

2004 Annual Report



Recovering America's Vanishing Flora

20
years

anniversary edition

President's message



Our story is one of hope and action. CPC has supported and encouraged plant conservation nationwide.



Kathryn Kennedy,
*President and
Executive Director,
Center for Plant
Conservation*

The Center for Plant Conservation began as the first fruits of a progressive era for the environment emerged. The First Earth Day was held in 1970. The Endangered Species Act was passed in 1973. Congress added protection and recovery attention for plants to the ESA in 1977, and in August 1977 the first four plants (from San Clemente Island) were listed. Conservation biology had not yet become a rigorous scientific discipline.

In 1984, two graduate students looked for a way to get more done for the nations' imperiled plants. Their idea was that botanical institutions working together, guided by good science, were natural partners to work for restoration. It was readily embraced by leading institutions, foundations, donors, garden clubs, and government agencies, and CPC became one of the most efficient and effective conservation organizations in the nation.

Clearly, we have held off extinction for many species. Florida ziziphus (*Ziziphus celata*) was no longer setting seed in the wild, and Historic Bok Sanctuary restored its vigor through cultivation and selective crosses. This is just one example of many species in CPC's National Collection of Endangered Plants that would not have had a hope for restoration without CPC's institutions.

The questions CPC asked in implementing its work, and the documentation of botanists' efforts, have influenced the development of the science of conservation biology. Our three technical volumes have provided guidance and direction for the efforts of many. After 20 years of dedicated work, many of our institutions' conservation officers have internationally recognized reputations, and a new generation is being trained.

Our story is one of hope and action. CPC has supported and encouraged plant conservation nationwide. We've given the nation the invaluable national collection, leadership in conservation science, educated and engaged citizens, and a legacy of robust native species for a healthy environment and the needs of humankind for generations to come. There is a great deal of work ahead of us, but our accomplishments give us confidence that we can do it.

At our anniversary meeting, when we opened the microphone to our guests to talk about the significance of CPC, I expected comments about these gifts to science and restoration work. I was stunned and moved to hear that for most of these wonderful people who've dedicated decades to our mission, the predominant sentiment expressed was one of gratitude for the supportive network of colleagues, volunteers, donors, staff and board members who made it happen.

I realized how powerful those comments were. Conservation stewardship is a very human endeavor, and the real key to success is the concern and personal resources that we count as our greatest asset. With this circle of dedicated professionals and friends, I'm confident that CPC has just begun to meet the tremendous potential that was so motivating in our early years, and that we have a bright future. I hope you enjoy this retrospective.

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Perspective

In the grand scheme of time, two decades represent nothing more than a blip. After 20 years, some plants are still in a juvenile stage. Yet for others, it is a lifetime.

So why take note of 20 years in plant conservation? In human terms, 20 years is time to establish roots. While seeds hold valuable potential to grow and reproduce, the conditions are not always right for life. But once the soil, water, light and nutrients are correctly balanced, plant life has a chance to thrive. Once roots have been established, plant life has a fighting chance. Roots imply strength, independence, and a sense of history.

The Center for Plant Conservation marked 20 years of work in 2004. The core goals have changed very little since the beginning. CPC came out of a need and desire by its founders to stem the tide of extinction of native plants. Don Falk and Frank Thibodeau believed more could be done to save America's vanishing flora. Their vision recognized that botanic gardens were

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FRONT COVER: Correll's false dragonhead (*Physostegia correllii*)

