



The Stephen F. Austin Pineywoods Native Plant Center – 1998 - 2012

The Pineywoods Native Plant Center (PNPC) is a 42-acre mix of uplands, mesic mid-slopes, and wet creek bottomland that lies on the northern edge of the Stephen F. Austin State University (SFA) campus. The PNPC lies right in the center of Nacogdoches, the “oldest town in Texas.” The “idea” for a PNPC came from an early morning meeting in the SFA Mast Arboretum between Drs. James Kroll and Dave Creech. After thirty minutes, a goal was in place. The deal was sealed with a handshake and the first steps were made to broach the subject with SFA’s administration and receive sanction. The SFA Board of Regents approved the concept of the PNPC in February 1999. The PNPC has been a joint project of the SFA Mast Arboretum and SFA’s Forest Resources Institute, currently directed by Dr. Jimmie Yeiser. This collaboration helps both organizations fulfill their conservation and educational missions. Drs. James Kroll and Dave Creech serve as co-founders and for over a decade have served as co-directors of this unique center for native plant education. The mission of the PNPC is to promote education about the conservation, selection, and use of the native plants of the southern forest.

After Board approval in February, the PNPC was officially dedicated at SFA in an outdoor gala event March 27, 1999. The dedication was attended by University administrators, members of the Board of Regents, City officials, Friends of the SFA Mast Arboretum, and local citizens supporting the concept of a Native Plant Center.



A year later, the “Grand Opening” followed on April 8, 2000, a very high publicity event that featured the dedication of the Pineywoods Native Plant Center and the Lady Bird Johnson Wildflower Demonstration Garden (LBJWDG) by Lady Bird Johnson herself. Bob Breunig, Director of the Lady Bird Johnson Wildflower Research Center, Austin, Texas was also part of the ceremony.



Ellen Temple, Dave Creech, Lady Bird, Secret Service fellow, James Kroll, and Bob Breunig

Various speakers spoke at the Grand Opening. At this ceremony, I accepted the certification that the PNPC had been officially named as the third “affiliated garden of the Lady Bird Johnson Wildflower Research Center.”



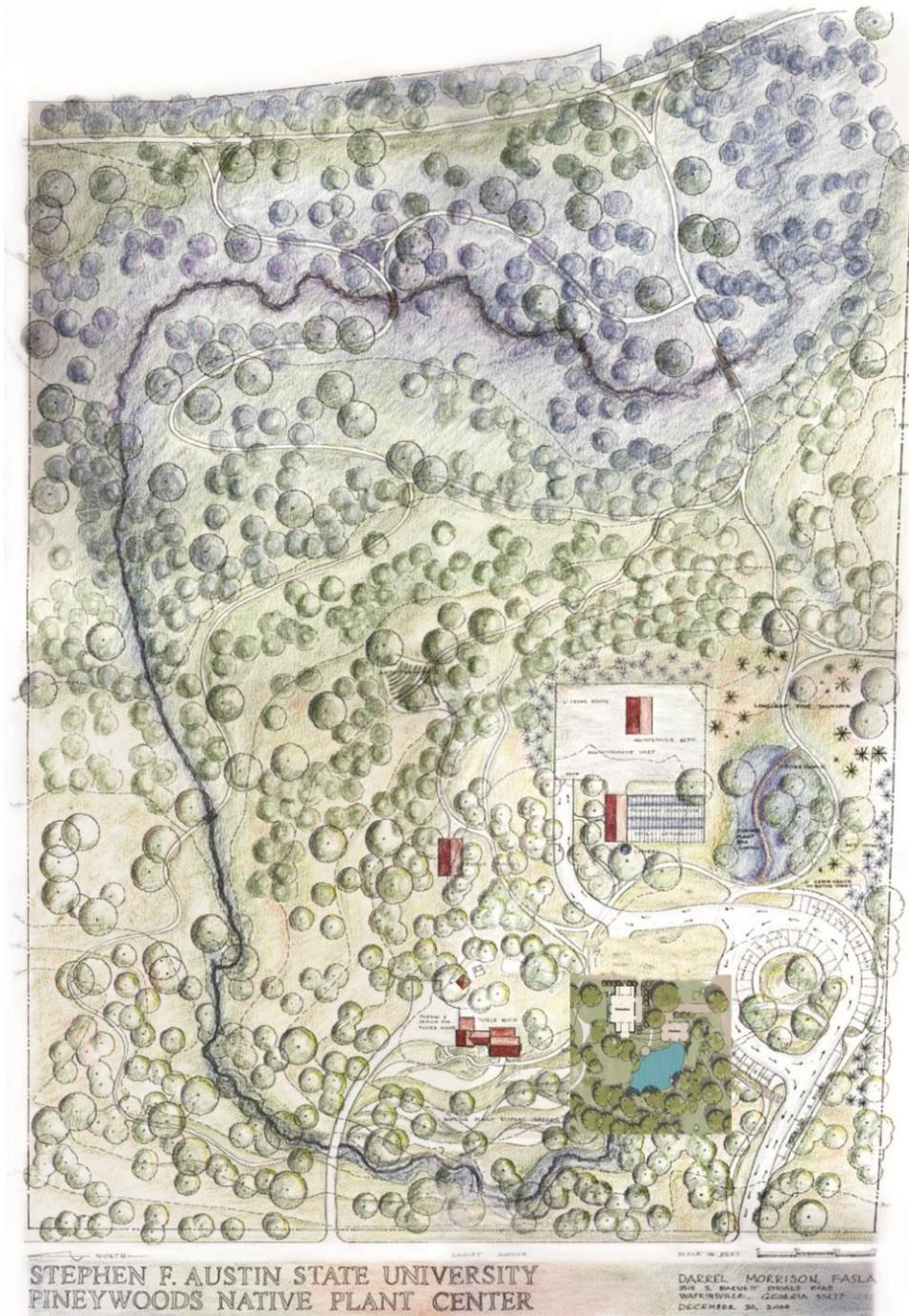
Special Guest Arthur Temple and Lady Bird sat together. That day, Arthur Temple makes the first significant donation to the PNPC.



