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Texas Native Seeds Program expands further in pursuit of statewide impact

by Forrest S. Smith-Dan L. Duncan Endowed Director, Texas Native Seeds Program

Two early supporters of South Texas Natives (STN) were Buddy and Ellen Temple. Their generous funding, and restoration efforts at the Temple Ranch were important for advancing STN's mission. As passionate as they were about our South Texas efforts, Buddy and Ellen longed for a similar project in their home region of East Texas. As of this spring, East Texas Natives Project (ETN) has been launched thanks to a major contribution by Ellen in Buddy's honor. Several other contributors have joined in support of ETN. Additionally we have been working to put the Coastal Prairies region of Southeast Texas. These new projects have made the Texas Native Seeds Program (TNS) a true statewide effort.

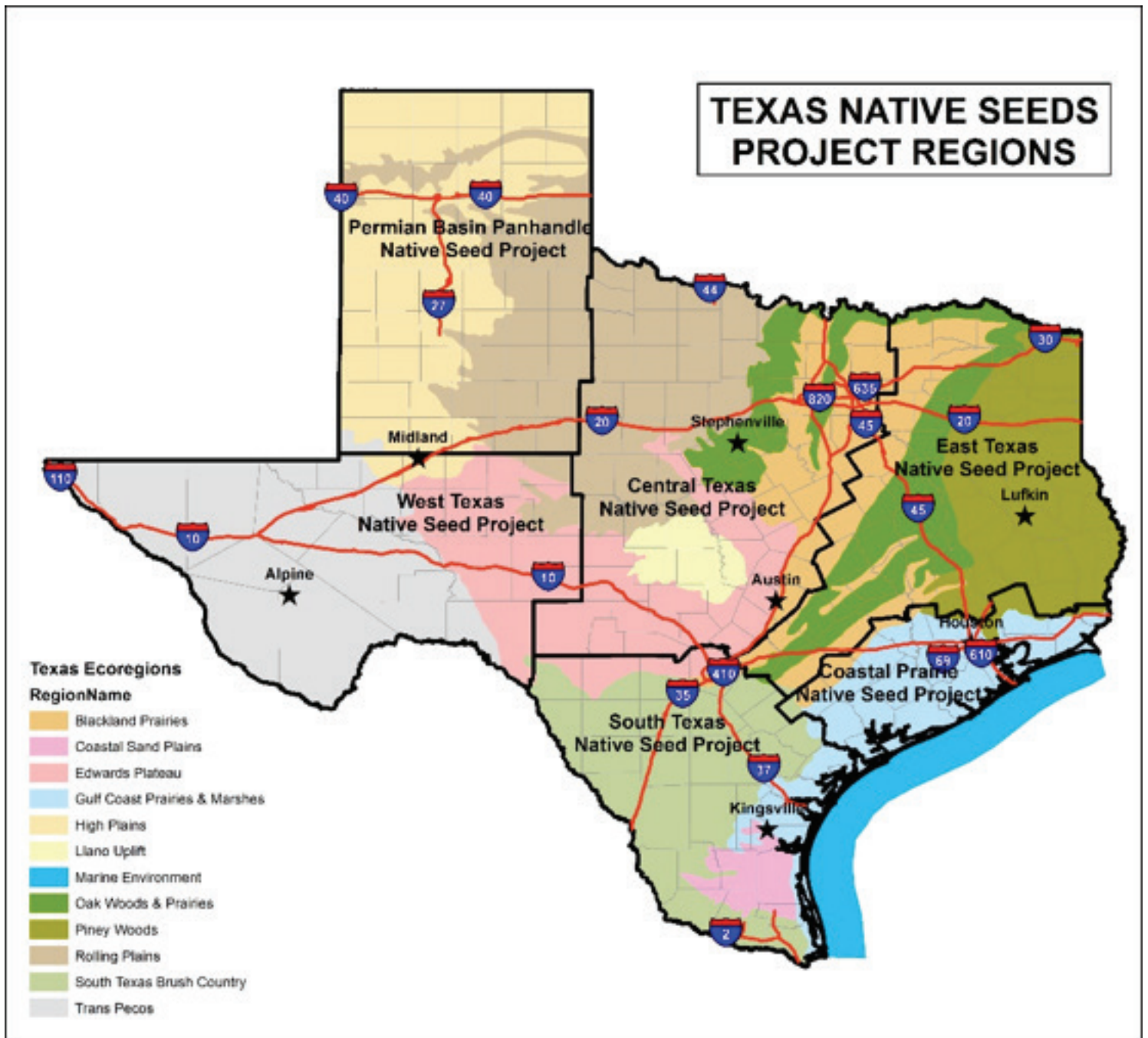
History of Expansion of the STN Model

We began expanding the geographic impact of our native seed work in 2010. The catalyst was the Texas Department of Transportation (TxDOT). As an agency working throughout Texas, TxDOT needed native seeds and restoration methods across the state. As a result, TNS was born, with a mission of providing all of Texas with locally-adapted native seeds for restoration, and promoting the restoration of native plants throughout the state both on TxDOT's right of ways, and on adjacent private lands. The Texas Transportation Commission and Vegetation Management Director Dennis Markwardt have been tremendous advocates for this leadership by TxDOT.

