WILDFLOWER

The Newsletter of the National Wildflower Research Center Volume 3, Number 4 Winter 1986

A non-profit organization dedicated to researching and promoting wildflowers to further their economic, environmental, and aesthetic use.

Fall Highlights Busy Season At The Center

Though our friends often assume Spring is our busiest time of the year, the Center staff also keep full calendars in the Fall. This year, September and early October proved to be especially busy—from trustee meetings, to fun runs, to fall planting. A peek at the wildflower activities of Fall 1986:

■ Our first fall planting seminar—Landscaping and Planting with Wildflowers and Native Plants—was held September 18. NWRC botanists **Pam Jones** and **Annie Paulson**, along with landscape designer **Sally Wasowski** and native plant specialist **Jill Nokes**, spoke to two seminar groups of about 150 each.

■ New and regular volunteers gathered at the Center September 22 for two orientation sessions provided by **Coordinator Peggy Budd** and staff. New faces were in the crowd—**Susan Dawson, Cynthia Berkman, Wanda Fuchs, Marybeth Hawkins**, and **Jeanne Vier**—but we also love to see our regulars around too. Folks like **Pat Hornsby, Elizabeth Flieller, Corinne Herndon, Martha Agnor, Betty Scace, Sidney Kilgore**, and our friends the **Flaiggs** are indispensable. To volunteers, new and regular, thank you!

■ New York area trustees and special friends of the Center gathered at the NYC home of **Ralph and Lou Davidson** October 1 to hear **Lady Bird Johnson** present a progress report with her collection of favorite wildflower slides. NWRC President **Nash Castro** and Vice-President **Warrie Price** organized the meeting to coordinate with Mrs. Johnson's attendance at the American Conservation Association meeting.

■ And finally, Fall planting! Friends came out for the October 18 and 19 plantings. Thanks to **Keith Hoaglund, John Gleason, John Franknecht, Dale Albright, Belinda Hare, Donita Haden**, and lots of others. October 21 brought the **Mesa Oaks Garden Club** en masse. Led by **Janice Myers**, the club worked diligently through the day! Kudos to these Fall Helpers!

Wildflower Days Welcome the Holidays

The Wildflower Center hopes you will take time from your hectic pre-Christmas rush to stop by the Center during our special **Wildflower Days**, December 2, 3, and 4, and choose from our numerous gift items on sale. Shopping hours are from 11 am to 6 pm.

And don't forget the most important gift of all, a gift membership in the Center for your special wildflower friends. All gift memberships and mail orders received by December 10 will be fulfilled by Christmas. Any orders received after that date are subject to availability and the vagaries of the postal service. Those items available by mail are listed on page 6.

To make these true Wildflower Days, demonstration classes in wreath-making using dried wildflowers and native grasses, dried flower arranging, and wildflower pressing, will be held at that time. Rose Lynn Scott, who many of you may remember from her delightful wildflower arranging demonstrations during the Membership Open House in the Spring, will be showing the "how-to's" for making a truly unique centerpiece for your table or wreath for your door from our native bounty. Staff botanist Pam Jones will lead you through the steps

continued on page 6

What's In A Name?

David Northington, Executive Director

"What's in a name? that which we call a rose
By any other name would smell as sweet!"
Shakespeare

This sentiment may be appropriate for Shakespeare's Juliet, but plant naming is not that simple. For example, the cotton rose is far from being noticeable, let alone showy and fragrant. The cotton rose is not a member of the rose family, *Rosaceae*, nor is it in the tobacco family, *Solanaceae*, even though it is also commonly known as rabbit's tobacco. Regardless of its common names, however, it is easily recognizable to botanists all over the world as *Evax*, an inconspicuous member of the sunflower family, *Compositae*.

There are many other examples of how common names can be regional, confusing, and misleading. Texas bluebells, *Eustoma grandiflora*, are in the gentian family, not the *Campanulaceae*, bluebell family. Blue-eyed grass is a pretty little member of the iris family, not a grass at all. Grasses do not have colorful flowers. Sand verbena is in the four-o-clock family, not the verbena family. The she oak of Australia is a *Casuarina*, not a member of the oak genus *Quercus*, nor in the same family. Poison oak, *Rhus*, is not an oak. It is, however, very closely related to poison ivy, which is not an ivy; both are sumacs.