Perhaps missing in this dialogue is that this was the last “public” appearance of this fine lady of wildflowers and conservation.



Shortly after the dedication, with the generous help of Ellen Temple, the PNPC secured the services of Darrel Morrison, a noted landscape architect from the University of Georgia, to develop a concept plan for the property. Darrel created the design for the Wildflower Research Center in Austin, Texas. The Figure below illustrates changes in our plans for the Conservation Education Center. We have reduced Darrel Morrison's concept of four buildings surrounding a plaza – to a two building concept more finely tuned to immediate and long term needs.



Current concept plan of the Conservation Education Center. Proposed site is just to the southeast of the Tucker house.



Figure 1. Proposed Conservation Education Center, Green Roof Pavilion, and Plaza

Resources

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 two story house was built in 1941 and is in the Georgian style. The Tucker house was known for its gardens, its woods, and its annual Easter Egg hunt for the neighborhood children. It was one of the first on Raguet Street, now a fine old neighborhood in the city.

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 in five years. The goals of that five-year plan were achieved in 2006. 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. Ultimately, the PNPC intends to modify the system in the future to allow recapture and recycle of runoff water. The horticulture facility includes the following: 1) one 30' X 100' Jaderloon Quonset poly house, 2) one 14' X 100' shadehouse, 3) a 50' X 100' full sun container yard, and 4) a 30' X 50" metal building (headhouse) with office and restroom. The entire facility is encircled by a 6' solid panel fence to allow security and privacy.

Green Roof Project. With an initial grant from the George and Fay Young Foundation, the north end of the property is now home to a green roofed garden structure, the first of many planned for the years ahead. The goals of that project include plant material evaluation, substrate evaluation, and projects to develop strategies that reduce cost and improve efficiency of conventional green roof procedures.



Trails. 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. Cooperation with Texas Parks and Wildlife Department, Texas Forest Service, and SFA's physical plant professionals created a 6' wide ribbon of asphalt that leads visitors by patriarch trees through a variety of vistas, through interesting habitats, and through the horticultural demonstration gardens around the Tucker house.

Demonstration Gardens. The Ladybird Johnson Wildflower Demonstration 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 demonstrates 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.

