. In the last twenty-five years, the property has seen considerable transformation, some created by climate anomalies and others created by implementing infrastructure projects. The resources are many. The Conservation Education building, the Horticulture facility, the upland marsh boardwalk, the trails and other features are all testimony to the progress made in the last twenty plus years. The foundation built at the PNPC for an environmental education program for kids is second to none. Great opportunities lie ahead for the SFA Gardens. There's no doubt the last five years has been an epic test for the resilience of this garden. There's much that needs to be done. We are convinced the PNPC is an important part of the mission of the SFA Gardens and the University and our goal is gaining an endowment to insure its perpetuity.

NATIVE PLANT PUBLICATIONS AND PRESENTATIONS SINCE 1990

The following publications, refereed and trade, and presentations are presented here as an indication of our history of work with native plants. Only those that were directly related to native plants are presented.

D.L. Creech and C. Martindale. 1990. Site analysis of a proposed woody plant preserve. Oral paper presentation at the annual meeting of the Texas Academy of Science, Southwest Texas State University, San Marcos, Texas, March 2-3, 1990 (published abst. 210).

Creech, D.L. 1990. The sweet spire: an east Texas native of merit. **Native Plant Society of Texas News** 8(3): 3.

Creech, D.L. 1991. The Strawberry bush, a native of merit. **NPSOT News** 9(3):3,5.

Creech, D.L. 1991. Under-utilized native shrubs. **Gardens and More** 5(3):12-15.

Creech, D.L. 1991. On the trail of the Silky Camellia. **NPSOT News** 9(5), 1-2.

Creech, D.L. 1991. The Native Plant Society of Texas: facing the future. **NPSOT 1991 Symposium Proceedings**, 1-8.

Creech, D.L. 1992. Bald . . . is beautiful. **Gardens and More** VI(10):14-17.

Loos, Peter, D. Creech, and G. Lowry. 1992. The ecology of the two known Texas stands of silky camellia, *Stewartia malacodendron* L. **Symposium Proceedings of the Native Plant Society of Texas,** 1-9.

Creech, D.L. and C. Martindale. 1992. Site analysis of a proposed plant preserve, Nacogdoches County, Texas. **Symposium Proceedings of the Native Plant Society of Texas**, 10-20.

McDonald, D., D. Creech, and D. Kulhavy. 1992. Geographic information systems (GIS) as a tool in native plant species conservation. **Symposium Proceedings of the Native Plant Society of Texas**, 83- 90.

Creech, D.L. 1992. Favorite natives in the SFASU Arboretum. Oral presentation to the Houston chapter of the Native Plant Society of Texas, Houston, Texas, May 21, 1992.

Consultant for: 100 Texas Wildflowers, published by the Southwest Parks and Monuments Association, ISBN 1-877856-35-5, in association with the Native Plant Society of Texas, 116 pp.

Creech, D.L., D. Kulhavy, and D. McDonald. 1992. GIS and CAD as a tool in native plant species conservation. Oral paper at the annual meeting of the Texas Academy of Science, Denton, Texas, March 4-6, 1993 (Because of back ailment, Dave Kulhavy presented the paper).

Creech, D.L. and Darrel McDonald. 1993. Geographic Information Systems: A Conservation Tool. **Journal of the American Association of Botanical Gardens and Arboreta: The Public Garden** 8 (4):18-20, 36.

Creech, D.L. 1993. Creating a Border . . . Texas Style. **Native Plant Society of Texas News** (November - December, 1993): 1,4.

Lindley, Susan and D. Creech. 1994. ArcCAD as a GIS platform for understanding urban vegetation. Presented as an oral paper at the Texas Academy of Science annual meeting, Houston, Texas, March 4, 1994 in the Geography and Landscape Ecology symposium.

Jason Singhurst, D.L. Creech and J. Williams. 1994. Remote sensing as a tool in native plant conservation. **HortSci.** 29(7): 729 (abst.). Norman F. Childers graduate paper competition. Did not place.

Susan Lindley and D.L. Creech. 1994. ArcCAD as a GIS platform for understanding the vegetation of Stephen F. Austin State University. **HortSci.** 29(7): 729 (abst.).

Creech, D.L. and Jason Singhurst. 1994. The endangered plants of east Texas: a conservation strategy. Poster paper at the annual meeting of the American Association of Botanical Gardens and Arboreta, Pasadena, California, June 15-18, 1994. Published abstract.

Singhurst, Jason and D. Creech. 1994. Remote sensing as a tool in east Texas endangered plant species conservation. Presented as an oral paper at the Texas Academy of Science annual meeting, Houston, Texas, March 4, 1994 in the Geography and Landscape Ecology symposium.

Jason Singhurst, Darrel McDonald, and David Creech. 1994. Oral paper presentation by graduate research assistant: "Monitoring the status of the nineteen

endangered and sensitive plants within the piney woods region of east Texas." at the 21st annual Natural Areas Conference, Palm Beach Gardens, Florida, October 19-22, 1994. Published abstract.

