Center provides a little slice of “cow heaven”

Twelve longhorns have found a temporary home on the National Wildflower Research Center’s range.

The cattle are being used in several stages of a Wildflower Center native grasslands study. During the study’s seedbed preparation phase, the cattle will graze the non-native coastal bermuda grass that grows in the Wildflower Center’s pastures, and trample the standing dead grass, bringing it to a uniform height and growth stage — making it easier to rid the pasture of the bermuda.

During the seeding stage, the cattle may be useful in distributing native grass seeds and trampling them into the prepared ground, says Dr. Alison Hill, Wildflower Center community ecologist.

Much of the midwestern United States — about 250 million acres — was once tallgrass prairie. Now, because of extensive farming and urbanization, only 1 percent remains. Restoring the tallgrasses on degraded sites will aid environmental repair in the United States and Canada.

“There is a major push to preserve, establish, and maintain prairie,” Alison says. “Herbivores have been a natural part of the tallgrass prairie in Texas. This long-term study is to discover the most practical way to establish and maintain the native grassland community and to preserve its natural biotic diversity.

“Many well-known land restoration techniques are too expensive and have a negative impact on the land,” Alison says. “We are trying to learn more about the ecological processes involved in rehabilitating land and may even find methods that require less fertilizer and care and are less harmful to the environment.”

Although they are better for the environment, the lower-input methods generally don’t respond as fast as the more conventional chemicals and tilling.

The grazed pasture where the longhorns are living will be compared with other areas where different or no restoration techniques are used.

The longhorns were provided by Don and Velma Jackson, ranchers from Stonewall Valley Ranch in Gillespie County, Texas (near the LB Ranch). The Wildflower Center appreciates the Jacksons’ assistance in the study.

The cattle, which were raised in the Texas Hill Country, were probably glad to arrive at the Center and see such lush forage.

“No doubt they think they are in cow heaven,” says Dr. John Averett, Wildflower Center research director.

The use of cattle in this initial phase of the Grasslands Project was made possible by a Wildflower Center special appeal last August. Friends of the Wildflower Center have so far donated more than $24,000 to the project.

Why haven’t native plants been researched?

Conserving native species, providing wildlife habitat, and creating a more ecologically sound method of landscaping — one that conserves natural resources and is less polluting — are all environmental benefits created by using native plants in planned landscapes.

Awareness of these benefits has created a growing demand for native species. The supply of container-grown native plants, however, lags far behind the demand, primarily because of the lack of knowledge about the propagation and establishment of native plants.

Until recently, little research has been performed on native species, because horticultural research traditionally has focused on exotic species. This practice dates back thousands of years to the first gardens. Since the beginning of civilization, explorers and expeditions have traveled to (read on, page 8)
Letter from the Past President

After serving as President of the National Wildflower Research Center Board of Trustees from its inception in 1982, I decided to disengage from that office in the belief that changes in leadership in organizations such as ours can have a highly positive effect for the betterment of the institution; also, because of my need to concentrate on other projects on behalf of the Wildflower Center.

If we have made any progress in the past eight years — and I like to think that we have — it is because of the inspiring leadership provided by our Founder, Lady Bird Johnson, and the support of a very special, highly devoted, and strongly committed Board of Trustees, Advisory Council, and staff. To each of them, I shall be eternally grateful, for they provided the spark that inspired me to discharge my responsibilities with a great sense of joy.

I am equally grateful to our membership for its strong loyalty and support. Our members value the bountiful legacy of wildflowers with which Nature endowed us and share our interest in their preservation and in enhancing their use.

I heartily commend to you the splendid gentleman who has succeeded me as President, Mr. Dana Leavitt of California. Mr. Leavitt, a retired executive who enjoyed a brilliant career in the business world, and who has had a life-long interest in wildflowers, will provide a quality of leadership that will bring the Center to new heights. I urge your support of his administration, as you so kindly and generously supported mine.

