



LADY BIRD JOHNSON WILDFLOWER CENTER

Educating people about the environmental necessity, economic value, and natural beauty of native plants.

May/June 1998

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formerly National Wildflower Research Center

NATIVE PLANTS & ROADSIDES

by Samuel B. Jones, Jr., Ph.D.

The ever-increasing interest in naturalistic landscaping among the general population has focused attention on the need for a better understanding of possible native plant materials that can be used in the open spaces of our highway rights-of-way. Each major section of the United States has its own unique environmental features, plant communities, and native flora. Thus, species used along our highways should be tailored to the local conditions and habitats of the local environment.

CHOOSING PLANT MATERIALS

In much of the southeastern United States and all of the eastern states, areas of the natural landscape that are not disturbed by mowing, plowing, herbicide spraying, or burning will eventually return to woody forest vegetation. Factors producing the natural landscape in each major region must be understood if the landscapes of highway roadsides are to be managed effectively and wisely. With the natural landscape in mind, it follows that in choosing plant materials for highway beautification, plants should be selected as much as possible from the native flora. Local native plants not only blend in with the natural landscape, but also are often better suited to local conditions than exotics or non-native species.

I am confident that the attractiveness and natural beauty of our roadsides can be improved. With this in mind, it is my intent to discuss some management and design considerations regarding naturalistic landscaping along southeastern roadsides. These considerations can and should be adapted to any regional evaluation of roadside landscape planting. First of all, it should be kept in mind that our region is physiographically and climatically quite diverse and includes part of the Coastal Plain, Piedmont, Appalachian Mountains,

Ridge and Valley, and Appalachian plateaus. It should be noted that a plant well suited for the northern part of our area may perform miserably in the piney woods section of the lower Coastal Plain. Species should be selected for roadside use that are part of the native flora. Wherever possible, seed sources from the local area should be utilized, as it has been demonstrated frequently that local plants are genetically adapted to the conditions of the region.

MANAGING THE PROJECT

The second point to be stressed is that restoration and management of the roadside must be based upon an understanding of sound biological and ecological principles. For example, because southeastern woody plants tend to replace non-woody (or herbaceous) vegetation, a delightful roadside of wildflowers cannot be left to fend for itself. If not managed, such a roadside will be taken over by shrubs and trees, which may be much less desirable. In parts of the Coastal Plain, annual burning can encourage herbaceous species and prevent the establishment of pines and shrubs. However, in the Piedmont or mountains, burning might not be desirable, and mowing or spot herbicide application to retard or eliminate woody growth would be more effective.

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Mixed wildflowers in Georgia

Wildflowers and Native Plants:

A Know and Grow Symposium

On the campus of Westchester Community College, Valhalla, NY

May 16, 1998

Know it and grow it—a great motto for any committed gardener. It's also the guiding philosophy behind the new Westchester Community College Native Plant Center. The Plant Center's inaugural Wildflower and Native Plant Symposium is aimed at backyard gardeners, landscape professionals, and ecologists eager to learn more about using the region's wildflowers and native plants in planned landscape designs, and the ecological and economic benefits of native plant gardening.

Darrel Morrison, professor of Landscape Architecture at the University of Georgia and this year's American Horticultural Society (AHS) Teaching Award winner, is the featured speaker. His landscape designs welcome and inform visitors at the Atlanta History Museum, the Santa Barbara Botanical Garden, and the Lady Bird Johnson Wildflower Center. Morrison will be joined by Page Dickey, author of *Duck Hill Journal*, and Sara Stein, author of *Noah's Garden*.

The day's presentation will begin with remarks by Dr. Robert Breunig, Executive Director of the Wildflower Center, and Nash Castro, founding member and first president of the Wildflower Center. The Center is cosponsor of the symposium. For more information, please call the Westchester Community College Foundation offices at (914) 785-6670.

Director's Report

A Roadside Education

Julie Barrett Heffington,
Director of Gardens &
Education



I visited a new friend the other day, Gary Smith, an associate professor and practicing landscape architect from Delaware who designs with native plants. We were discussing the Wildflower Center's Managing Roadsides Naturally conference. He mentioned that roadside wildflower plantings make his job easier—these blooming landscapes help reconnect travelers with their native flora, and in so doing, help shape public opinion about which plants might be acceptable as residential or commercial landscape plants.