Creech, D.L. 1995. Two oral presentations presented at the annual Spring Gardening Conference, Tyler, Texas, February 4, 1994: 1) Biodiversity: Meeting the Challenge (General Session: 350 in attendance), 2) Outstanding Native Plants for East Texas Landscapes (Ornamental's session: 200 in attendance).

Creech, D.L. 1995. Two oral presentations presented at the annual Spring Gardening Conference, Tyler, Texas, February 4, 1994: 1) Biodiversity: Meeting the Challenge (General Session: 350 in attendance), 2) Outstanding Native Plants for East Texas Landscapes (Ornamental's session: 200 in attendance).

Erin Smith and David Creech. 1995. A propagation and reintroduction strategy for the Neches River Rose Mallow, Hibiscus dasycalyx. **HortSci.** 30(4): 805 (abst.).

Creech, D.L. 1996. Research with Native Plants: What the Universities are doing. **NPSOT News** 14(1): 8-9, 11.

Creech, D.L. 1996. Endangered species - issues and answers. Presentation to the Friends of the NCSU Arboretum lecture series, June 27, 1996. 50 in attendance.

Singhurst, J. R. 1996.The status of nine endangered plants of east Texas: historical, ecologi- cal, and phytogeographical notes. M.S. Thesis, Stephen F. Austin State University, Nacogdoches, TX

Clark, Liz. 1996. Saving the Species. Article by editor on the SFA Arboretum's endangered plants program and sidebars promoting the Arboretum Garden Gala Day in May, 1996. I wrote one sidebar on endangered species and a list of specialty nurseries that deal with uncommon native plants. **Gardens** 10 (5): 32-35.

Singhurst, J. R. 1996.The status of nine endangered plants of east Texas: historical, ecological, and phytogeographical notes. M.S. Thesis, Stephen F. Austin State University, Nacogdoches. Served as graduate advisor.

Creech, D.L. 1996. SFA Arboretum's Three R's Conservation Program - Rescue, Research and Reintroduction. **Native Plant Society of Texas News** 14 (6): 6-7.

Scott, Stacy and David Creech. 1997. Saving the rare Neches River rose mallow, Hibiscus dasycalyx. **Native Plant Society of Texas News** 15 (1): 10.

Creech, D.L. 1997. In support of Biodiversity. **American Nurseryman** 184 (12): 38-43.

Creech, D.L. 1997. The three R's conservation program: rescue, research, reintroduction. Presented at the Texas Wetlands in Retrospect and Prospect conference, a symposium sponsored by the Center for East Texas Studies, SFA, Nacogdoches, Texas, May 7, 1997. (50 in attendance).

Scott, Stacy. 1997. The horticultural treatment and introduction of a rare wetland plant - Neches River rose mallow (*Hibiscus dasycalyx*). Presented at the Texas Wetlands in Retrospect and Prospect conference, a symposium sponsored by the Center for East Texas Studies, SFA, Nacogdoches, Texas, May 7, 1997. (50 in attendance).

Scott, Stacy. 1997. The Horticultural Treatment and Introduction of a Rare Wetland Plant – Neches River Rose Mallow. Thesis, Stephen F. Austin State University, Dr. Creech served as graduate advisor.

Creech, D.L. 1997. The three R's - Rescue, Research and Reintroduction. Slide presentation to the NPSOT Longview chapter, May 15, 1997. (30 in attendance)

D. Creech, D. McDonald, D. Kulhavy, and P.R. Blackwell. 1998. Utilizing a GIS vegetation model for a campus-as-arboretum development. Oral paper at the Southern Region of the American Society for Horticultural Science conference, Little Rock, Arkansas, January 30 - February 2, 1998.

Dawn Parish and D. Creech. 1998. Applying conservation horticulture to *save Hibiscus dasycalyx*, the endangered Neches River rose mallow. Oral paper by GRA at the Southern Region of the American Society for Horticultural Science conference, Little Rock, Arkansas, January 30 - February 2, 1998. Dawn took 2nd place in the graduate research paper competition ($200 award).

D. Creech. 1998. Endangered species - perceptions and realities. Slide presentation to the Harris County Master Gardeners, Houston, Texas, March 17, 1998 (126 in attendance).

D. Creech. 1998. The SFA Arboretum's 3 R's Conservation Endangered Plants Program - Rescue, Research, Reintroduction. Presentation to the annual Cullowhee Plants Conference, Cullowhee, NC, July 22-26, 1998 (300+ in attendance).

Mark A. Norman. 1999. Site analysis of the Tucker estate, Nacogdoches, Texas. Thesis, Stephen F. Austin State University, Creech served as graduate advisor.

Creech, D., Dawn Parish, and Bea Clack. 1999. Saving the Neches River rose mallow, Hibiscus dasycalyx. **Native Plant Society of Texas News** XVII (3): 1, 3.