To each of you, my renewed thanks for giving me the opportunity to serve you over the past eight years. I shall remember it for all of my days.

Nash Castro
is the founding and immediate past president of the National Wildflower Research Center.

Wildflower Center News

Purdue University associate professor of horticulture Dr. Mike Dana is working at the Center during a six-month sabbatical. He and staff research horticulturist Elinor Crank are conducting root-enhancement research and Mike is compiling a literature review on horticultural aspects of the establishment and management of wildflower species of the upper Midwest United States.

Executive Director David Northington spoke recently at the Southwest Conference of Foundations annual conference in El Paso, Texas, on “The 90s: A Decade of Repair.” The organization’s membership is composed of foundation representatives from across the southwest United States.

Three recent appeals to members for donations have shown tremendous results. The Center’s Grasslands Research Appeal, the Christmas Gift Membership Appeal, and the End-of-Year Appeal drew excellent support. These strong responses from our members allow us to continue and expand our research and other programs. The Wildflower Center is thrilled to receive this kind of support from its members! Thank you!

The Wildflower Center’s Executive Committee of the Board of Directors met in January in Napa Valley, Calif., to discuss 1991 business and plans for the Center’s continued growth.

The Center and the Desert Botanical Garden in Phoenix, Ariz., are co-sponsoring the Southwest Regional Conference on Landscape and Water Conservation with Native Plants in Phoenix, March 14-16. The conference is open to professionals and others. Wildflower Center members will receive a discount on conference registration.

The Rockwell Fund has awarded a grant to the Center to expand and upgrade its computer equipment.

The Center will be open on Saturdays and Sundays this spring, from April 6 through May 12. Weekend hours will be from 10 a.m. until 4 p.m. The Center is open year-round from 9 a.m. until 4 p.m. Monday through Friday. Although admission to the grounds is free, a $2 donation per automobile during the weekends is encouraged to help defray costs.

Up-to-date information about the hottest roadside spots to see Texas’ colorful native flora will be given on the Wildflower Center’s Wildflower Hotline (512) 370-0000. After a short greeting, callers should punch 9955 to hear the message.

The Center and the Texas Parks and Wildlife Department are co-sponsoring the Endangered Resources Forum April 12-13 in Austin, Texas.

The annual Wildflower Days Festival is set for April 20-21 at the Wildflower Center. This free event will include guided tours of the grounds, a “Botanists on Call” information booth, wildflower gifts, and children’s activities.

The Center and SelectTours are sponsoring a tour to Austin, Texas. Included in the tour is a visit to the Wildflower Center.

Wildflower
Founder: Lady Bird Johnson
Executive Director: David K. Northington, Ph.D.
Editor: Tela Goodwin Mange
Graphic Designer: Elaine Walker
Copy Editors: Beth Anderson, Dynan Cortez, Dr. H.J. Hewitt, Jim Hankins

Wildflower, v. 8, no. 2 (ISSN 0898-8803), Published bi-monthly. A portion of $25 membership dues pays for your annual subscription to Wildflower. National Wildflower Research Center, 2600 FM 973 North, Austin, TX 78725-4201. Phone: (512) 929-3605. Material may be reprinted with the permission of the editor. Second class postage paid at Austin, Texas.
POSTMASTER: Send address changes to Wildflower, NWRC, 2600 FM 973 North, Austin, TX 78725.

March/April 1991
Losing ground... The largest remaining stretch of virgin prairie in northeast Kansas, the Elkins Prairie, was plowed under in November, according to the New York Times.

The 80-acre prairie, which had been the focus of preservation efforts in the area, was considered an excellent example of a complex prairie ecosystem. The prairie was home to 150 species of plants, including two threatened species, Mead’s milkweed and the western prairie fringed orchid.

In an attempt to stop the plowing, the Douglas County Commission held an emergency meeting and offered the landowner $6,000 per acre for the land. The landowner refused, and continued plowing the prairie.