Think of all those hours we spend in our cars looking at the roadsides. Make that time productive, watch the flora pass by!

Teaching a new land ethic is what the

Wildflower Center is all about — learning to live lightly on the land without taking more than we give. Living lightly can be done by preserving existing tracts of intact ecosystems, through restoring land to a more natural state, or through landscaping with native plants in our urban and suburban landscapes. These landscaping projects may be as grand, showy, and public as miles and miles of spring blooming roadsides, or they may be as small, private, and personal as our own backyards.

What is so important about native plant landscapes of any nature?

It's easy. Native plants belong. They have adapted to their particular part of the Earth's landscape. Adapted to heat and sun. Adapted to deep snows and freezing temperatures, sometimes for months on end. Adapted to constant rain and soggy soils, to prairie fires and blizzards, to salt air and coastal winds, or to rocky canyon walls. Native plants grow on their own in the most amazing circumstances.

What do native plants in appropriate habitats mean for us? When we land-

scape with natives in a design setting, we get the benefits of their hardiness, tenacity, and beauty.

Because they are adapted to their landscape, native plants require less supplemental water; they help conserve resources. Because they are adapted to their landscape, native plants need less herbicides, pesticides, and fertilizers which can run off into and pollute our water supply. Native plants help protect the quality of our resources.

If we are willing to modify our landscaping aesthetic to a more natural design style, native plants can lower our maintenance costs and save us hours and hours of time.

Native plants provide wildlife habitat. A profusion of blossoms invites pollinators to dine—it's a cafeteria of sorts when wildflowers are in bloom along our highways, in our yards, and around our schools and libraries and public buildings. Native plants also provide cover, shelter, nest materials, nest cavities, and food: berries, seeds, and fruits sustain birds, mammals, reptiles, and a host of invertebrates.

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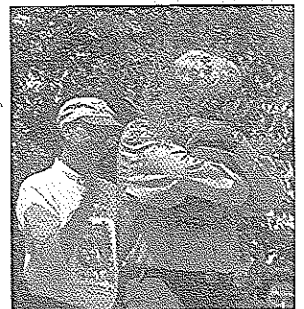
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Wildflower Days™

THE Nature OF AMERICA

Photo by Scott Millard



Jean-Michel Cousteau hugs a pot of bluebonnets at Wildflower Days

Wildflower Center staff and more than 400 volunteers welcomed an estimated 6,500 visitors to the 15th annual Wildflower Days™, April 18 and 19. The gardens were stunning, the skies blue and bright, and the temperatures mild. It was a lovely weekend: Mother Nature does work well here.

Jean-Michel Cousteau's keynote presentation, *Redesigning Our Future*, kicked off the weekend's lectures, demonstrations, and children's activities. Inspired gardeners scribbled notes about plants and jotted down landscape design ideas. Some folks danced around the Maypole; many people bought native plants and seeds. Children set out on the Great American EcoAdventure, visiting four natural "neighborhoods" —the woodlands, the wetlands, the deserts, and the prairies. Some visitors just photographed the flowers, ate

tacos in the live music tent, or simply shopped at *Wild Ideas: The Store*.

Wildflower Days™ would not have been the bright success it was without the help of people like Mary Welborn, the artist for our festival poster, and Randy Reed, of Martin Reed Advertising Design, who contributed design and production planning for the Great American Eco-Adventure map and give-away bumper stickers. Their contribution are indicative of the many service organizations, businesses, and individuals who gave "above and beyond the call of duty" to help make the weekend so memorable. We are grateful to everyone who helped.

Native Plants *Continued from page 1*

Small changes in mowing and spraying procedures, such as mowing only next to the road surface during the growing season and allowing wildflowers to seed themselves on the remainder of the roadside can be effective. Some rights-of-way may need mowing only once at the end of the growing season in order to slow down woody plant succession. Policies should be developed that allow spraying only around signs and guard rails and at the edge of pavement. Spraying of large portions of the roadside is bound to be harmful to plant diversity and probably does little to

from the local area. Plants should be selected on the basis of their habitat preference. Species that are naturally found in dry soil should not be planted in a low, moist meadow. Native plants will likely grow best on roadsides (or elsewhere) in conditions similar to where they are found in nature.