In all fairness, many common names are very descriptive with only one name per plant species. Because there are so many confusing exceptions and because many plants are not sufficiently common to even have a common or popular name, it is important that all plants have a unique scientific name. Also known as scientific binomials, which means two names, each scientific name is composed of the genus and species. For example, humans are all *Homo sapiens* (genus *Homo*, species *sapiens*) and we are the only living species of humans. Another described species of human, *Homo erectus*, is extinct.

Quercus virginiana and *Quercus alba*, however, are different species within the same genus and are therefore closely related. *Phlox drummondii*, annual phlox, and *Malvaviscus drummondii*, turk's cap, are not

Dr. David Northington

at all closely related even though they have the same species part of the scientific name. They are different genera, and even in different families, which indicates a larger degree of genetic difference than two different species in the same genus. The genus is analogous to a last name and the species is like the first name for an individual. John Smith and John Williams are probably not related because they have different last names, even though they share the same first name. However, unlike people who often share names by coincidence, there is only one genetic entity in the entire world named *Quercus virginiana*! No other plant can have that name.

Botanists and other scientists use Latin names and descriptions because Latin was the language of the scholars when binomials were first assigned to plants in the mid-18th century. Latin remains in use because as a dead language it does not have changes in meaning and it is also politically neutral. It is a very descriptive language and plant binomials are best depicted when the species part of the name helps describe the plant. The white oak, *Quercus alba*, and the large burr oak, *Q. macrocarpa*, which means large fruit, are aptly named as are

DIRECTOR'S R·E·P·O·R·T

Ratibida columnaris, Mexican hat, *Monarda citriodora*, lemonmint.

The necessary assignment of a scientific name to all species should not detract from the beautiful use of floral references made by poets like Shakespeare, Robert Burns ("my love is like a red, red rose"), and Tennyson.

"The red rose cries 'She is near, she is near'
And the white rose weeps, 'she is late;'
The larkspur listens, 'I hear, I hear;'
And the lily whispers, 'I wait.'"

The financial statements of the National Wildflower Research Center for the years 1984 and 1985 were audited by the accounting firm of Peat, Marwick, Mitchell and Co. of Austin, Texas. The complete financial statements and auditor's report are available from the Wildflower Center.

National Wildflower Research Center
Condensed Balance Sheets
December 31, 1985 and 1984

Assets	1985	1984
Current Assets:		
Cash	$1,504,926	816,179
Investments	173,540	72,515
Other current assets	11,198	18,100
Total current assets	$1,689,664	906,794
Land and other property less depreciation	636,744	546,713
Total assets	$2,326,408	$1,453,507
Liabilities and Fund Balance		
Current liabilities	177,668	56,857
Total current liabilities	$177,668	$56,857
Fund balance:		
Unrestricted:		
Undesignated—Expendable Fund	550,731	444,874
Designated—Founders Fund	1,098,009	451,776
Restricted—land	500,000	500,000
Total fund balance	$2,148,740	$1,396,650
Total liabilities and fund balance	$2,326,408	$1,453,507

The Center wishes to express its thanks and appreciation to Mr. Terry Strange and the firm of Peat, Marwick, Mitchell and Co. for donating their services in order to audit the balance sheets of this organization.

Buying Wildflower Seed in Bulk

Katy McKinney

Recently at the National Wildflower Research Center, we have had many inquiries about how to buy seed. While most seed companies can recommend how much to plant for a given area in the form of seeding rates (and therefore how much to purchase), it is important to ask about **seed quality.** What follows is a guide to the two most important indicators of seed quality—germination and purity— and their combined measure, PLS or Pure Live Seed.

Germination

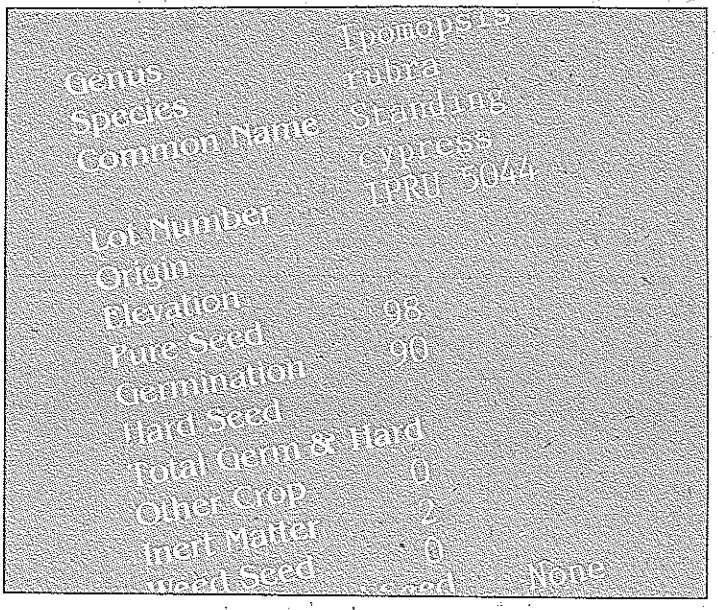
This refers to the proportion of seed which will germinate under optimum conditions in a seed-testing laboratory. Germination tests are done on small samples of seed, which have been carefully separated from the larger seed lot from which this information is desired. The percentage of germination may overestimate the germination success actually encountered in field conditions. In all cases, the higher the percentage of germination, the better the seed.