Parish, D., D. Creech, B. Clack and J. Greer. 1999. Genetic characterization and conservation horticulture of *Hibiscus dasycalyx*, the endangered Neches river rose mallow. Annual Southern Region meeting of the American Society of Horticultural Science, Memphis, Tennessee. January 28 - February 1, 1999.

Kathleen Davis, D. Creech and B. Clack. 1999. Propagation and reintroduction of *Hibiscus dasycalyx*, the Neches River rose mallow. Slide presentation by GRA Davis to the Big Thicket Science Conference, Beaumont, TX, Oct 7-8, 1999.

Creech, D. 2000. The natives are restless. Slide presentation to the Gulf Coastal Plain chapter of the Native Plant Society of Texas, Conroe, Texas, June 11, 2000. 30 in attendance.

Article featuring Pineywoods Native Plant Center in Fall 2000 issue of **Native Plants** 17 (3/4): 21.

Creech, D. Native trees for Texas landscapes. Slide presentation at the annual conference of the Lady Bird Johnson Wildflower Center and Native Plant Society of Texas symposium. This year's theme: Celebrating Trees. Austin, Texas. 125 in attendance. 02/24/2001.

Creech, D. 2001. Trees, shrubs and vines you shouldn't live without. Garden symposium, Rice University, Continuing Education. Houston, Texas. 90 in attendance. 03/14/2001.

Creech, D. Landscaping with Natives. Master Gardener Mercer Arboretum Training Session, Humble, Texas. 51 in attendance. Attending from SFA: Barb Stump, Wes Nichols and three graduate students in the Public Garden Management class. 04/12/01.

Creech, D. The natives are restless. At our First Cullowhee Lone Star Regional Native Plant Conference; multi-day conference, dorm assignments, 243 registrants with all but 20 from outside of Nacogdoches. Bus tours of East Texas. Two luncheon banquets. One social. A Saturday night bar-b-que and dance. Great success. 05/30 – 06/03/2001

Creech, D. 2001. – slide presentation on the status of the PNPC, FRI annual research reports by scientists receiving FRI funding – 25 in attendance. August 21, 2001. Nacogdoches, TX

October 16, 2002 – slide presentation "Living in a Fire Ecology" at the annual conference of the Texas Urban Forestry Council, Waco, Texas, 74 in attendance.

November 4, 2002 – slide presentation to the Tyler chapter of the Native Plant Society of Texas, "The Pineywoods Native Plant Center, a new regional resource for all of us." Tyler, Texas. 54 in attendance.

March 26, 2002 – "Landscaping with Natives" – presentation to Master Gardeners training session, Mercer Arboretum, Houston, Texas. 41 in attendance.

March 28, 2002 – "Making Peace with the Natives" – presentation at the Texas Forestry Museum, Lufkin, Texas.

June 19-28, 2002 – Visit of Professor Yin Yun Long from the Nanjing Botanical Garden; Taxodium project for SE China; reception with Mayor Roy Blake presenting Professor Yunlong with the key to our city; trips to bald cypress habitats in Texas and Louisiana, Texas nurseries, and the San Antonio Botanical Garden.

November 14, 2002 – slide presentation at the annual banquet of the Harris County Landowners Association, "Native Plants in the Urban landscape." Houston, Texas. 47 in attendance.

January 30 – February 3, 2003. Oral paper presentation, "Taxodium X 'Nanjing Beauty' – a new landscape plant for the South." Presentation at the 63rd annual conference of the Southern Region of the American Society for Horticultural Science. Mobile, Alabama. Shuttle explosion over Nacogdoches that Saturday becomes the benchmark of grief for the participants at the conference – and even worse back at home.

February 6, 2003 – three-hour class on "An Introduction to Native Plants" – delivered to the Conroe Master Gardeners, Conroe, TX – 81 participants.

February 2003. Creech, David. The Bald and the Beautiful. **American Nurseryman** 197(4): 30-35. National trade magazine for the nursery industry; China breeding and innovation with Taxodium.

May 8, 2003. Native plants for the Southern Landscape. Presentation to the Master Gardener's Association, Mercer Arboretum, Houston, Texas. 62 in attendance.

September 15, 2003 – How to choose, plant and grow the very best natives – presentation to the Master Gardeners and public – Conroe, TX – 83 in attendance

Mendoza E Adriana. 2004. Genetic diversity with *Hibiscus dasycalyx*, *Hibiscus laevis* and *Hibiscus moscheutos* Utilizing ISSR Techniques. MS thesis, Stephen F. Austin State University with a major in Biotechnology. 222 pp. (served on committee).