Furthermore, plantings should complement natural patterns. Consider how plants are distributed in nature. They seldom occur in rectangular areas or in straight lines, yet I have seen many roadside beautification projects with wildflowers planted in rectangular strips plowed along rights-of-way (probably because the harrow behind the tractor easily made rectangular strips). I can recall 20 miles of a single file of *Lespedeza bicolor* (bicolor lespedeza) along Interstate 20. Nature does not do it that way. Try planting in drifts, use bold curves, begin to look at plants in nature to gain new insights into landscaping, and above all, avoid that formal "planted" look. It may be possible to reduce areas requiring expensive mowing by establishing no-mow zones outlined by bold curves, and simply allowing plant succession to occur.

Plants differ in growth patterns, sizes, and possible uses, and this requires care in selecting plant materials. In Georgia alone, there are 3,000 species of plants. The number becomes manageable when the attributes of the plants are considered along with showiness, adaptability, and availability. When

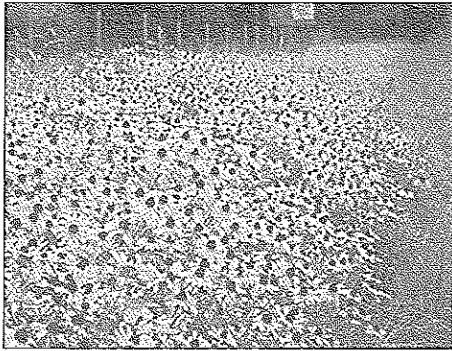
placed in the appropriate site, woody species have an advantage in providing interest throughout the year. Herbaceous perennials are often capable of providing intense and exciting colors, but over a much shorter period of time. It may be desirable and even necessary to interplant some herbaceous perennials to extend the periods of color so that one species blooms in May and others flower in June and July.

Native plants across the country have much to offer. Their versatility, adaptability, and visual interest make them attractive candidates for use on our roadsides. The idea of using them in a naturalistic landscape setting along our highways is expanding, and this to me is very exciting.

Samuel B. Jones, Jr., is a retired professor of botany at the University of Georgia, Athens, Georgia and now operates the Picadilly Farm just outside Athens.

Editor's note: Although this article focuses on highways and roadsides, with a bit of imagination and verve, the concepts here can be adapted to naturalistic landscape plantings in any large area. For information on plant materials that might be effective in roadside landscaping in other regions of the country, please contact your local native plant society or university botany department, or call the Wildflower Center's Clearinghouse at 512-292-4200.

Photo by North Carolina DOT



North Carolina Highway Department project

promote the stability of the roadway.

Plants that are genetically adapted to their specific local environments form what botanists call *ecotypes*. It makes sense then, that native plant materials should be taken

Managing Roadsides Naturally:

The Ecological, Economic, and Aesthetic Benefits of Wildflowers and Native Plants

Focusing on roadside beautification and conservation efforts across North America, **Managing Roadsides Naturally** provided a forum to exchange ideas and initiatives, clarify the benefits of using native plants and wildflowers in roadside vegetation management programs, and provide new momentum to Mrs. Johnson's vision of roadside beautification and ecologically sound management practices. The Wildflower Center welcomed more than 100 state and department of transportation officials, Federal Highway administrators, and other interested parties to the conference in March.

These are just a few of the comments the Lady Bird Johnson Wildflower Center has received regarding our recent Managing Roadsides Naturally conference.

I want to applaud the insight of the Board in undertaking this important initiative.

A heartfelt thanks for an informative and enjoyable conference.

An exceptional program.

The conference comes at an opportune time and I think the energy and interest I witnessed surely have the potential to advance the Center's goals in improving the beauty of our roadsides.

Fantastic conference!

