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THE TEXAS A&M UNIVERSITY-KINGSVILLE® MAGAZINE | SPRING 2018

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and Texas Native Seeds:
**The Research That
Keeps Growing**
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South Texas Natives and Texas Native Seeds: The Research That Keeps Growing

The land of Texas is wide and plentiful, and has a host of different terrains. Through the years, it has proven to be a prime location for farming, ranching, hunting and producing energy. Its sheer size gives the uninformed an impression that its land would always have something to give us, without much back from us in return. Owners and users of Texas land knew better though, as did Texas A&M University-Kingsville's Caesar Kleberg Wildlife Research Institute (CKWRI)—conservation and restoration are essential.

CKWRI joined forces with the Robert J. Kleberg, Jr. and Helen C. Kleberg Foundation in 2001 to create the university's South Texas Natives program. The program focused on increasing the availability of native plant seeds for use in restoring South Texas land, and, toward the broader effort of educating and advocating for native habitat conservation.

South Texas Natives started with just a project coordinator and a student technician. That technician, Forrest Smith, has stayed with the program for its entirety, eventually becoming its director in 2008.



An Idea Catches On

South Texas Natives may have had humble beginnings, but it didn't take long for landowners and agencies to see the role it could play. A network of collaborators from across the region began to form, with the backing of a broad base of donors. Some of those important cooperators included the USDA NRCS "Kika" de la Garza Plant Materials Center, TxDOT, Texas AgriLife Research, Rio Farms, and hundreds of private ranches.

"I think then, we could certainly see the potential, if you could enable people to restore land and make it productive, that the idea could catch on," Smith said. "I think we also saw a shift in landowner focus toward managing for wildlife, in South Texas. That's where, to some degree, a lot of the actual incentive and value for restoring native habitat started. The region is the epicenter of managing a ranch for wildlife purposes."

South Texas Natives' focus is on collecting, increasing and commercializing native seed sources. Having the right seeds is at the heart of land restoration for drilling sites, rangelands and highway systems—a few of the settings South Texas Natives has been a part of since it was founded. Over 30 native seed selections have been commercialized and made available to consumers as a result of the work.

As the interest in South Texas Natives grew and word spread of its capabilities, Smith and the other program administrators realized it was worth expanding beyond one region. Texas Native Seeds was born in 2011. This spinoff program focused on other regions not serviced by South Texas Natives: initially Central and West Texas, and in the last year, expanding further to include the entire state with projects in East Texas, the Permian Basin, and the Coastal Prairie region around Houston. Today, Texas Native Seeds has a staff of native plant experts stationed throughout the state, in Kingsville, Alpine, Midland, Stephenville, Lufkin, Austin, and Houston by the end of the year.

Eagle Ford Shale

South Texas Natives played a crucial part in restoring land impacted by Eagle Ford Shale development. "That was an enormous impact on South Texas, and had a lot of potential to negatively impact a whole lot of wildlife habitat in a relatively short time frame without restoration," Smith said. "Having native seeds available and seeing development of a very strong and large-scale market for restoration that was able to be served because of the work we had done...that was pretty rewarding to see."

So how involved have the seed-centered programs been in restoring Eagle Ford-related land? "It's hard to put a specific figure on it," Smith said. "That development will eventually entail something like 20,000 well pad sites, at four to five acres per pad site. Just those pad sites could be a 100,000 acre impact over time.

"Added to that, there is road development, pipeline development, processing and staging area development. So over that Eagle Ford Shale region, as much as a fifth to a seventh of the habitat is impacted in some way, such that



restoration at some point will be needed. So easily over time, you could be looking at a million acres of restoration demand.”

Texas Department of Transportation

If Eagle Ford restoration wasn't big enough, South Texas Natives and Texas Native Seeds took on an even bigger challenge from their start—the highway right of ways of Texas. A right of way is a term used for lands associated with roads, pipelines and powerlines. The programs have worked with the Texas Department of Transportation since 2001 to enable them to change their seeding practices for two-thirds of the state so far, with a goal of impacting the entire state eventually in the same way. Smith describes the partnership as a hallmark for the programs.

Before working with the A&M-Kingsville-based seeding programs, the Texas Department of Transportation (TxDOT) had no choice but to use exotic plants in highway right of way restoration projects. Given the scale of highways in Texas, what happens on right of ways can have a major impact on surrounding landscape. Many exotic plants used in the past have spread to adjacent wildlife habitats, to their detriment. Since working with South Texas Natives and Texas Native Seeds, TxDOT now reseeds after construction or land disturbance using native plants developed by the programs.

The seed programs' work with TxDOT directly impacts the state of Texas in a number of ways. “The Texas Department of Transportation operates 1.2 million acres in Texas. So there's a very substantial footprint on their land that they're doing projects on,” Smith said. “But beyond that, they more or less are the entity whose specs industry and other businesses follow when they try to meet various federal directives for erosion control and vegetation establishment.

“Since TxDOT is one of the largest players in that restoration seed market, what they do sets the stage for what most other industry and clean water act-compliant work follows.” “Without TxDOT's involvement, investment and support of this work, we might never have had the success that we have had.”

Monarch Butterflies

The monarch butterfly has earned national attention recently, but for the wrong reason. A recent academic study stated that, without dramatic action, there's a 72 percent chance monarch butterflies will be extinct in 20 years. According to Smith, they have become the “poster child” for the impacts associated with loss of native wildlife habitats.

Smith and the team of Texas Native Seeds is heavily involved in working to impact monarch butterfly conservation by enabling and encouraging native plant restoration projects at large scales in Texas. They have de-



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veloped and commercialized a native seed selection of zizotes milkweed, one of the monarch’s most important host plants, over a large portion of Texas.

Restoration of the Valley Crossing Pipeline is another monarch-focused project. This effort started at the urging of the King Ranch and other private land owners, who Smith said are very sensitive to development impacts on their ranches.

Over the past year, the South Texas Natives teamed up with Enbridge, the King Ranch, and other private ranches in Kenedy County to develop a strategic “rest stop” for monarchs on their 2,500-mile journey from Canada to Mexico—on 670 uninterrupted acres along a 46-mile stretch of Enbridge’s Valley Crossing Pipeline right of way.

The entire Kenedy County portion of the Valley Crossing Pipeline’s right of way was planted with a well-researched South Texas native seed mix to provide much-needed nectar sources for monarchs; beneficial habitat for fellow pollinators, as well as habitat for wildlife like bobwhite quail; and grazing resources for livestock production.

“Many people want to do something about (monarch butterfly conservation), and we’re one of the few programs that actually works every day to enable restoration that benefits monarchs, whether that be in a back yard garden, or on a hundred miles of pipeline right of way, or across the state’s transportation system as a whole,” Smith said.

What’s Next?

When it comes to the future of Texas Native Seeds, Smith said he hates to use the words “limitless opportunity,” but there are several things that make him think it.

“One is the receptiveness of the general public and of society to topics like monarch butterfly conservation, and the realization that in most wildlife issues, habitat is key. Another reason is population growth and change that’s coming to Texas overall. As the population grows, the figurative footprint of humans on those natural systems and native plant communities is going to be more and more intense, and that will begin to affect other products of those systems above and beyond wildlife and beyond recreational opportunities.

“Water is one example. Most all of the water that anybody drinks in Texas starts with rain on a private ranch. If that habitat is not in good shape, you’ll see watershed impacts over time that affect water supplies, for everyone,” Smith said. “I think appreciation of the value of native habitats is increasing, and because of that, demand for restoration when those habitats are impacted will also continue growing.”