With seeds of some species, germination may be low due to an impenetrable seed coat or other germination inhibitors. The outer layer of the seed may not absorb the moisture necessary for the germination process to begin and must be nicked or gently scratched. Over time, the seed coat will be weathered off in the soil. The information from a one-time germination test in the laboratory, however, will not distinguish between dead seeds and those which are viable, but did not germinate during the time of the test.

Of the two qualities of seed, germination and purity, the percentage of germination can change over time, depending on how the seed has been stored. Conditions of high temperature and high humidity can have a negative effect on seed germination. Many states have seed-labeling laws which require the date of the most recent germination test to be on the lable.

Purity

This is a measure of the proportion of pure seed in a given sample. The portion which is not seed of the stated species is separated into: seeds of other crops, noxious weed seed and inert matter such as chaff and broken seeds. The purity of a seed lot can be estimated more accurately than can the percentage of germination.



PLS or Pure Live Seed

This is a measure of both germination and purity. It is obtained by multiplying the percentage of germination by the percentage of purity and dividing by 100. As a general rule, the higher the PLS, the better the quality of the seed, although it is important to check each component. For example:

seed lot A:

$$\frac{80\%\ (\text{germ.}) \times 90\%\ (\text{purity})}{100} = 72\%\ \text{PLS}$$

seed lot B:

$$\frac{90\%\ (\text{germ.}) \times 80\%\ (\text{purity})}{100} = 72\%\ \text{PLS}$$

Both lots have the same PLS, but if high germination is required, seed from lot B would be the best buy. If contamination with weed seeds is highly undesirable, the remaining 20% of the purity measure should be checked for noxious weed seed content. If it contains a high proportion of noxious weed seed, then seed from lot A may be the better buy, for it would minimize weed eradication costs in the future.

PLS estimates the amount of seed in a given lot that is good seed. For example, this means with a 72% PLS, 72 pounds out of a 100 pound sack will be germinating seed. The value of the PLS measure is more easily seen when shopping for seed and comparing PLS with price per pound. Inexpensive seed with a low PLS may actually cost more per pound for good, viable seed than higher priced seed with a higher PLS. Compare two batches of seed:

seed lot C:

$$\frac{50\%\ (\text{germ.}) \times 70\%\ (\text{purity})}{100} = 35\%\ \text{PLS at}\ \$3.00/\text{lb}$$

seed lot D:

$$\frac{70\%\ (\text{germ.}) \times 80\%\ (\text{purity})}{100} = 56\%\ \text{PLS at}\ \$4.00/\text{lb}$$

286 pounds of seed are needed to yield 100 PLS pounds of lot C seed. This seed actually costs $8.58 per pound of pure live seed.

178 pounds of seed are needed to yield 100 PLS pounds of lot D seed. This seed actually costs $7.12 per pound of pure live seed.

The seed from lot D, though more expensive per pound in bulk, is the better buy.

Although vegetable and forage crop seed have been regulated for many years under federal law, flower seed quality has not been standardized. However, a few states, New York, Maryland, and Utah, among others do enforce quality standards for flower seed.

Seed testing standards developed by the Association of Official Seed Analysis (AOSA) exist for most agricultural crop species. For most wildflower species, there are no standard tests, although AOSA is working to change this.

It is important to shop carefully. Check for the **percentage of germination,** the **date** the germination test was done and look for a measure of seed **purity.** PLS can then be calculated for comparing seed quality and price. With high quality seed to start with, wildflowers will work!

Katy McKinney is a research botanist at the National Wildflower Research Center.