September 25, 2004 – Two presentations at the Lufkin Friends of Gardening Native Plant Symposium – "The Three R's, a conservation strategy of the PNPC at SFA" and "Taxodium – China likes our native son". 57 in attendance

November 13, 2004 – Remembering Lynn Lowrey – presentation at "A Symposium: A lifetime of Botanizing in Mexico and Texas" – Rice University, Houston, TX – 86 attendees.

February 14, 2005. Native Plants Workshop – 3 hr. Master Gardener course – 80 in attendance

Creech, D. October 14, 2005. The Natives are Restless. Presentation to the Federated Garden Clubs of Houston. 110 in attendance.

Creech, D. February 3-6, 2005. Improvement, propagation, and use of Taxodium in southeastern China. Poster paper at the annual meeting of the Southern Region of the American Society for Horticultural Science, Orlando, Florida.

Lijing Zhou. 2007. Salt Tolerance, Propagation, and Provenance Evaluation of Taxodium as a Landscape and Coastal Wetland Tree. MS thesis. Stephen F. Austin State University, May 2007. 60 pp.

October 14, 2005 – The Natives are Restless – presentation to the Federated Garden Clubs of Houston, Houston, TX – 97 in attendance

February 3-6, 2006 – Propagation, Improvement and Use of Taxodium in Southeastern China. Southern Region American Society for Horticultural Science annual meeting, Orlando, Florida – 30 in attendance.

February 23, 2006 – Native Plants for East Texas Gardens – Montgomery County Master Gardeners, Conroe, TX – 90 in attendance

June 3-6, 2006 – 3rd Lone Star Regional Cullowhee Native Plant Conference – 180 participants in a major extravaganza – five bus tours, 3 banquets, 18 speakers, a Proceedings, two socials and a Saturday night dance and presentation by Dr. Barney Lipsomb, BRIT.

In Illustrated Flora of East Texas: D. Creech and D. Stover. 2006. A suggested list of ornamental native plants: trees, shrubs, vines, grasses, wildflowers, and ground covers for east Texas. Appendix 15: pages 1231-1241.

In Illustrated Flora of East Texas: D. Creech and D. Stover. 2006. A suggested list of ornamental native plants: trees, shrubs, vines, grasses, wildflowers, and ground covers for east Texas. Appendix 16: pages 1243 - 1263.

Feb 8, 2007. Native Plants for Pineywoods Gardeners. 2.5 hour presentation to the Master Gardeners, Conroe, Texas.

Creech D. 2007. Notes from the Mast Arboretum – Indian pink – *Spigellia marilandica*. **Louisiana Nursery and Landscape News** 30 (2): 17.

Peer-reviewed Book Chapter: Krauss, K.W., J.L. Chambers and D. Creech. Salt tolerance of tidal freshwater swamp species: advances using baldcypress as a model for restoration. In: **Ecology of Tidal Freshwater Forested Wetlands in the Southeastern United States** (W.H. Conner, T.W. Doyle, K.W. Krauss, eds.). Springer Publishers, Germany

Creech, D. 2006. Going bald in China. **Ornamental Outlook** 16(1): 26-27.

Esther A. Mondoza, David Creech, and Beatrice A. Clack. Analysis of East Texas Hibiscus Populations Using Intersample Sequence Repeats to Identify Genetic Diversity Among *H. dasycalyx*, *H. laevis*, and *H. moscheutos* (Malvaceae). Submitted to the **Journal of Heredity** (under revision).

Creech, D. 2007. Taxodium studies at the SFA Mast Arboretum – Part One. **Conifer Quarterly** 24 (2): 6-12.

Creech, D. 2007. Taxodium studies at the SFA Mast Arboretum – Part Two. **Conifer Quarterly** 24 (3): 10-18.

Creech D. 2007. The Natives are Restless. Delivered two session presentations of this talk at the annual La Master Gardeners Conference, Lafayette, LA, October 10 - 12, 2007 – Plus led the rare plant auction at the Thursday night social. 300 in attendance.

Creech, D. 2008. The Natives are Restless. Banquet talk for the annual Denton County Master Gardeners Association. January 9, 2008. Lewisville, TX

Creech, D. 2008. Will the Real Montezuma Cypress X Japanese Cedar Hybrid Please Stand Up? Conifer Quarterly 25 (1): 40-44.

L.C. Richard Garry V. McDonald[1], Geoffrey C. Denny[2], Andrew King[3], Donita L. Bryan[3], Michael A. Arnold[3], Larry W. Barnes[4], and David L. Creech[5]. 2008. Expression Of Leaf Blight Symptoms Vary Among Provenances Of *Taxodium distichum* (L.) [1]316 Plant Science Department of Horticulture, University of Arkansas, Fayetteville AR 72701, [2]Gulf Coast Research and Education Center, University of Florida IFAS, 14625 CR 672, Wimauma, Florida 33598, [3]Department of Horticultural Sciences, Texas A&M University, College Station, TX 77843-2133, [4]Department of Plant Pathology and Microbiology, Texas A&M University, College Station, TX 77843-2132, [5]Agriculture Department, Stephen F. Austin State University, P.O. Box 13000 SFA Station, Nacogdoches, TX 75962 – presentation at the ASHS Southern Region meeting, February 1-4, 2008, Dallas, TX. - presentation by Garry McDonald at the ASHS Southern Region meeting, February 1-4, 2008, Dallas, TX.

