

South Texas Natives

A publication of the Caesar Kleberg Wildlife Research Institute
at Texas A&M University-Kingsville

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South Texas Natives Update

*Katharine Armstrong Idsal,
Texas Parks and Wildlife Commission
and Will Harte,
Cerrito Prieto Ranch*

This summer marks the first year since we were able to hire Paula Maywald, our professional coordinator for *South Texas Natives*. The project continues to grow and mature. Thanks go to our many supporters who have provided access to their lands to collect native plant seeds, who have provided funding to operate the program, and who have made in-kind donations like tractors, trailers, and other equipment. The Caesar Kleberg Wildlife Research Institute has developed several new friendships with landowners, and the Texas Department of Transportation has become a significant partner. The Texas Natural Resource and Conservation Service has also begun a new relationship with the Institute and *South Texas Natives*, as have the Texas Soil and Water Conservation Districts. We are most grateful for the support and involvement of these individuals and organizations.

South Texas Natives is honored that First Lady Laura Bush, members of the Advisory Group, and other colleagues took time to write letters and make telephone calls to legislators in Texas and our nation's capital. Through their efforts, we have helped provide a more secure future for the E. "Kika" de la Garza Plant Materials Center, a division of the U.S. Department of Agriculture Natural Resources



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Katharine Armstrong Idsal and Will Harte are co-chairs of *South Texas Natives*.

Conservation Service. The Center is located in Kingsville, and is integrally involved in the day-to-day workings of *South Texas Natives*. This newsletter issue contains an informative article highlighting the Center.

How can you help the South Texas Natives project?

The Caesar Kleberg Wildlife Research Institute is organizing native seed collection teams for the following time periods: (1) *October 1 to November 30, 2002*, and (2) *March 1 to June 30, 2003*. A complete list of grass, forb, and shrub species being sought may be viewed on our website, www.ckwri.tamuk.edu under

“Special Projects.” We would be pleased to know:

- Do you and your family have the time and interest to assist personally?
- Do you have staff members at your ranch who would be available to help collect native seed or would notify our staff when species on our collection list are mature?
- Do you have a local school that might like to learn about native plants and participate in our seed collection program, and be paid for their efforts?
- Do you know of a Boy Scout or Girl Scout group, or FFA, or 4H Club that might enjoy learning about native plants and earning

funds by collecting native seeds?

- Would you be willing to have a *South Texas Natives* plant identification team visit your ranch for a confidential native plant assessment?

We are also interested in your suggestions about potential sponsors for *South Texas Natives*, and welcome any other comments. Please contact Paula D. Maywald at 361-593-5550 or e-mail her at paula.maywald@tamuk.edu. Thank you for your support and we will keep you informed of our progress.

Native Plant Restoration: A Perspective from the Texas Department of Transportation

*Dennis K. Markwardt,
Vegetation Management
Section Director, Texas Department
of Transportation*

I am used to the disdainful looks I get from some people when they hear I work with seeding and erosion specifications at the Texas

Department of Transportation. People tend to have their own ideas about how the right-of-way should look; some people would like the manicured appearance of a golf course or a front lawn, and others believe the roadside should look like one of our last great prairies.

In reality, we try to manage the right-of-way to accomplish some simple goals:

- Prevent and reduce erosion
- Provide safety to travelers
- Protect the roadway
- Provide for maintenance efficiency
- Provide drainage
- Protect natural resources
- Provide a pleasing appearance.

In addition to these goals, the Texas Department of Transportation must also comply with the National Pollutant Discharge Elimination System (NPDES) and follow storm water guidelines on all construction projects. If storm water guidelines are not followed on disturbed areas, the engineers overseeing the project could be held civilly and criminally liable for erosion and water quality problems. The engineer is held

responsible until the disturbed site has reached 70% perennial vegetative cover. With these regulations, one can see why the Texas Department of Transportation seeks to obtain a perennial cover that will grow quickly.