New Trustees Spend Weekend Learning

Eleven new trustees spent the weekend of September 13–14 gaining in-depth knowledge about the Wildflower Center and its goals from other board members and Center staff at a work-filled and social weekend at the LBJ Ranch just outside of Austin.

An afternoon at the LBJ Ranch during trustee orientation, Lou Davidson and Lady Bird Johnson.

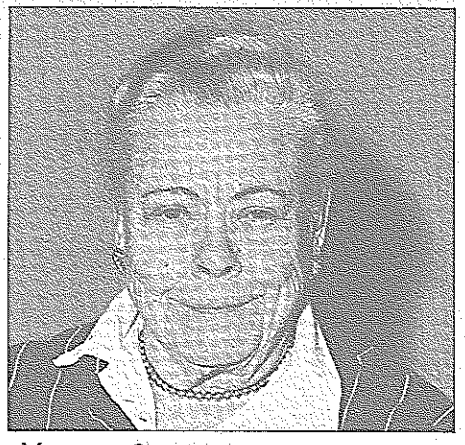
In between dinners in Austin and walks through the wildflower meadows at the Ranch, they were dealt a wealth of information by such staff members as Deborah Mullins, who explained the Center's public awareness and information projects; Pam Jones, who told of ongoing field research and the seedling identification project; and Carolyn Curtis, who described the necessity of fund-raising through foundations and other corporate giving.

The weekend was followed by the bi-annual meeting of the Executive Committee of the Board of Trustees at the Center on Monday, September 15.

New trustees are: Mrs. Ralph P. Davidson of New York, Mrs. John Harvison of Fort Worth, Mrs. Peter Marquard of Santa Fe, Mrs. John Newton of Austin, Mrs. Frederic Oppenheimer of San Antonio, Mrs. Eloise Meadows Rouse of Dallas, Mrs. John Schoellkopf of Dallas, Dr. Jean Andrews Smith of Austin, Mrs. Cyril Wagner of Midland, Mrs. Keith S. Wellin of New York, Mrs. Dan Williams of Dallas.

Trustee Profile

The 101 members of the Board of Trustees of the National Wildflower Research Center are its hidden strength, lending their expertise, years of experience, and talents to the vision of the Center. Without their dedication there would not have been a place for concerned wildflower enthusiasts to turn to for knowledge and assistance. This column will profile a trustee of the Center in each newsletter. Look forward to some fascinating reading.



Margaret Cousins. *Member of the Board of Trustees of the National Wildflower Research Center and resident of San Antonio, Texas.*

Margaret Cousins

- Writer and editor living in San Antonio, Texas
- Associate and managing editor at *Good Housekeeping* for 17 years
- Managing editor at *McCalls* for four years
- Senior editor at Doubleday and Company for 10 years
- Fiction and book editor at the *Ladies Home Journal* for two years
- Author of six books, numerous short stories, articles, and poems
- Children's books include *Ben Franklin of Old Pennsylvania, A Boy at the Alamo*
- Awards and Honors include:
  Induction into the Texas Women's Hall of Fame (1986)
  Women in Communications Lifetime Achievement Award (1986)
  Honorary doctorate from William Woods College (1980)
  National Alumna of University of Texas at Austin (1973)
  George Washington Award from the Freedom Foundation at Valley Forge (1969)
  Alpha Chi Omega Award for Excellence in Journalism (1969)
  National Headline Award (1945)

FROM THE M·A·I·L·B·O·X

November–December 1986—*Biological Illustration Certificate Classes at The New York Botanical Garden, Bronx, New York.* Certificate program with ongoing classes in botanical illustration, special technique workshops, and business practices for artists.
Contact: Carol Ann Morley, Education Department, The New York Botanical Garden, Bronx, NY 10458 (212) 220-8719.

November 13, 1986—*Managing Soil in the Urban Landscape, The New York Botanical Garden, the Bronx, New York.* Study of disturbed soils in urban environments, with discussion of ecological solutions.
Contact: Jean Halajian, Symposium Coordinator, The New York Botanical Garden, Bronx, NY 10458 (212) 220-8743.

November 15, 1986—*Select Native Shrubs at Connecticut Arboretum, Connecticut College, New London, Connecticut.* Introduction of many new selections of native shrubs and how to use them in your north-eastern landscape. Co-sponsored by the Connecticut Arboretum and New England Wildflower Society.
Contact: Programs, New England Wildflower Society, Garden in the Woods, Hemenway Road, Framingham, MA 01701.