Based on the sage advice of STN Advisory Group co-chair, Katharine Armstrong Love, we initially took on the challenge of a statewide program by adding just 2 regions of where needs were greatest, and where we had partners to help. This included Central Texas, in cooperation with Dr. Jim Muir at Texas A&M AgriLife Research Station in Stephenville; and in West Texas, with Dr. Louis Harveson and Borderlands Research Institute at Sul Ross State University joining forces as cooperators. Paramount to this expansion was TxDOT's support and long-term funding commitment enabling the expansion. In addition, resources provid-







Map of project regions of the Texas Native Seeds Program.

ed TNS by the Dan L Duncan Family endowment had a tremendous impact enabling this growth.

As we have grown, the participation and involvement of the USDA NRCS James E. “Bud” Smith Plant Materials Center in Knox City led by Brandon Carr has been crucial. The Texas Plant Materials Specialist, Rob Ziehr, and NRCS State Conservationist, Salvador Salinas have also been integral supporters of the TNS growth. We are also thankful for the support of Douglass King and Bamert Seed Companies whose work in seed production for these new regions has been critical.

On-the-ground efforts in Central and West Texas began in 2011. In similar timing as the STN project, we released our first native seed selection for these new regions, Guadalupe Germplasm white tridens, in 2017. Production of this seed release was licensed to King and Bamert seed companies, and the species is already being supplied commercially. This spring, we distributed two important native grass releases for West Texas, Santiago Germplasm silver bluestem and Permian Germplasm whiplash pappusgrass, for production. Releases of purple threawn, little barley, and slim tridens will begin being produced in 2018, followed by West

Texas selections of sideoats grama and Central Texas selections of sand dropseed and hooded windmillgrass next spring. TNS operations in West Texas are led by Colin Shackelford, who has been at the helm of work there since 2011, and in Central Texas by Randy Bow, who has worked with us since 2016. Both programs are starting to hit on all cylinders under their leadership.

Future releases for Central Texas will include selections of little bluestem, meadow dropseed, silver bluestem, tall grama, hairy grama, and seep muhly; and for West Texas releases will include galletagrass, blue grama, sand dropseed, Greggs mistflower, Tahoka daisy, and skeleton leaf goldeneye. Recently, Central Texas efforts have been expanded with support from Rod Sanders and the Horizon Foundation. Rod's Sandbrock Ranch will become a much needed research location in this region of high demand for native seeds.

Filling in the map West and North, and expanding East

In 2017, we were able to expand our efforts further in West Texas to include the Permian Basin region and adjacent Panhandle. This growth was made possible through the generous support of CKWRI Advisory Board Member Tim Leach and Concho Resources, the Midland Based oil and gas company he founded. In response to restoration needs in this region as a result of energy exploration, in November we hired Sam Lutfy as Assistant Director in Midland. Sam is working to engage energy companies and landowners to put great effort toward native plant restoration. We are extremely excited about the opportunity to partner with Concho and other energy operators in this region.

Also in 2017, with Ellen's pledge of support we began organizing East Texas efforts. After several meetings with regional conservationist that drew standing-room only crowds, we began successfully raising funds to start operations. TxDOT and Texas NRCS have each provided substantial support to ETN, as have several private donors and the U.S. Forest Service. In February, we hired former STN technician Tyler Wayland as ETN Assistant Director. Tyler is working closely with NRCS Nacogdoches Plant Materials Center led by Alan Shadow. This spring we began region-wide seed collection in the region.



Tyler Wayland, East Texas Assistant Director, collecting native seeds.

Simultaneously in 2017, we began advancing a goal to expand the STN model along the Gulf Coast to improve seed supply for the Coastal Prairie region. To do so, we have partnered with Jim Willis and Gary Stephens of Wildlife Habitat Federation, of Cat Spring, TX, and Sonia Najera and Aaron Tjelmeland of The Nature Conservancy. Both groups have already made advances toward restoration seed supply in the region, and we hope to add to those efforts. This spring we are planting two evaluation projects - little bluestem and knotroot bristlegrass. Start-up funding for the Coastal Prairie region effort has been provided by private landowners, NRCS, TxDOT, and the Harvey Weil Trust. We are seeking additional resources for the Coastal Prairie Project, and if successful, we hope to station a regional assistant director in Houston to coordinate these efforts in 2018.