Creech, D. 2008. Native Plants. Master Gardener class lecture (3 hrs) to the Montgomery County Master Gardeners conference, Conroe, TX – February 21, 2008 – 50 participants.

Lijing Zhou* and Dave Creech. 2008. Continuing studies in salinity tolerance of Taxodium.
SFA Mast Arboretum PO Box 13000, Stephen F. Austin State University, Nacogdoches, TX 75962 - oral paper presentation at the ASHS Southern Region meeting, February 1-4, 2008, Dallas, TX.

Creech, D. 2008, Panel Presider. Remembering Lady Bird: A Conversation Among Friends, Reminiscences and a General Discussion. With panelists Duke DeWare (Jefferson, TX), M'Liss Hindman (Tyler Jr. College), and Damon Waitt, University of Texas, Austin. The East Texas Historical Association Spring Conference, Tyler, TX, February 14-16, 2008.

Lijing Zhou*[1], Dave Creech[1] , Leon Young[1], Yin Yunlong[2], Kenneth Farrish[1], and Dave Kulhavy[1]. Effects of Salt Sources and Rates on Three Taxodium Genotypes. [1]College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, TX 75962-3000; [2]Nanjing Botanical Garden, PO Box 140035, Nanjing, China. **HortScience** 44 (3): 578.

Lijing Zhou* and Dave Creech. 2010. Effects of Submersion and Salt Rates on Two *Taxodium* Genotypes. College of Forestry and Agriculture, PO Box 13000, Stephen F. Austin State University, Nacogdoches, TX 75962. **HortSci**. 45(4): 489.

David Creech*[1], Lijing Zhou[1], Yin Yunlong[2], Don Rockwood[3], and Ken Krauss[4]. 2010. Taxodium Genotype Performance at SFA Gardens. [1]College of Forestry and Agriculture, PO Box 13000, Stephen F. Austin State University, Nacogdoches, TX 75962, [2]Nanjing Botanical Garden, PO Box 1435, Nanjing, China 210014, , [3]School of Forest Resources and Conservation, University of Florida, Box 110410, Gainesville, FL 32611-0410, [4]U.S. Geological Survey, National Wetlands Research Center, 700 Cajundome Blvd, Lafayette, LA 70506. **HortSci** 45(4): 492-493.

January 25, 2010 - Creech, David. The Natives are Restless. Jasper County Master Gardeners training program. Jasper, TX. 35 participants.

David Creech* and Elyce Rodewald. 2010. History and Analysis of the Environmental Education Program at SFA *Gardens*. College of Forestry and Agriculture, PO Box 13000, Stephen F. Austin State University, Nacogdoches, TX 75962. HortScie.

August 31, 2010 — The Natives are Restless – best of the best native plants for landscapes in the south – presentation Jasper Master Gardener Training, 48 in attendance.

Creech, D. October 6, 2010 – SFA is curing nature deficit disorder in children – presentation to Jacksonville Rotary and others, special seminar - Jacksonville, Texas – 48 participants

Lijing Zhou, David L. Creech, Ken W. Krauss, Yin Yunlong, and David L. Kulhavy. 2010. Can We Improve the Salinity Tolerance of Genotypes of Taxodium by Using Varietal and Hybrid Crosses? **HortScience** 45(12):1773–1778.

Feb 15, 2011 – Native plants – a 3 hr training session for the Montgomery County Master Gardeners class, Conroe, Texas. 63 in attendance

February 28, 2011. The Natives are Restless. Presentation at the Davidson College Horticultural Symposium, Davidson College, North Carolina. 160 in attendance

March 12, 2011 – Deciduous azaleas – a presentation at the Azalea symposium, Nacogdoches, TX – 15 in attendance

March 8, 2011 – Taxodium research at SFA – Big Thicket conference, near Tyler, TX – 55 in attendance

David Creech, Lijing Zhou, Yin Yunlong, Teobaldo Eguiluz. 2011. Can Taxodium be Improved? **Arnoldia** 69 (2): 11-20.

Patent process on 'Purple Pride" plum, a dark burgundy foliaged seedling of Prunus angustifolia 'Guthrie'. Cost $2800.

Wei Yuan[1], Lijing Zhou[2], Guangrui Deng[1], Ping Wang[1], David Creech[2] and Shiyou Li[1]**.** 2011. Anthocyanins, Phenolics, and Antioxidant Capacity of *Vaccinium* L. in Texas, USA. ***Pharmaceutical Crops,* 2011, *2, 1-13.***

Feb 14, 2012. The Natives are Restless. MG Training on Native Plants in Conroe, TX. 65 in attendance.