Many native and non-native species currently on the market can accomplish this, but seed choice is not the only factor to consider in re-vegetation. A problem arises when not all of the species planted are desirable to the adjacent landowners or even for roadway maintenance purposes. For example, the Texas Department of Transportation seeds a pure, tall bunch grass seed mix. Some adjacent landowners may find it desirable, but others may consider the mix a fire hazard. Even if the tall bunch grass becomes established, routine mowing will eliminate it, so the grass will only thrive in non-mowed areas.

Soils present another challenge to the Texas Department of Transportation. Many people believe we are seeding into “good” native soils. In most cases, we are seeding into highly disturbed, infertile soils. In the case of cut-and-fill areas, we are seeding into subsoils. Most of the seed available in the current seed trade are the upper successional grasses, which are desirable for livestock but perform poorly or need two to three years to achieve good establishment in these soils.

Despite these challenges, the Texas Department of Transportation is trying to reduce the use of non-native vegetation. The development of native grasses and forbs of all successional stages is needed. This is why the Texas Department of Transportation is a partner in *South Texas Natives*.

We hope research conducted by *South Texas Natives* will help the Texas Department of Transportation find native vegetation that will meet the Department’s construction and maintenance needs. For more information, please contact us at 512-416-3093.



© Dennis Markwardt

Dennis K. Markwardt of the Texas Department of Transportation pictured at a highway roadside.

Golf Courses and Native Habitat

Carl Suding, Golf Course Superintendent and Equity Owner

It has become increasingly important to protect the native environment on golf courses. Often golf courses are some of the only natural or native areas left in many urban areas. Padre Isles Country Club has been on the forefront of new management techniques that help protect and enhance native habitat on the golf course. We are one of the first to win a national environmental stewardship award, by the Golf Course Superintendents Association of America, and we are among the first in Texas to become a *Certified Audubon Cooperative Sanctuary System Golf Course*.

Padre Isles Country Club has received *Audubon International Certification* in:

- Environmental Planning
- Expanding Integrated Pest Management Programs
- Improving Water Quality
- Water Conservation
- Community Outreach and Education

Counties Included in South Texas Natives

Atascosa	Maverick
Bee	McMullen
Bexar	Medina
Brooks	Nueces
Cameron	Refugio
Dimmit	San Patricio
Duval	Starr
Frio	Uvalde
Goliad	Val Verde
Hidalgo	Victoria
Jim Hogg	Webb
Karnes	Jim Wells
Kenedy	Willacy
Kinney	Wilson
Kleberg	Zapata
La Salle	Zavala
Live Oak	



© Carl Suding

Carl Suding, onsite at Padre Isles Country Club.

- Wildlife and Habitat Management
- Environmental Stewardship.

We have also been participating in an area Adopt-a-School Program, adopting the Seashore Learning Center Elementary School, a new charter school on Padre Island. We have provided donations and are helping to create green space and landscaped areas on campus. We provide advice and are involved with the Padre Island Property Owners' Association, landscaping in parks, and roadside projects. We also work with church groups and support the Beautify Corpus Christi Association.

The Padre Isles Country Club property runs one mile along South Padre Island Drive on North Padre Island, just outside of Corpus Christi, Texas. The Golf Course contains 40 acres of lakes and about 60 acres of native habitat areas. These lakes and native areas provide a wide variety of valuable wildlife habitats for many species including migratory birds.

We have created additional native areas over the years on the golf course simply by *not* mowing,

particularly around the shores of lakes, thus creating a vegetative barrier that improves the water quality from runoff and provides necessary cover for wildlife.

The only hard part is deciding where to let plants "go native," such as out-of-field play areas. And, we have to let the mowing crew know what not to mow. This is done by placing signs in areas we want protected and in areas we are trying to establish that say, "*Natural Habitat Area, DO NOT MOW.*" Other signs are placed on the course to keep golfers and carts out of native areas. Once the native area is established, it is "on its own," and we can move on to another area needing protection or revegetation. This practice actually saves a considerable amount of money that would be spent on labor, wear and tear on equipment, water, and fuel. While enhancing the environment, we are creating native habitat for wildlife. For more information, please call me at Padre Isles Country Club, 361-949-8056.