Pam Baldwin, who organized an historic Maryland wildflower planting last year, reports that the project will be continued this year.

Ms. Baldwin, whose project was featured in the July/August 1990 Wildflower issue, says the project’s first year was disappointing.

The planting, which features plants that were widespread in Calvert County in the late 1700s, didn’t germinate as well as she had hoped. A large part of the problem, she says, was the project’s seed supply.

Ms. Baldwin says that Charles Anderson and other staff members of the Maryland State Highway Department have been helpful throughout the project.

Ms. Baldwin and others working on the planting will try again in the spring, she says, using a better source of seeds.

“It’s hard, but everyone remains enthusiastic,” she says.

American Horticulturist reports that the Illinois chapter of the Nature Conservancy moved the Healy Road Prairie from its former site near Barrington Hills, Illinois, to the protected Bluff Spring Fen in nearby Elgin, Illinois.

The Healy Road Prairie, which was located on an actively mined gravel pit, was a rare dry gravel prairie remnant. Although the mining threatened the prairie, none of the species is endangered, so there was no way to prevent the site from being mined.

The project entailed moving the top 16 inches of soil at the site. More than 450 volunteers assisted with the move, which included the entire plant community at the Healy Road Prairie — including the animals.

Photography seminars offered

Wildflower photographer John Smithers once again will present a series of workshops and lectures on wildflower photography.

This year, John’s workshops are sponsored by the National Wildflower Research Center.

For more information on the classes, and for reservations, please contact the local organizations listed.

March 9, Rio Grande Native Center, Albuquerque, N.M. (505) 344-7240. (Lecture only).

March 14, 16, and 17, Desert Botanical Garden, Phoenix, Ariz. (602) 941-1225.

March 22 and 23, Santa Barbara Botanic Garden, Santa Barbara, Calif. (805) 682-4726.

March 28, 30, and 31, University of California Botanical Garden, Berkeley, Calif. (415) 642-3352.

April 4, 6, and 7, Strybing Botanical Garden, Golden Gate Park, San Francisco, Calif. (415) 661-0668.

April 11, 13, and 14, Huntington Library and Botanical Gardens, San Marino, Calif. (626) 405-2160.

April 19, 20, and 21, Fort Worth Botanical Garden, Fort Worth, Texas. (817) 870-7687.

April 25, 27, and 28, Austin Nature Center and the National Wildflower Research Center, Austin, Texas. For lecture, Austin Nature Center (512) 327-8181; for workshop, NWRC (512) 929-3600.

Endangered Resources Forum, April 12-13, Austin, Texas. Friday session for professionals; Saturday session open to public. Contact: Endangered Resources Branch, Texas Parks & Wildlife Dept., (512) 486-4311.

One writer’s 10 favorite wildflower areas

Editor’s note: We asked Richard M. Smith, a noted wildflower author, to write about his favorite wildflower spots.

My ten favorite wildflower spots? How much easier it would be to name a hundred!

Surely the list must begin with our superb national parks. If any of these deserves to be known as our botanical national park, it is the Great Smoky Mountains, shared by Tennessee and North Carolina, and famous for the diversity of its flora. No visitor should miss the wildflower-strewn Cove Hardwood Nature Trail or conifer-clad Clingman’s Dome.

In the West, the number of mountain systems makes the choice more difficult, but my vote would go to Colorado’s Rocky Mountain National Park — chiefly because of Trail Ridge Road. This high-altitude highway enables us to enjoy the diminutive alpine flowers at close range without fear of damaging the fragile tundra.

The visual appeal of the Maine coast owes much to its vegetation, in which plants representative of the north woods meet those of the rocky seashores. This combination probably can be best appreciated on Mount Desert Island in Acadia National Park.

Were it not for the accessibility afforded by facilities like Organ Pipe Cactus National Monument in Arizona, we might know much less than we do about the cacti. Here we can study these and other desert plant forms and marvel at incredibly vast carpets of brilliant wildflowers at the same time.