Feb 16, 2012. The Natives are Restless. MG Training on Native Plants in Huntsville, TX. 64 in attendance.

Apr 24, 2012 – Native plants – a primer. Presentation to the Diboll Garden club, Diboll, TX – 21 in attendance.

Mar 5, 2012. Native Plants. Jasper Master Gardeners, Jasper, TX – 27 in attendance.

Mar 5, 2012. Native plants. Master Gardeners, Conroe, TX training 63 in attendance

Spence Simmons*, Dave Creech, Leon Young, and Lacey Russell. 2013. Influence of N Source and Rate on Growth and Leaf Nutrient Content of a Taxodium Clone. SFA Gardens, Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, TX 75961. **HortScience** 48(9) (Supplement): S16

Creech, David. 2013. The Natives are Restless. Montgomery County Master Gardener training, Feb 12, 2013 – 3 hrs, Conroe, TX 52 in attendance

Feb 14, 2013 – The Natives are Restless. Walker County Master Gardener Training, 3 hrs, Huntsville, TX – 32 in attendance

March 4, 2013 – presentation to the Botanical Garden, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico – Taxodium Studies at Stephen F. Austin State University – 36

March 18, 2013 – Best Natives for East Texas Landscapes, presentation seminar for the Angelina County Master Gardeners, Lufkin, TX – 42 in attendance.

Aug 5-8, 2013. Taxodium Evaluation at SFA Gardens. Presentation and proceedings article for Research Conference at the Southern Nurserymen's Association, Atlanta, Georgia, 46 in attendance.

Creech, David. 2013. Is Conservation Horticulture and Opportunity or a Headache? TNLA Green Nov – Dec 2013: 31-33.

David L. Creech*, David L. Kulhavy, Daniel R. Unger, and Matthew A. Wade. A Spatial Analysis of a Colony of *Hibiscus dasycalyx*, the Neches River Rose Mallow, Established in 1996 in Nacogdoches County, Texas. Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, TX 75962. (dcreech@sfasu.edu)

David L. Creech*, David L. Kulhavy, Daniel R. Unger, and Matthew A. Wade. A Spatial Analysis of a Colony of *Hibiscus dasycalyx*, the Neches River Rose Mallow, Established in 1996 in Nacogdoches County, Texas. Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, TX 75962. Jan 30 – Feb 2, 2014 American Society for Horticultural Science Southern Region annual conference, Dallas, Texas (dcreech@sfasu.edu)

Creech, David. 2014. Notes from SFA Gardens – Is Redbud the New Crapemyrtle? TNLA Green Vol 16 (6): 37-39.

Creech, David*, David L. Kulhavy, Daniel R. Unger, and Matthew A. Wood Is Pictometry® a useful tool for tree, shrub and landscape evaluation? Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, TX 75962. Jan 30 – Feb 2, 2014 American Society for Horticultural Science Southern Region annual conference, Dallas, Texas (dcreech@sfasu.edu)

Creech, David. Feb 6, 2014. The Natives are restless. Presentation to the Master Gardener class, Montgomery county, TX. 67 in attendance

Creech, David, David Kulhavy, Dan Unger, I-Kuai Hung and Dan Fyne. Neches River Rose Mallow, *Hibiscus dasycalyx*, Spartial Analysis and Survival. A poster at the Bright Ideas Conference, SFASU, Nacogdoches, TX 05-06-2014

Creech, David. 2015. The Natives are Restless. Montgomery County Master Gardener Training, Conroe, TX. Jan 20, 2015. 62 attendees.

Creech, David. 2015. Influence of Three Pruning Strategies on Growth and Form of Three Taxodium Clones David Creech SFA Gardens, Dept. of Agriculture, 1924 Wilson Dr., Stephen F. Austin State University, Nacogdoches TX 75962-3000. **HortScience** 50(9) (Supplement)—2015 SR–ASHS Annual Meeting—30 January–1 February 2015 S33

Creech, David. 2015. Trees for a 21st Century Texas. Presentation to the 2015 North Central Texas Urban Forestry Conference, Feb 20, 2015. Grand Prairie, TX. 158 in attendance.