November 19, 1986—*Harvest Decorations Workshop at Callaway Gardens, Pine Mountain, Georgia.* Creation of beautiful natural decorations using bounty from the garden and woodlands.
Contact: Workshops/Education Department, Callaway Gardens, Pine Mountain, GA 31822 (404) 663-2281.

November 22–23, 1986—*Landscape Construction at Callaway Gardens, Pine Mountain, Georgia.* Concentration on "hardscape" aspects of landscape design, with on site visits to techniques used in Callaway Gardens.
Contact: Workshops/Education Department, Callaway Gardens, Pine Mountain, GA 31822 (404) 663-2281.

December 7–11, 1986—*Making Dollars and Sense, Third National Forestry Conference in Orlando, Florida.* For citizens, professionals, and organizations interested in city and town trees.
Contact: Ali Phillips, American Forestry Association, 1319 18th Street, N.W. #401, Washington, DC 20036 (202) 467-5810.

David Northington

Touring England's Wildflowers

The Wildflowers and Gardens Tour of England, sponsored by NWRC this past summer was a definite success. So much so, that we are planning another one for 1987! Led by myself and my wife Pat, our group of 15 spent ten days in beautiful, cool England, visiting wildflower nature reserves and formal gardens.

Our tour enjoyed a wide variety of experiences visiting Oxford, Leeds Castle, their botanical gardens, Canterbury Cathedral, and the charming, small towns of Rye, Chipping Camden, and Lewes.

In addition to the places we visited each day, part of the unique quality and success of the trip was the experience of staying in private country homes in the Cotswolds, Sussex, and Kent. Our hostesses were all exceptionally warm and helpful, and their homes comfortable and historic. And the meals! There was barely enough walking each day to break even after starting with a typical English breakfast and ending with four course dinners.

The common wildflowers of the roadsides, and the regional and exotic species in the nature reserves provided the group with many memories of England's botanical heritage. The added beauty of the Royal Horticultural Society's Wisely Gardens, Christopher Lloyd's gardens at Great Dixter, the Heaselands, Sissinghurst, and the Royal Botanical Gardens at Kew afforded a multicolored panorama of gardens, woods, and ponds.

Lunching with Mrs. Johnson and her long time friend, Fleur Cowles and her charming husband, Tom Meyer, was a highlight of the trip. Mrs. Johnson also joined the group for lunch and a tour of Kew by its director, Dr. E. Arthur Bell, and his gracious wife Jean. On the final day, Dr. Miriam Rothschild hosted Mrs. Johnson and our tour group for lunch in Ashton and provided an informative program about the production and establishment of wildflowers and meadows.

The wildflowers, gardens, castles, hostesses, food, weather, history, Harrods, our special friends in England, and Mrs. Johnson's participation made for a memorable experience. However the tour group was delightful and the key to the trip's success. We hope they all join us again next June for our 1987 Tour of England's Wildflowers and Gardens.

The group will be limited to 25 by reservation and deposit.

Seed Challenge Receives A Thrilling Response

This fall over 250 pounds of wildflower seed was drill-seeded, rototilled, and hand broadcast by Center staff and willing volunteers onto the experimental plots at the Wildflower Center's headquarters in Austin, Texas. The Center research staff has planned the 1986–87 research to center around large-scale plantings of single species, while testing soil preparation and seeding techniques. In addition, 105 small single and mixed species research plots were also planted.

None of this would have been possible, however, without the generosity of the Center's members in response to an appeal for donations to purchase seed. The special appeal was mailed in early August and by late October over $10,000 had been donated for research and seed purchase for the fall—a truly magnificent gesture from the Center's loyal members.

Carolyn Curtis, associate director of the Center, with responsibility for development says, "...our support has grown in such an encouraging way, and continues to do so. This 'seed money' is yet another way that our friends have shown their generosity!"

Membership For You Or As A Gift!

Join the family of over 7,000 members of the Wildflower Center. This cross-section of enthusiastic Americans is an interesting group: wildflower gardeners, developers, landscape architects, professional botanists, even well-known Hollywood and Washington personalities who are interested in the work the Center is doing. Mail in a membership application for yourself today, or surprise someone with a gift membership.

Please join, your support is important to our purpose.

✓ **$25 Supporting Membership.** Subscription to the journal *Wildflower Report* from 1987, *Wildflower*, membership card, decal, discounts on seminars.