Staff. The daily on-the-ground management of the property is the responsibility of the Research Associate, Greg Grant. Past personnel in this position include Matt Welch and Lance Craig. Elyce Rodewald, Environmental Education Coordinator, offices in the Tucker house, and manages a wide array of environmental education projects at the PNPC (and SFA Mast Arboretum and Ruby M. Mize Azalea Garden). In addition there is a small army of SFA students and volunteers that work to keep the property maintained – and growing.

Objectives

The PNPC’s goals are simple:

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 conservation, ecology, and the natural environment.

Conservation

Three R’s. Dr. Creech and Stacy Scott (Graduate Research Assistant) introduced and pioneered the concept of the “Three Rs,” in the mid 1990s – a slogan for an endangered plant “Rescue, Research, and Reintroduction” strategy – one designed to find, identify, collect, study and propagate a wide range of endangered, rare and threatened Pineywoods species. The Mast Arboretum and now the PNPC has 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 grows plants used in reintroduction efforts in the Big Thicket. There are great opportunities to exploit the skills of horticulture to solve some of the problems facing precarious species “in the wild.”

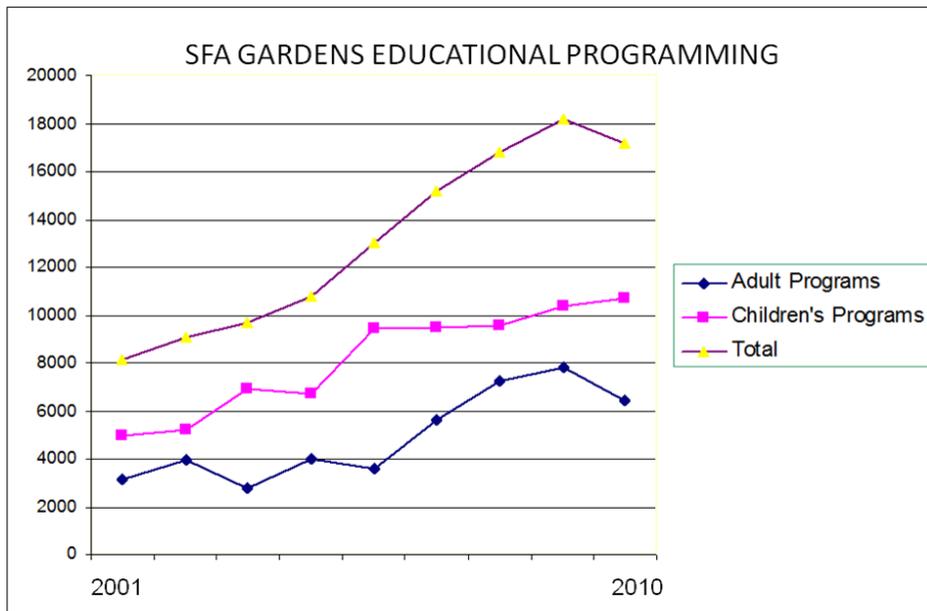
As a foundation, the PNPC recognizes that of the 30,000 species of plants in North America, 5700 are native to Texas, and 2300 reside in the Pineywoods of East

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. For species in those precarious conditions, 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," basically into appropriate sites in the plant's natural range, hopefully on public lands where the species can enjoy some protection. There's another part of SFA'S PNPC conservation mission that should never be overlooked and it's a focus on finding, propagating and disseminating truly local genotypes of particular species into the trade. Selections of truly native *Clethra alnifolia*, *Wisteria frutescens*, and many others, are being introduced into Pineywoods landscapes as a result of the PNPC's work. 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, Texas Nursery and Landscape Association and the Lady Bird Johnson Wildflower Center.

Mill Creek gardens. In addition, the PNPC serves as co-manager of Mill Creek Gardens, a 119-acre conservation easement six miles west of Nacogdoches on Highway 21. In 1997, Elisabeth Montgomery, initiated conversations that led to the conservation easement. Elisabeth – "Baby Sis" – not only carved out a precious piece of property for "conservation", she donated \$100,000 as an endowment that yields funds annually that are used for various conservation projects and environmental educational programming. It's a wonderful perpetual gift. Mill Creek Gardens is home to annual summer "Pineywoods camps" run by the environmental education programs coordinator – and the property's eight-acre lake serves as the centerpiece for weeks of in-the-forest fun and learning.