At the other climatic extreme, the Hoh River Forest in Washington exemplifies the rain forests of the Northwest. Flowering herbs and luxuriant ferns and mosses are nourished by abundant moisture under a canopy of stately trees surpassed only by the coastal redwoods.

Because it extends into the subtropics, southern Florida is able to offer a wealth of unique flowers, both native and exotic. The road through Everglades National Park with its side trails reveals a cross-section of this environment and provides access to hardwood hammocks, sawgrass prairies, and mangrove forests.

Some less well-known areas can be just as rewarding. The New Jersey Pine Barrens possess an astonishingly varied and interesting flora that include a number of rarities.

Torrey Pines State Preserve, north of La Jolla, Calif., is much more than a sanctuary for a single tree species. Situated high above the Pacific, its trailsides are replete with colorful wildflowers.

On the shore of Lake Huron near Cheboygan, Mich., the Grass Bay Preserve shelters a remarkably rich assemblage of woodland and dune plants, including many orchids.

Finally, there must be a place for seeing carnivorous plants. One site where they can be found in all their fascinating forms, including the endemic Venus’ flytrap, is North Carolina’s Green Swamp southwest of Wilmington.

(Mr. Smith wrote the book Wild Plants of America, which is available by mail order through the Wildflower Center. The book costs $12.95, plus $3 shipping and handling. Send your check to the attention of “Books,” in care of the address on the back page.)
Do you know the parts of a flower?
Match the words listed below to the parts in the diagram: sepal, pistil, anther, petal, style, stigma, filament, ovary, stamen.

Do you know the life cycle of a flowering plant?
Here are words to describe it. Write them in the correct places on the diagram below: flower, seeds, germination, growth, pollination, seedling.

trout lily (Erythronium spp.)

Learning activities for schoolchildren are reprinted from an educational poster conceived, designed, and produced by the National Wildflower Research Center. © 1989 by the National Wildflower Research Center. This material may be reproduced for educational purposes. The poster is available to classroom teachers for $3, which covers postage.
It's said so often around the Wildflower Center that it's a cliche: We couldn't survive without our faithful volunteers.

The Wildflower Center's volunteers are an important element of the Center, helping the staff make the most of its time. In 1990, our volunteers contributed more than 5,000 hours to the Center—saving more than $20,400 in staff costs.

In addition to contributing their time and work to the Center, our volunteers also contribute their enthusiasm.

Here are some of the areas where our volunteers serve:

**Slide Library**

Several volunteers work on the Center's slide collection, sorting, labeling, and cataloging slides. The slide library now has more than 12,000 images of wildflowers, native plants, and Center archival materials.

Sydney Kilgore and Betty Scace—who have been with the Center almost since the beginning—sort through the hundreds of images that the Center receives through donations, deciding which slides should be kept for the library and accessioning them. Then Lil and Norm Flaig label, catalog, and store the slides.

In five years of weekly Center visits, Lil and Norm have labeled 10,310 slides, catalogued 8,746 slides, worked 2,718 hours, and driven 5,099 miles to and from the Center!

Left to right: Norm Flaig, Lil Flaig, Sydney Kilgore, and Betty Scace by the slide cabinets.

**Greenhouse**

One of the most important research-related volunteer jobs at the Center is in the greenhouse.

Volunteers in the greenhouse transplant seedlings from seed flats to individual pots. Seed germination counts are made from the seed flats, and then plants are transferred to individual containers for various experimental treatments.

Research horticulturist Elinor Crank says the volunteers are a great help. "Having volunteers do the re-potting allows more time to take measurements and collect data for research," she says. "Transplanting is the first step of any research project in the greenhouse. It's the basis of all that I do."

Volunteers play an integral role at festivals. "Our volunteers are able to step right in and help right away," Joe says.

Left to right: John Deaderick, Ben Baldwin, and Gay Allison process mail orders for the Products Division.