In addition to our five regional projects across Texas, STN in South Texas remains the bellwether for regional native seed development and restoration programs. Under the experienced direction of TNS Associate Director Keith Pawelek, and Research Coordinator Tony Falk, restoration results and seed availability for South Texas are hallmarks. Our successes in South Texas are thanks to long-standing support from a number of private donors, including the Bass, Robert and Helen Kleberg, Richard M. Kleberg, Sr., Temple, Kelleher, Leonard, and Cato Families. We are also blessed to have the cooperation of NRCS's Kika de la Garza Plant Materials Center led by John Reilley, TxDOT, Texas



Large scale native plant restoration seeding on a power line right of way in the South Texas Sand sheet.



Sandbrock planting (large scale planting)



Seed increase Stephenville from October.

Parks and Wildlife Department, and Rio Farms. Our home base for STN, and TNS administration-TAMUK and the CKWRI, provide valuable leadership and support, especially, Shyla Rabe our TNS Administrative Coordinator.

Once recent seed mix recommendations topped 1,000 acres in project size, numerous projects of several hundred acres in South Texas have been facilitated because of the work of STN. We believe the restoration results being achieved are among the best anywhere, with seed mixes of 30+ species now able to be planted, and consistent restoration results well documented across the region. STN has and will continue to make a significant impact on South Texas restoration.

The road ahead

Demand for native seeds in Texas continues to increase, while supply and diversity of species available to consumers remains a limiting factor to successful restoration in many regions of the state. Several factors influence this growth in demand.

First, awareness of the success of the STN model of seed source development, and resulting availability of a wide diversity of high quality native seeds with demonstrated ability for successful restoration has changed perceptions of what may be possible through native plant seeding. Second, growing societal appreciation of the importance of native plant communities for wildlife, conservation, and environmental health underlies demand for native seeds, and support for TNS. This was exemplified recently by the explosive interest of the public and agencies in monarch butterfly habitat restoration. But, such efforts are limited in success and scale because commercial supply of native seed is lacking. STN has been working to develop additional pollinator plant seed sources, and commercialized a native selection of milkweed with King Seed Company in the last year. This release, named Mariposa Germplasm zizotes milkweed, is the nation's first formally released and commercialized native milkweed seed source. Pollinator- and monarch-habitat seed source development is just one of many examples of the TNS Program's wide appeal, and relevance.

Finally, a trend toward greater use of native plants for restoration in the transportation and energy industries has helped carry our work ahead. In 2014, TxDOT

specified many STN releases and other native seeds for two-thirds of Texas, resulting in greater demand. We have had considerable success advising landowners on native seed specification, and partnering energy companies to use native seeds on pipeline and transmission right of ways. Results possible from these partnerships were showcased in 2017 by a project with King Ranch, other Kenedy County private landowners, and Enbridge on the Valley Crossing Pipeline. As a result of this partnership, 46 miles of the Valley Crossing Pipeline were reseeded using a native seed mix designed to provide benefit for migrating monarchs. As more and more energy producers integrate native seed use into their operations, we will see continued increases in demand.

The Texas Native Seeds Program has proudly expanded its impact and scope of work to all of Texas in the last year.



WE ARE COMMITTED TO DELIVERING THE NATIVE SEEDS AND KNOWLEDGE NECESSARY FOR RESTORATION IN TEXAS TO REACH EVERY CORNER OF THE STATE IN THE YEARS AHEAD.

We are extremely thankful for the support, cooperation, and trust of the thousands of landowners, many state and federal agencies, and our long list of donors and advisors for making this work possible. TNS is poised for many more successes to come, and we look forward to sharing them with you. Please don't hesitate to contact us if we can be of help with your next native plant restoration effort!



Doing restoration research trials in the Permian Basin.



Native pollinator habitat planting in the Rio Grande Valley of South Texas.



Preparing a native plant evaluation site in the Coastal Prairie region.

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The Texas Native Seeds Program

Texas Native Seeds is a research and development program, augmenting and providing products to the commercial seed industry. TNS works to develop native seeds that can be produced commercially, in volumes needed by restoration professionals in order to have ecosystems level impacts on native plant and wildlife conservation. TNS is a visionary effort to do something now, while substantial native plant populations still exist and provide a reservoir for collection, evaluation, and development of tomorrow's seed sources today.



DID YOU KNOW

South Texas Natives, Valley Crossing Pipeline, Douglass King Seed Company and landowners have worked together to design the best possible commercial native seed mix to restore native plant communities to the Valley Crossing Pipeline right-of-way in Kenedy County. An emphasis for this seed mix has been inclusion of important native pollinator plants in order to provide needed nectar sources for the monarch butterfly during their spring and autumn migration through the area.