E. “Kika” de la Garza Plant Materials Center

John Lloyd-Reilley, Manager,
E. “Kika” de la Garza Plant
Materials Center

The mission of the E. “Kika” de la Garza Plant Materials Center is to develop and transfer plant science technology to solve natural resource problems in South Texas. Plant testing and plant selections as well as the development of new plant science techniques are the primary products of our program. Our program emphasis ranges from coastal shoreline stabilization to vegetative terraces for cropland. However, the heart of our program is dedicated to South Texas rangeland habitat restoration and enhancement. As such, we are committed to the goals of *South Texas Natives*. We believe it is important to provide landowners and agencies a choice in plant material for the re-vegetation and restoration of their land. We also believe that native seed mixes hold the potential for producing the best long-term, sustainable and diverse

plant communities in South Texas. The Plant Materials Center is focusing its experience, equipment, and other resources in an effort to provide economically viable sources of native plants and seeds and develop effective planting strategies for the restoration of South Texas habitat.

The goals of *South Texas Natives* are not easy ones. As Gary Pogue points out, “attempts to commercially produce native plants have usually ended in failure.” In order to produce economically viable commercial seed, we must find the right species that have good seed production and seed quality characteristics. These plants must produce enough seed to be economically feasible. The seed must also have good germination and emergence characteristics to ensure consistent levels of field establishment. Seed production and seed quality are not the only characteristics that these species must have. These plants must have seed that can be harvested, processed, and planted by conventional equipment in order to have large-scale commercial



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John Lloyd-Reilley of the E. “Kika” de la Garza Plant Materials Center.

application. This is a large request for our South Texas native plants, which have been notorious for producing small fluffy seed that is difficult to harvest or small seeds that shatter off the plant or have poor seed fill and dormancy problems.

The challenge is before us AND we believe we will be successful. Reasons for optimism are based on the pool of restoration experts we have assembled as a part of *South Texas Natives*. Decades of experience have been brought together encompassing new methods of plant screening and breeding as well as new plant harvesting and seeding techniques. Some of the past failures have been a result of searching for the single magic plant that could produce the most forage for livestock. Our current approach is more ecosystem based. We are looking for a mix of plants that includes grasses and forbs as well as early successional to late successional species. Our approach is based, in part, on a similar project conducted in Iowa. The Iowa Ecotype Project has developed native seed for Iowa’s roadsides. This project has commercial producers supplying over 71 plant species. Ten years

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after the project started it was providing over 12,000 pounds of seed per year for roadside use.

The Kika de la Garza Plant Materials Center expects to help *South Texas Natives* in several areas. The first important role is that the Center provides a single location for the repository for South Texas seed collections. This service allows researchers access to numerous South Texas plant collections now and in the future.

The Kika de la Garza Plant Materials Center will help in the development of regional ecotypic seed. *South Texas Natives* encompasses three ecoregions—South Texas Plains, Coastal Sand Plains, and Gulf Coast Prairies and Marshes. Our objective is to develop seed for each of these ecoregions. The rationale behind ecotypic seed is the belief that regional seed will be more genetically adapted to the locale and region for long-term survival and growth. The ecotype approach differs from local site-collected seed in that it will have a broader mix of seed, which allows for broader adaptation to regional and local microsites. It is also necessary in order to develop a commercial seed market. Seed dealers need a broad enough market area to justify seed production. Thus, the ecoregion approach is an effort to produce regional seed for an area large enough to support a commercial seed market, but still small enough to retain genetic adaptability.

The ecotypic seed approach requires several steps in the development of commercial seed. The first step is to establish a small seed nursery of the different plant collections. A seed nursery is established by transplanting 50 plants of each collection into field rows. Approximately 20 collections or more of each species is targeted for each ecoregion. The seed nurseries are managed with adequate water and fertilization to ensure good seed production. Plants are isolated as necessary to maintain species integrity and diversity for



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Members of the *South Texas Natives* Advisory Group inspect equipment at the E. “Kika” de la Garza Plant Materials Center, Kingsville, Texas, in April.

each ecoregion. Seed is hand harvested repeatedly from the seed nursery in order to ensure a complete genetic spectrum of seed. Foundation seed fields, about one acre in size, are then established from the seed nursery seed and harvested mechanically. Seed from the foundation fields are then turned over to seed dealers for the large-scale production of commercial seed. The Plant Materials Center will play a pivotal role in the establishment of the seed nursery and the foundation seed fields. In the initial year of development, the

Center has established a seed nursery that consists of over 26 different species and represents over 200 different collections.