**Public Speaking**

Several volunteers conduct tours of the Center, and visit classrooms, civic groups, garden clubs, and other organizations, telling the Wildflower Center's story or presenting talks on wildflowers and other plants native to a particular area.

Alice Cloud and Jacque Webster repot grass seedlings as part of a research project.

**Products Division**

Many volunteers work with products manager Joe Hamner, packaging catalog orders and selling items in the gift shop and at festivals.

During the most recent holiday season, Wildflower Center volunteers helped process more than 1,000 orders from the Center's gift catalog. Tasks included opening mail, typing labels, selecting stock, and packaging UPS shipments.

"During a hectic season like that, you either keep up or you drown," Joe says. "Our volunteers have helped us keep up with the avalanche of orders and paperwork."

Lisa Rodman conducts a tour through the Wildflower Center's reconstructed prairie.

The volunteers often use slide shows in their talks, including several slide shows developed through a grant from the Garden Writers Association of America.

One way to become more involved with the Center would be to rent one of the slide shows and present a talk to your garden club or other civic group.
Native plant nurseries involve more than just plants

Like "green" products and organically grown produce, native plants and natural landscaping are fast joining the mainstream thanks to environmentally conscious consumers of the '90s. A decade ago, only a handful of retail native plant nurseries existed; today, nurseries specializing in native plants, or carrying a large percentage of natives, can be found in all parts of the country, and many native plant gardeners or landowners with an eye for business are looking at native plants as a possible source of income.

But native plant businesses demand additional considerations beyond those of traditional nurseries. Determining the best methods for production, educating consumers, and correctly assessing the market take on new dimensions when considering native plants. Growing seeds or plugs on contract for already-established nurseries or agencies is one way to break into the business. To learn more about tips and trends, we asked several owners of thriving native plant businesses for their advice to would-be growers of native plants.

Californians Jeff Bohn and Mike Evans, owners of Tree of Life Nursery, saw the native plant trend 10 years ago and started a wholesale business. Both have backgrounds as landscape contractors working with native plants. Even then water conservation was a big issue, and native plant landscaping offered a partial solution. Their advice? "You must understand business and all the intricacies of propagation."

Alan Wade, owner of Prairie Moon Nursery in Minnesota, believes that for small businesses, handling local genotypes is the key to success. In the past nine years, Wade has found that local, indigenous natives work the best. "It's a hard concept for commercial nurseries to grasp," says Wade. "Working in metropolitan areas for someone who has a knowledge of natural areas and plant communities, and horticultural techniques to do installations and small projects. Another open market is woodland species. Most dealers offering woodland plants are digging them from the wild," notes Wade. "If someone is a good gardener and has the right habitat for a woodland nursery, I'd encourage him to try growing woodland species."

Kim and Bruce Hawks, owners of Niche Gardens in Tennessee, began growing natives six years ago. Deciding that the local market alone couldn't support their business, they created a mail-order business. Hawks cautions against letting a business grow too fast. "It's easy to get overextended. First, decide what facet you want to concentrate on (wholesale, retail, mail order, etc.) and research the market." Growing the plants is just one aspect of a native plant nursery. "The hardest part is having to wear so many hats," says Hawks. Between accounting, administration, and advertising, she laments that her hands hardly get dirty anymore. "And it never gets easier! You always have to be on top of things."

Working on a much larger scale is Ed Garbisch, founder of Environmental Concern, Inc., in Maryland. Concentrating primarily on wetland restoration projects, the company began its nursery, which specializes in wetland plants, to provide materials for in-house projects. Now, 20 years later, 90 percent of the inventory goes to other contractors.

"There's a great demand for wetland species in volume," says Garbisch. "The problem is that the market is unstable. Although there's usually time to grow plants for large projects, the contractors often don't realize that the plants aren't available, so they don't notify nurseries in advance." Garbisch suggests that one possible solution to ensuring the availability of plants for such projects is for nurseries to work cooperatively and each grow a certain number of species.