Seed balls: A native plant how-to

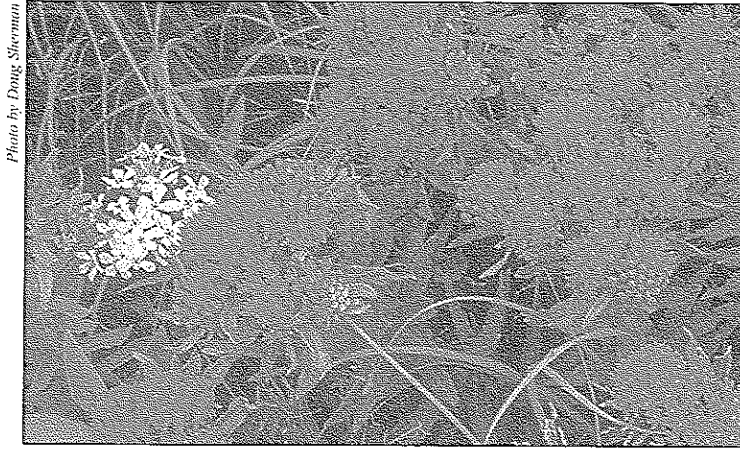


Photo by Doug Sherman

Butterfly-weed (*Asclepias tuberosa*) and marsh phlox (*Phlox glaberima*) in Iowa

Imagine a complete habitat in a ball the size of a child's marble. It's a simple seed ball. Seed balls have been used around the world for decades to revegetate degraded and marginal habitats. They hold in their small mass all the organic matter needed for a healthy habitat. What's more, seed balls are very low maintenance and require only a little research, time, and patience—but no drilling or tilling, no irrigation, no pesticides, or herbicides.

Formed by a careful blend of soil, seeds, clay, and a bit of water, native plant seed balls carry all the components inherent in a native plant community—and you can make them yourself. Simply form the seed balls, let them dry, scatter them about, wait for rain, and watch the seed settle into the soil and sprout.

When making seed balls, remember three things: location, location, and location. Collect clay soil from the place where the seed balls will be scattered. Include only seeds that are native to the location, too.

In southern California, you might blend Cleveland's penstemon, creeping sage, colomia, and scarlet larkspur. In the Midwest, you might mix big bluestem, windflower, smooth aster, and sweet william. In upstate New York, consider blending white baneberry, tall

bellflower, mistflower, and false dragonhead. In the Central Texas Hill Country, you might consider Indian blanket, horsemint, brown-eyed Susan, and bluebonnets.

Once you have decided the seed mix and collected the right soils, it's easy.

- 1) Sift dry clay soil to remove stones and rocks
- 2) Sift dry humus or compost soil
- 3) Mix 5 parts clay soil with 1 part humus
- 4) Add 1 part mixed wildflower seeds
- 5) Add water slowly to make a manageable clay
- 6) Roll into small smooth balls
- 7) Allow to dry for 24 hours before scattering them in a sunny spot
- 8) Wait for rain. The rain will gradually melt the clay and wash the seeds into the soil. Nature will do the rest.

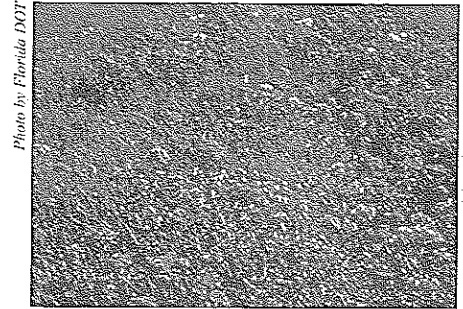


Photo by Florida DDT

Drummond's phlox (*Phlox drummondii*) in Florida



Photo by Mrs. W.D. Brinsford

Mixed penstemon in California

By wrapping the seeds in clay, you are giving the seeds a helping hand. Seed balls protect the native plant seeds from being washed away or being eaten by birds or mice. For more information on seed balls, visit <http://www.seedballs.com> on the world wide web.

HOT OFF THE PRESSES

The Wildflower Center's Education Department has been keeping Austin area presses running.

The *Native Plant Events Directory 1998* is a collaborative effort between the USDI Bureau of Land Management, the National Fish and Wildlife Foundation, the Native Plant Conservation Initiative, and the Wildflower Center. Perfect for anyone seeking information about what's going on where, the directory includes nationwide

listings that span the entire year—from wintertime landscape planning workshops in New England to fall plant sales in the southwest. It's a guide to seasonal fairs, wildflower blooms, and fall colors.

As noted in the last issue of *Wildflower*, the *Guide to Native Trees and Shrubs at the Lady Bird Johnson Wildflower Center* is

completed. Sponsored by the Rockwell Fund and the Texas Forest Service, it's a handy resource for identifying Central Texas trees, as well as a guide to the trees along the Wildflower Center's new Woodlands Trail. For more information on either of these publications, please call (512) 292-4200.