Not all plant species being collected and established will make it to large-scale commercial seed production. The Plant Materials Center will evaluate all available plant material for field maintenance needs, planting requirements, seed harvesting methods, seed cleaning, and processing techniques. Plant material will also be evaluated for seed production and seed quality characteristics. Through a process of selection and screening, we plan to work closely with partners like Dr. Bill Ocumpaugh, Texas Agricultural Experiment Station at Beeville, to develop a commercial seed mix of six or seven species that will provide a consistent level of field establishment.

The Kika de la Garza Plant Materials Center looks forward to the challenges and opportunities that lie before us in meeting the goals of producing economically viable sources of native plants and seeds and developing effective planting strategies for the restoration of South Texas native habitat. Although the task will not be easy, we believe *South Texas Natives* has



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Members of the *South Texas Natives* Advisory Group touring a greenhouse at the E. “Kika” de la Garza Plant Materials Center, Kingsville, Texas, in April.

the right mix of technical partners and experience that ultimately will be successful. I would also like to take this opportunity to thank the many landowners and civic leaders who took the time to write letters and call their legislators on behalf of the Center, to help provide a secure future for our continued work on native plants. For more information, please call us at 361-595-1313.

Westwind Ranch: A Landowner's Story

*Larry J. Martin,
Westwind Ranch, Inc.*

Having hunted in South Texas for a few decades, I have witnessed the dramatic change from cattle operations to recreational use of ranches, a shift driven by economics. For years, hunting and recreation generated only a small percentage of ranch revenue, cattle accounted for the larger share of income. Today, it is the exact opposite. After years of removing native brush to improve grazing for cattle, landowners are turning back the clock and trying to return pastures to native brush and grasses.

Our ranch is actively involved with Paula D. Maywald, Project Coordinator of *South Texas Natives* to help meet the objectives of the project by selection and collection of native seeds and plant materials on our Westwind Ranch. We are also growing selected plant species for seed production.

Once you have developed a plan it is very important to collect seed from the area in which you intend to plant the seeds or seedlings. Importing seeds or plants from distant sources risks loss because of failure to adapt.

Dr. Richard Hoverson of LaFeria has been assisting and advising me and other ranchers for years regarding native forbs, grasses, and woody plant species. Richard also serves on the Technical



© Paula Maywald

Larry Martin, Westwind Ranch, pictured in front of brasil.

Committee for *South Texas Natives*. Early on, Mr. Hoverson and I decided on a variety of native woody plants for our seed collection that include:

- granjeno, *Celtis pallida*
- Texas kidneywood, *Eysenhardtia texana*
- catclaw, *Acacia greggii*
- clapweed, *Ephedra antisiphilitica*
- brasil, *Condalia hookeri*.

Our ranch has great numbers of these species and they are known for their food value for deer and other wildlife. After collecting the seeds, removing the pulp and drying, the seeds were delivered to Speedling Incorporated in Alamo, Texas with whom Richard had subcontracted to grow the seedlings. Speedling is well staffed, experienced, and capable of large-scale production of top quality plants. Lloyd Anthony is the manager of the facility, and has been very helpful; his staff has done a good job of growing and caring for the plants. Lloyd and his staff have used several tested techniques to enhance germination

such as acid scarification and pre-plant imbibition. They had excellent results with catclaw and clapweed, acceptable results with kidneywood and granjeno, and the brasil was disappointing, but seed quality may have been affected by the drought. Anyone interested in what Lloyd and his staff can do for them should contact him at 1-800-892-5266.