Beth Anderson
Wildflower Center Resource Botanist

Regional slide shows now available

Six new slide shows featuring wildflowers found in various regions of the United States are now available for lease or purchase through the Wildflower Center.

Each program contains 35 to 40 slides of a region's most common native wildflowers, and information on species' common and scientific names, family, bloom periods, growing ranges, and habitat type is provided.

Regions featured are: the Eastern woodlands, the tallgrass prairie, the Southwestern desert, Central Texas, the Pacific Northwest, and the Rocky Mountains. Each show can be rented from the Center's Clearinghouse for two weeks. Rent is $10 plus a $25 damage deposit, or they can be purchased for $35 apiece.

Compilation of the shows was made possible through a grant from the Garden Writers Association of America.
Research (cont. from page 1)

foreign lands, bringing back exotic artifacts, including plants. The royal families of the time created magnificent gardens to display the exotic plant species they were given by explorers. The exotic gardens became a symbol of wealth and power; there was no need to display native plants because they were abundant and had no special perceived value.

The first botanic gardens were based on displaying and preserving plant species from around the world. Ornamental plant research began, in part, so exotic species might be made more adaptable to new foreign sites that often were quite different from the native site.

This trend continues in our modern landscapes, as most of the plants found in planned landscapes in the United States are exotic. Because growers feel more comfortable growing the more familiar exotics, exotic species are more available than native species. Hundreds of years of research have gone into growing exotic species such as boxwoods, roses, chrysanthemums, or Chinese hollies. We know practically everything there is to know about many of the “common” exotic species. But, our knowledge about native species is very limited, and unfortunately, species are disappearing faster than we can learn about them.

It can take years of research to learn how to grow, produce, and establish a single species — exotic or native. For this reason, many growers will not undertake the risk until public demand is great enough. We must begin now to research our native plants, so we may learn enough to re-establish some of our native species before they disappear completely.

Einar Cark
Wildflower Center Horticulturist

Wanted: landscape architects and designers, ecologists, and restorationists

The Wildflower Center is updating the Wildflower Handbook’s 1989 edition. The next edition will list professionals who incorporate native plants into planned landscapes, including landscape architects and designers, ecological restorationists, and consultants involved in assessment, inventory, planning, and monitoring.

To be included, request an Ecological Landscape Survey as soon as possible from the Wildflower Center. Write to the attention of the Ecological Survey, using the address listed below, or call (312) 929-3600.

Spring into action: Join the National Wildflower Research Center!

Members of the National Wildflower Research Center support wildflower and other native plant work across the nation. Benefits include Wildflower, the newsletter and Wildflower, the journal; 10% discount on unique Center products such as wildflower books, calendars, and T-shirts; advance notice on tours and discounts to Center seminars; free wildflower information from the Center’s Clearinghouse; a membership card; and other benefits.

☐ $25 Supporting Member. All benefits listed above.
☐ $50 Sustaining Member. All the above plus a set of specially commissioned wildflower notecards.
☐ $100 Key Member. All the above plus wildflower tote bag and invitations to special events.
☐ $250 Center Sponsor. All the above plus wildflower poster.
☐ $500 Trust Member and $1,000 Benefactor. All the above plus special privileges.

☐ Thank you! Your contribution is partially tax deductible. Contact the Development Office for detailed information on tax-deductibility.

Please enter a membership in the category checked at left:

Name:
Address:
City/State/ZIP:
Phone:
Gift Membership: If you are giving this membership as a gift, please enter your name and address below.
Donor Name:
Address:
City/State/ZIP:
Phone:

* Make your check payable to: NWRC
* Mail to: Membership, National Wildflower Research Center, 2600 FM 973 North, Austin, TX 78725-4201

National Wildflower Research Center
2600 FM 973 NORTH, AUSTIN, TEXAS 78725-4201

Second Class
Postage Paid at
Austin, Texas

Wildflowers Work!
Volume 8, Number 2  March/April 1991

printed on recycled paper