Yuhong Zheng[3], Bea Clack[2], Yin Yunlong[3], David Creech[1]. **Genetic Diversity of a Range of *Taxodium distichum* Genotypes and Cultivars Based on ISSR Markers.** [1]Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches TX 75962; [2]Department of Biology, Stephen F. Austin State University, Nacogdoches, TX 75962; [3]Institute of Botany, Jiangsu

Province & Chinese Academy of Sciences, Nanjing, China 210014. **Hortscience** 51(9): S24

Qin Shi, Yunlong Yin, Zhiquan Wang, David Creech & Jianfeng Hua. Influence of soil properties on the performance of the Taxodium hybrid 'Zhongshanshan 407' in a short-term pot experiment. 2017. Soil Science and Plant Nutrition. Pages 1-8 | Received 17 Nov 2016, Accepted 14 Feb 2017, Published online: 20 Mar 2017

E. Fowler, S.C. Wagner, K. Farrish, E. Harris, D. Creech. 2016. Assessment and Characterization of Microbial Communities in Salt Affected Soil on Galveston Island. Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, Texas. November 11, 2016. A presentation to the Texas Branch Fall Meeting of the American Society for Microbiology, UT-Dallas, TX

E. Harris, K.W. Farrish, D. Creech, and J.L. Young. 2016. Soil Amelioration and Plant Establishment on Sodium Affected Soils on Galveston Island, Texas. Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, Texas. A presentation to the Society for Ecological Restoration Texas Chapter, Livingston, TX, November 11, 2016.

Dave Creech, Kenneth Farrish, and Elaine Harris. 2017. Woody Ornamental Plant Establishment Studies on a Salt-Affected Soil, Galveston Island, Texas. Presentation to 2017 Annual Conference of the Southern Region American Society for Horticultural Science, Mobile, Alabama, Feb 3-6, 2017.

Anna Koonce, a young high schooler from Louisiana, has won second in the world in the ISEF Fair 2017, Los Angeles, CA, May 18, 2017 with a paper titled, "The Effect of Sodium Chloride on Hybrid Taxodium Selections." Anna had previously won the state completion in Louisiana. We collaborated with Anna and Dr. Ed Bush, LSU, to bring this project to completion. Results indicated the Taxodium hybrids were more salt tolerant than native bald cypress.

D. Creech*, K. Farrish, E. Harris, S. Wagner, and E.Fowler. July 27, 2017. Finding climate change friendly ornamentals for Galveston Island, Texas and the Strategies Needed to Deal with a Salt Challenged Environment. Arthur Temple College of Forestry and Agriculture, Stephen F. Austin State University, Nacogdoches, TX. I moderated the T6-14 session on "Botanical Gardens and the Exploration of Salt Tolerant Crops." Fifty in attendance.

Creech, David. 2018. The Natives are Restless. Three hour training presentation to the Montgomery County Master Gardeners, Feb 13, 2018. 65 in attendance.

Creech, David. 2018. Trees for NW Louisiana - an East Texas Perspective. Presentation to the Allen Owings Horticulture Symposium, American Rose Center, Shreveport, LA. 145 in Creech, David. 2018. Winning trees and shrubs for a post Hurricane Harvey world. Arborgate presentation. Mar 22, 2018. 47 in attendance.

Creech, David. 2018. Is there life after live oaks? Landscape Architecture Continuing Education Seminar, Tomball, TX. Mar 24, 2018. $1500 donation to SFA Gardens. 22 in attendance.

David Creech[1]*, Malcolm Turner[1], Steve Wagner[2], Josephine Taylor[2], and Kenneth Farrish[3]. A Synopsis of Three Years of Tree Research at Moody Gardens,

Galveston Island, Texas. [1] Department of Agriculture, Stephen F. Austin State University, Nacogdoches, TX 75962, [2]Biology Department, Stephen F Austin State University, Nacogdoches, TX 75962, [3]Division of Environmental Science, Stephen F. Austin State University, Nacogdoches, TX 75962. Oral presentation at the American Society for Horticultural Science Southern Region, Birmingham, Alabama. 20 in audience.

Creech, David. Feb 14, 2019. The Natives are Restless: Best Native Plants for Texas Landscapes. Montgomery county Master Gardener Training, Conroe, TX. 110 in audience.

Creech, David. July/Aug 2019. Notes from SFA Gardens: Exotics vs. Natives in the Era of Fast Climate Change. **TNLA Green** 22 (4): 30-32.

Creech, David. Aug 9, 2019. Plant Premonition: Selecting Ornamental Plants in an Era of Rapid Climate Change. Presentation at the Growers Summit hosted by the Texas Nursery and Landscape Association at the Texas Farm Bureau Conference Center, Waco, Texas. 30 participants.

Nov 13, 2019. Presentation, "Plant Premonition: Selecting Ornamentals in an Era of Rapid Climate Change." Brazos Texas Farm Bureau Center, Waco, Texas. 90 in attendance.

Dec 6, 2019. Presentation, "Climate Change Friendly Plants for South Carolina." Moore Farms Botanical Garden, Lake City, SC. 40 in attendance.

Dec 11, 2019. Presentation, "Diversity in the Genus Taxodium (Bald Cypress): Diseases, Insects, Soil Preferences and Landscape Performance". Texas Plant Protection Association, Brazos Valley Convention Center, College Station, TX. 35 in attendance. Following paper presented and abstracted in the TPPA Conference Proceedings, abstract 41, page 27.

Creech, David. 2021. Using Natives in the Landscape; Less chemicals, More Pollinators. Zoom Presentation to the Woodlands Township, Oct 2, 2021. Terrilyn MacArthur contact. 81 on line.