We recently transplanted the seedlings grown by Speedling on our ranch with some in the wild and some in plots protected by fencing. The wild plants are unprotected to help assess predation, while the fenced plants are irrigated and intended for seed production. The kidneywood and brasil were further protected by commercially available plant guards. In a side-by-side comparison seedlings were planted, some in a plastic mesh and the others in a solid plastic "tube." The early results show that the solid plastic guard is both a protector from critters and also acts like a miniature greenhouse. The soil in the solid protector stays moist longer and the seedlings are growing faster.

We are currently studying the possibility of direct seeding of

selected browse species using a seeder box mounted on a double drum aerator. The front drum will disturb the soil and prepare a planting bed, while the rear drum partially covers the seed as it is dropped to the surface from the seed box. We will prepare various acreages of land and count the number of seeds planted over a known area to determine the

survival rate. Each species will receive germination enhancing treatment as indicated prior to planting. We intend to start this method this fall.

Another company actively involved in supplying seeds for habitat restoration is Pogue Seed Company Incorporated in Kenedy County. Gary Pogue, the owner, has been very helpful to me as a rancher,

and he is actively working to bring native species to market. Gary also serves on the Technical Committee for *South Texas Natives*. Westwind Ranch has been a test site for annual and perennial forbs for use in food plots for white-tailed deer. Dr. William “Bill” Ocumpaugh of the Texas A&M University Experiment Station at Beeville conducted the research and also serves on the

Landowner Incentive Programs

We will provide information about other programs in future newsletter issues.

TPWD Landowner Incentive Program

Most rare species inhabit privately owned and managed lands in Texas. Incentive programs to assist private landowners in protecting and managing habitat for rare species can have a direct and positive impact on their conservation. It is the goal of this program to provide financial incentives that encourage landowners to help conserve rare species and their habitat. The program is flexible and is open to all private landowners who have a desire to voluntarily manage habitat for rare species on their land. Although there are no project duration limitations, results of management actions that can be documented in less than five years are preferred. The applicant should contribute at least 20% of the total cost of the project.

Contact: Cecily Warren, Administrator, Landowner Incentive Program, Austin, 512-389-4799
http://www.tpwd.state.tx.us/southtx_plain/tg/incentive_programs.htm

WHIP

The Wildlife Habitat Incentives Program is a voluntary program for people who want to develop and improve wildlife habitat primarily on private land. Through WHIP, USDA’s Natural Resources Conservation Service provides both technical assistance and up to 75% cost-share assistance to establish and improve fish and wildlife habitat. WHIP agreements between NRCS and the participant generally last from 5 to 10 years from the date the agreement is signed.

Contact: Martha Joseph, National WHIP Program Manager, Washington, D.C., 202-720-7157
www.nrcs.usda.gov/programs/whip/

Partners for Fish and Wildlife Program

The mission of the U.S. Fish and Wildlife Service is, by working with others, to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people. The Service’s Partners for Fish and Wildlife program helps accomplish this mission by offering technical and financial assistance to private (non-federal) landowners to voluntarily restore wildlife habitats on private lands. Restoration projects may include, but are not limited to: restoring wetland hydrology; planting native trees and shrubs; planting native grasslands; installing fencing and off-stream livestock watering facilities; removal of exotic plants and animals; prescribed burning; and reconstruction of in-stream aquatic habitats.

Contact: Mike McCollum, Region II, U.S. Fish and Wildlife Service, Arlington, 817-277-1100
<http://partners.fws.gov/>

Other interesting and helpful websites:

Farm Bill Network:
<http://www.fb-net.org/>

U.S. Department of Agriculture, Natural Resources Conservation Service:
<http://www.nrcs.usda.gov/>

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Technical Committee for *South Texas Natives*. Bill has worked with Gary to bring several of the species tested at Westwind Ranch to market, including bundle-flower, which is one of my favorites. We have had success in growing it in irrigated plots and it has proven to be an excellent deer forage crop.

Our goal is to help develop information that will help ranchers return native plants back into South Texas for future generations. We're

looking at the long term. Yes, the economics of recreational uses of the land like hunting are important, but this land is treasured because it is a way of life for my family and so many other families. "Is this land going to be better habitat 100 years from now?" With good land stewardship it can be.

For more information, please contact:

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