Environmental Education

The environmental education program provides hands-on, experiential learning opportunities for all ages. The program reaches over 10,000 children each year and is a source of university pride. The Environmental Education program is led by Elyce Rodewald, who has strong programming skills that create, organize, and manage a wide range of educational efforts that include:



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.

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.

Wild About Wetlands is an in-depth investigation where students learn about hydric soils, characteristic wetland plants, the importance of watersheds, and the water cycle. Students also collect and analyze macroinvertebrates to determine the health of a wetland at the PNPC.

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.

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 to 15-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 the past 10 years. New in 2008 for families are the **Pirates in the Pineywoods Party** and **Nature Realized** series hosted by the Texas Forest Service.

The Lone Star Regional Native Plant Conference. The LSRNPC is a major educational effort associated with the PNPC. This conference is affiliated with Cullowhee Native Plant Conference (Cullowhee, NC) and connects 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. 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's a fun and education filled and rather eclectic event. For the historical record, the themes for the LSRNPC conferences are presented as follows: The Natives are Restless in 2001; Sex in the Garden in 2003; The Age of Aquercus in 2006, and No Child Left Inside in 2008.

Signage and Interpretation

The PNPC has received a number of grants that support signage and interpretation. The first element of this program is the Tucker House's "Firewise Landscape" signage and interpretation. This is first class and 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 is 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.

Ornamental Introductions

The PNPC collection is focused on important landscape genera, emphasizing native flora of the South. It is also focused on introducing improved selections from the southern pine forest and encouraging their use in the nursery and landscape trade. New plants come from chance finds and selections from breeding lines. Ornamental nursery introductions include *Wisteria frutescens* 'Dam B', *Hydrangea quercifolia* 'Lowrey,' *Callicarpa americana* 'Matt's Pink,' *Gaillardia aestivalis* var. *winklerii* 'Grape Sensation,' *Bignonia capreolata* 'Helen Fredel', *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.

Funding

The PNPC relies heavily on outside-the-university funding. PNPC staff and volunteers have generated funding through plant sales and membership campaigns. Two foundations have provided much needed facility development and educational programming: the George and Fay Young Foundation and the Meadows Foundation. SFA's physical plant deserves great credit in helping the PNPC achieve horticulture facility development at a reasonable cost. A "friends" group provides much appreciated

funding for special projects. The membership campaign for SFA Gardens is an annual success and provides much needed support for the budgets of the PNPC, SFA Mast Arboretum, and Ruby M. Mize Azalea Garden, all unique resources at this institution of higher learning. Through gifts, research grants, the “friends” group, and two plant sales per year, the PNPC manages a substantial landscape and still finds a way to improve each year.

The Future

Since Lady Bird Johnson first waved her wand over this special forest in April of 2000, the Pineywoods Native Plant Center has come a long way. The road has not been easy. In spite of a tornado in 1999, Hurricane Rita in 2005, and our latest intruder, Hurricane Ike in 2008, the PNPC has enjoyed steady growth, development, visitation, and excitement. Most important, because of those very climatic thugs in our garden, the PNPC now enjoys more sunlight and more full sun gardening opportunities.

In the next five years, the PNPC has set as a primary goal the expansion of our woody and herbaceous collection. Developing extensive collections of small flowering tree and shrub varieties in landscapes that allow side-by-side comparisons in a garden setting is always of benefit.

In the next five years, the PNPC will introduce and promote a wide range of new ornamentals that are Texas tough and proven in our gardens and others.

Thanks to the U.S. Fish and Wildlife Partners Program, the PNPC will win the war against Chinese privet (*Ligustrum sinense*) and a number of other exotics that exist on the property. The strategy will involve both mechanical and chemical means. Once eradicated, or at least reduced to a manageable level, the introduction of appropriate native plant species will be undertaken to exploit the newly privet-free habitat.

In the next five years, in terms of the physical facility, the PNPC’s campaign to build a Conservation Education Center will be accomplished. The campaign promotes the concept plan of Darrel Morrison with the proposed construction of an educational building and outdoor learning pavilion as a major first step.

To learn more about the Stephen F. Austin State University’s Pineywoods Native Plant Center, visit <http://pnpc.sfasu.edu> or contact:

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