Koonce, A., Bush, E. and Creech, D. The Effect of Sodium Chloride on Hybrid Taxodium Selections. **Journal of Environmental Protection**, 11, 408-420.

Creech, David. 2021. Are Redbuds the Next Crape Myrtle? **Texas Gardener** Vol. XL (3): 20-25.

Creech, David. 2021. Going Bald is Beautiful. **Texas Gardener** Vol. XL (4): 30-33.

Xuan, L.; Hua, J.; Zhang, F.; Wang, Z.; Pei, X.; Yang, Y.; Yin, Y.; Creech, D.L. Identification and Functional Analysis of ThADH1 and ThADH4 Genes Involved in Tolerance to Waterlogging Stress in Taxodium hybrid 'Zhongshanshan 406'. **Genes** 2021, 12, 225. doi: 10.3390/genes12020225

Zheng, Y.; Wang, D.; Li, X.; Wang, Z.; Zhou, Q.; Fu, L.; Yin, Y.; Creech, D. Biometric Identification of Taxodium spp. and Their Hybrid Progenies by Electrochemical Fingerprints. **Biosensors** 2021, 11, 403. doi: 10.3390/bios11100403

David Creech*, Steve Wagner, Kenneth Farrish, Elif Ilhan and Rachel Murray. 2022. Evaluating Ornamentals in a Salt-Challenged Environment at Moody Gardens, Galveston Island, Texas. ASHS Annual conference in Chicago, July 30, 2022. Published abstract.

Creech, David. 2022. The Natives are Restless. A three-hour class presentation to the Montgomery County Master Gardener class, Conroe, Texas. 94 attendees.

Ziyang Wang, Ming Yin, David L. Creech and Chaoguang Yu. 2022. Microsporogenesis, Pollen Ornamentation, Viability of Stored Taxodium distichum var. distichum Pollen and Its Feasibility for Cross Breeding. Forests 2022, 13(5), 694; doi:10.3390/f13050694

Shi, Q.; Hua, J.; Creech, D.; Yin, Y. 2022. Biomass Estimation and Carbon Storage of Taxodium Hybrid Zhongshanshan Plantations in the Yangtze River Basin. Forests 2022, 13, 1725. doi: 10.3390/f13101725

Shi, Q.; Zhou, Z.; Wang, Z.; Lu, Z.; Han, J.; Xue, J.; Creech, D.; Yin, Y.; Hua, J. 2022. Afforestation of Taxodium Hybrid Zhongshanshan Influences Soil Bacterial Community Structure by Altering Soil Properties in the Yangtze River Basin, China. Plants 2022,11,3456. https://doi.org/ 10.3390/plants11243456

Visit by John Ramsdell to study our Taxodium genetics. Oct 27, 2022. Branch Chief at NOAA: National Oceanic & Atmospheric Administration, Adams Run, South Carolina.

Ilhan, Elif Canay. 2022. Effect of Mycorrhizae Inoculation on the Growth and Success of Three Taxodium distichum hybrids in Saline-impacted Coastal Soils. Project was partially funded by the Moody Gardens grant. Elif defended her thesis April 22, 2022.

Murray, Rachel. 2022. “Soil Salinity and Sodicity of Galveston and Pelican Islands, Texas”, a thesis project that produced the first ever Geographical Information Systems salinity heat map of the island, a platform we can build on in the years ahead and one that should be useful to land and vegetation managers on the island. Project was partially funded by the Moody Gardens grant. MS thesis was defended July 15, 2022.

Creech, David. Jan 14, 2023. The Natives are Restless. Keynote speaker presentation at the Master Gardener annual conference, Native Plants, Monroe, LA. 114 attendees.

David Creech[1]*, and Mengmeng Gu[2]. 2023. Status on the Impact of the February 2021 Winter Storm Uri on Woody Ornamentals in Texas. ,[1]2900 Raguet St., Stephen F. Austin State University, Nacogdoches, TX 75965, [2]Department of Horticulture and Landscape Architecture, Box 1173, Colorado State University, Fort Collins, CO 80523. (dcreech@sfasu.edu) – a presentation at the ASHS SR annual conference, Feb 2-5, 2023, Oklahoma City, OK. 22 attendees

Guo, J. Xue J. Hua, J., Yin Y., Creech, D.L and Han, J. 2023. Research Status and Trends of Taxodium distichum. **HortScience** 58(3): 317-326.

Wang, Z.; Shi, Q.; Chen, P.; Sun, F.; Creech, D.; Lu, Z.; Yin, Y.; Yu, C. 2023. Grafting Causes Physiological Changes and Promotes Adventitious Root Formation in Rejuvenated Soft Shoots of Taxodium hybrid ‘Zhongshanshan’. **Plants** 2023, 12, 201. https://doi.org/10.3390/ plants12010201