✓ **$50 Sustaining Membership.** All the above plus set of specially commissioned wildflower notecards.

✓ **$100 Key Member.** All the above plus totebag with Center logo. Invitations to special events.

✓ **$250 Center Sponsor.** All the above plus annual limited edition wildflower poster.

✓ **$500 Trust Member.** All the above plus special privileges.

✓ **$1,000 Benefactor.** All the above plus special privileges.

My name:_____ My gift recipient's name:_____

Address:_____ Address:_____

City/St/Zip_____ City/St/Zip_____

Phone (___)_____ Phone (___)_____

☐ $25 ☐ $50 ☐ $100 ☐ $25 ☐ $50 ☐ $100
☐ $250 ☐ $500 ☐ $1,000 ☐ $250 ☐ $500 ☐ $1,000

☐ Enclosed is my check, made out to "NWRC".
☐ I would prefer to charge my membership:

☐ Visa ☐ MasterCard

Phone number—day

Card Number Expiration date

Name as it appears on the card (please print)

Signature

Your membership donation is tax deductible to the extent allowed under federal and state laws.

Executive Director: Dr. David Northington
Associate Director: Carolyn Curtis
Editor: Mae Daniller
Art Director: Deborah Mullins
Intern Editor: Barry Gore
Wildflower is the newsletter of the National Wildflower Research Center. It is financed through contributions from friends. Material contained herein may be reprinted with the proper written acknowledgement of the editor. Address all correspondence to *Wildflower*, National Wildflower Research Center, 2600 FM 973 North, Austin, TX 78725.

HIGHWAYS & B·Y·W·A·Y·S

The city of Memphis, Tennessee is designing a unique two-mile entrance to its city airport. The design of Plough Boulevard is an interpretation of the native landscape of the lower Mississippi River Valley, demonstrating the beauty of the region from Ox-Bow Lakes bordered by cattails and cardinal flowers, to hardwood forests understoried with dogwood and redbud. The eventual plan will be a locationally accurate display of native plant communities. This project is the result of an advisory committee partnership between government, business, and volunteers in order to celebrate the region and its heritage.

A publishing firm which specializes in natural resources publications is searching for examples of landscapes which feature substantial native plantings. Examples may be featured in upcoming books and articles for a national audience. If you have a project which you think may be of interest, write to Native Landscape, 10140 Gary Road, Potomac, MD 20854. The Wildflower Center is *always* interested in clearly marked slides of native plant landscapes. Contact the Clearinghouse with your information.

continued from page 1

for pressing your favorite fall wildflowers. Mark these times in your diary.

Tuesday, December 2 at 3 pm
Dried Wildflower Arranging
Wednesday, December 3 at 3 pm
Pressing Wildflowers
Thursday, December 4 at 3 pm
Wreath-Making with Wildflowers and Native Grasses

Please make prior reservations by filling in the entry card, and mailing it to the Center in care of Nikki Kriss. This will be a demonstration class, so there is no need to bring any materials. The demonstration will last for about 30 minutes, with time after for questions. Please be sure to mark on the reply card which session you will be attending.

Mail Order Items

T-shirts $12
S, M, L, XL
- Exclusive NWRC commissioned black-eyed susan on teal blue
- Pink evening primrose on white or pink

Sweatshirts $20
M, L, XL
- Exclusive NWRC commissioned black-eyed susan on light blue or teal blue
- Pink evening primrose on white

Wildflower Notecards $5
Limited edition NWRC botanical poster $22
Totebag with NWRC logo $17
Prices include postage and handling.

Wildflower Days Demonstrations

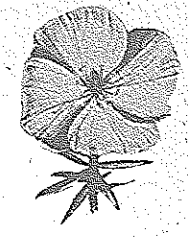
Name _____
Address _____
City, State, Zip _____
Telephone _____
Yes, I am a member _____ No, I am not a member _____

December 2—Dried Wildflower Arranging ☐
December 3—Pressing Wildflowers ☐
December 4—Wreath-Making ☐

Return to: **National Wildflower Research Center**, Attention: Nikki Kriss, 2600 FM 973 North, Austin, Texas 78725.

Wildflowers Work!
Volume 3, Number 4 Winter 1986

NON-PROFIT ORGANIZATION
U.S. POSTAGE PAID
PERMIT NO. 1005
AUSTIN, TEXAS



National Wildflower Research Center
2600 FM 973 North
Austin, TX 78725