From **f i e l d**

NORTHEAST

Framingham, MA: *Peak Spring Wildflower Bloom*, May 1-June 14. Contact: The New England Wild Flower Society, 180 Hemenway Road, Framingham, MA 01701; (508) 887-7630

Huntington, VT: *Wildflower Walks*, May 3, 10, 17, 24 at 2 p.m. Contact: Green Mountain Audubon Nature Center, 255 Sherman Hollow Rd., Huntington, VT 05462; (802) 434-3068

The Bronx, NY: *Abons Woodland Volunteer Days*, Saturdays, May 1 - June 15. Contact: Josh Nelson, Forest Project Manager; (718) 549-3200, ext. 211

Woodbury, CT: *Spring Wildflower Walks*, Sundays in May at 2 p.m. Contact: Flanders Nature Center, Church Hill Rd., Woodbury, CT 06798; (203) 263-3711

MID-ATLANTIC

Millersville, PA: *Native Plants in the Landscape Conference: Exploring our Woodlands*, June 11-13. Contact: MSU Office of Continuing Education; (717) 872-3030

Huntingdon Valley, PA: *Blooms and Babies*, May 16. Contact: Pennypack Ecological Restoration Trust, 2955 Edge Hill Road, Huntingdon Valley, PA 19006; (215) 657-0830

Egg Harbor, NJ: *Spring Botanical Exposition*, June 6-7. Contact: Anita Beckworth (609) 965-0337

SOUTHEAST

Black Mountain, NC: *Spring Symposium on Herbal Medicine*, May 30 - June 1. Contact: Medicines from the Earth, PO Box 3427, Ashland, OR 97520; (800) 252-0688, (541) 482-8294

Huntsville, AL: *Dye Day in the Garden*, May 16, 2-4 p.m. Contact: Huntsville Botanical Gardens, 4747 Bob Wallace Ave., Huntsville, AL 35805; (205) 355-6238

Chapel Hill, NC: *Guided Garden Walks*, 10 am every Saturday through June. Contact: Dianne Ford, Niche Gardens, 1111 Dawson Rd., Chapel Hill, NC 27516; (919) 967-0078

NORTH CENTRAL/MIDWEST

Gray Summit, MO: *Shaw Arboretum Native Plant Conference: Restoring Nature in Your Own Backyard*, June 5 - 7. Contact: Shaw Arboretum of the Missouri Botanical Garden, PO Box 38, Gray Summit, MO 63039; (314) 451-3512

Lake Co., IN: *Guided Tour of the Clark and Pine Nature Preserve*, June 13. Contact: Div of Nature Preserves, Indiana Government Center South, 402 W. Washington St., Rm. W267, Indianapolis, IN 46204; (317) 232-4052

Chanhasen, MN: *Spring Peeper Meadow Open House and Dedication*, June 23. Contact: Minnesota Landscape Arboretum, 3675 Arboretum Dr., Chanhasen, MN 55317; (612) 443-2460

OKLAHOMA & TEXAS

Austin, TX: *Central Texas Native Plants for the Landscape by Armand Hufault*, May 9. Lady Bird Johnson Wildflower Center, 4801 La Crosse Ave., Austin, TX 78739; (512) 292-4200

Edinburg, TX: *General Meeting of the Native Plant Project*, May 15. Contact: Native Plant Project, Box 1433, Edinburg, TX 78540

Lawton, OK: *21st Annual Wildflower Workshop*, May 15-16. Contact: Joanne Orr, Oklahoma Department of Transportation, 200 N. E. St., Oklahoma City, OK 73105; (405) 521-4037 (Reservations required.)

ROCKY MOUNTAINS

Missoula, MT: *Water-wise Landscape Demonstration Garden Tours*, Saturdays in May, 11 a.m. Contact: Montana Natural History Center, 655 E. Beckwith, Missoula, MT 59801; (406) 243-MNHC

Denver, CO: *Celebrate Wildflowers*, May 17-23. Contact: Denver Botanical Gardens, 909 York St., Denver, CO 80206; (303) 370-8065

Denver, CO: *1998 North American Butterfly Association Members Meeting*, June 11-14. Contact: North American Butterfly Association, 4 Delaware Rd., Morristown, NJ 07960; (201) 285-0907

CALIFORNIA/SOUTHWEST

Reno, NV: *Truckee Meadows Wildflower Walk*, May 16. Contact: Northern Nevada Native Plant Society, PO Box 8965, Reno, NV 89507; (702) 784-5227

Santa Fe, NM: *Herbs of and for the Southwest*, June 27. Contact: The Herb Society of America, Inc., 101 Victoria St., Santa Fe, NM 87501; (505) 984-5058

PACIFIC NORTHWEST

Richland, WA: *Gardening with Native Plants*, May 30, 10 a.m. Contact: Diane Doss, Washington Native Plant Society; (360) 683-1046

Richland, WA: *Devil's Lake Bog*, June 27, 9 am. Contact: Diane Doss, Washington Native Plant Society; (360) 683-1046

Many of these organizations host a number of native plant activities and events through the season. Please contact them directly for a full calendar of events, or see the Wildflower Center's website at www.wildflower.org.



Edg. Pinner



As I write this, March is rapidly ebbing into April. The sweet months of Spring have barely begun.

In this heady time of year, this season of renewal, my pleasure in life soars, painting in gay abandon the landscape of my hopes for the Center and the glory of the living Earth.

Will the highways sport in joyous profusion the blazing banners of blue and gold of last year? The impact of bluebonnets mixed with coreopsis and *thelesperma* dress their stage in splendor.

An adventure awaits at a friend's ranch which borders the San Marcos River. On a previous excursion, we came upon a field adjoining the river overlaid with a solid blanket of prairie verbena. For some blessed reason, even with my failing eyesight, I could delight in the abundance of these simple flowers. Will this shimmering scene reappear this year or was it a once-in-a-lifetime spectacle?

And in the deep shade along the river bank, we discovered a colony of wildflowers, seldom encountered in my travels around the state, bearing the charming name of Texas baby blue eyes or flannel breeches—another memory born!

Lo and behold, they were blooming at the Center in early March at the entrance walk by the Cistern, tucked in among white and red salvia, verbena, fragrant mountain laurel, and groundsel.

These scenes give me psychic income. As one of our volunteers said, she and others find the Center "healing." Our volunteers are an amazingly varied group, united by the desire to touch base with nature. There is a spirit of celebration in their commitment.

And I would be remiss not to say a word about our energetic—and I might add—generous staff. Every one of them has made a donation to the permanent endowment fund!

To each of you—members, volunteers, staff—I send my thanks. I'm grateful beyond measure to be in the company of so many believers in our cause.

Lady Bird Johnson

Native plants often link us to our special places on Earth. Californians love their hillsides of poppies and owl's clover. North Carolinians show off their rhododendrons. Ocotillo bloom in the southwest; the fruits of the blueberries, blackberries, salmonberries, elderberries, currants, and wild strawberries epitomize the Northwest.

These same plants that evoke a sense of place also help shape our culture. Long before the days of mass travel, before trains or trucks or planes shipped our culture to and fro, native plants provided us with food, clothing, and houses, cosmetics and medicinal remedies. Native plants still link us to our heritage and

help us remember who we are, and where we are.

Last but not least, native plants have value simply because they're here. They should have room to thrive in a place that is home, a place that suits them well, a place that has been "home" for millennia. They should never be pushed out of their native home or pushed, in some extreme cases, to extinction.

Native plants are inextricably linked to our own existence and well-being. They are simply, elegantly beautiful. Don't let a spring day go by without enjoying the beauty in nature. Take time to consider the details of the golden eye phlox. Discover the delicate wild roses. Fill

your senses with the incredible smells of your garden in bloom in June. Indulge in the rich butterscotch smell of a poderosa pine forest on a hot summer afternoon when the sap is rising and the breeze is blowing.

If you like the good work your highway department is doing with their roadside wildflower plantings, give them a call or write a letter of support. If not, respectfully request they do something different. Roadsides are symbolic of American life. Beautifully landscaped, native roadsides can help shape public opinion and move all of us toward a more native landscape everywhere.

Join Us! You may join as a new Member, renew your Membership, or give the gift that lasts a full year. Simply fill out this form and mail with a check or your credit card information. Members receive many benefits, but most importantly, Membership supports the Wildflower Center's many education programs.

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