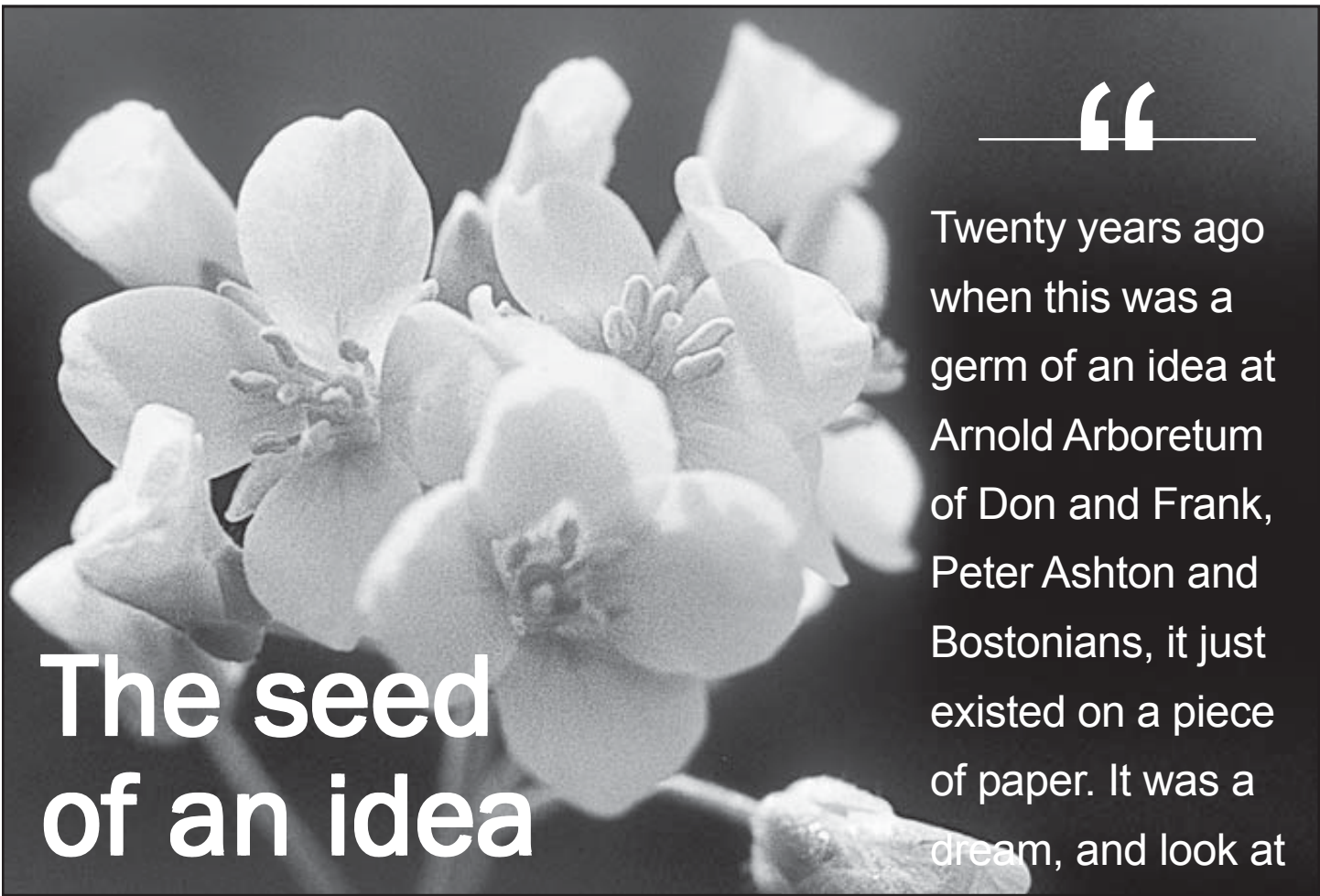
PAGE 4: Stones River bladderpod (*Lesquerella stonensis*)

CENTER SPREAD: Running buffalo clover (*Trifolium stoloniferum*)

BACK COVER: Texas poppy-mallow (*Callirhoe scabriscula*)

“
...the prevailing view
in America is that life
is better than death,
that the long garland
of continuing
generations is better
than extinction....

”
Henry Mitchell,
*former Washington
Post columnist*



The seed of an idea

By Don Falk

In the earliest years of the Center for Plant Conservation's formation, Frank Thibodeau and I worked shoulder to shoulder so closely that we learned to coordinate movements like a dance team, only occasionally stepping on each other's toes. For two years prior to the center's actual founding, somewhere between Barnum Hall at Tufts University, our apartments in Cambridge and Somerville, and a library carrel in the Arnold Arboretum, a dream turned into a seed and the seed became our offspring. I will always remember our first day on the job at the Arnold Arboretum, walking around that classic Olmstead landscape giggling with disbelief that we had "done it." By which I mean that we had a job and a paycheck for six months.

It is true that the Center was our idea and originated with us, and that we played a catalytic, energetic role in its early years. But like any offspring, it is the years of caring, teaching and support that turn a precocious child into a mature, productive, and compassionate adult. It is the collective, persistent dedication to this cause by CPC's participating institutions, donors, trustees and staff that has helped the organization to become the success it is today.

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Twenty years ago when this was a germ of an idea at Arnold Arboretum of Don and Frank, Peter Ashton and Bostonians, it just existed on a piece of paper. It was a dream, and look at where we have gone...Look at the amount that has been published, and what a track record for plant conservation.

”

C.W. Eliot Paine,
former CPC board chairman

While our idea was ripe for the time, we couldn't have succeeded without help from Peter Ashton (then director of the Arnold Arboretum) and Jonathan Shaw (director of the New England Wild Flower Society), who were willing to listen to two green and presumptuous kids with an idea, and put their own institutions on the line to support us. A few years later we were invited by Peter Raven to make our permanent home at the world-renowned Missouri Botanical Garden. Make no mistake about it: without Shaw, Ashton, and Raven, along with many others whose contributions are highlighted in this report, CPC would have remained just another good idea. We all owe these people — and their respective institutions — a huge acknowledgment of the role they played in helping turn CPC into a reality.

The heart of CPC has always been the participating gardens. When we started CPC, you could count the gardens with active native plant conservation programs in the country on one hand plus a couple of fingers.

By the time I left in 1993 the network was up to 25. Today it stands at 33 institutions holding more than 600 species, one of the most comprehensive conservation networks of its kind in the world today.

Like any parent, I still have both fears and hopes for my offspring. My fear for the center is that it would stay the same, that it would resist change in a changing world, that it would fail to explore new opportunities and new challenges because of a preoccupation with past forms. We must all outgrow our past. The CPC of today is not the CPC of 1984, and I believe that when we celebrate CPC's 30th birthday it will be different still.

Since 1984, global human population has grown 31 percent from 4.9 billion to roughly 6.4 billion today. Global mean temperature has risen around 2/10ths of a degree Celsius. Global atmospheric carbon dioxide has risen nine percent — a doubling rate of less than eight years — from 344 to 376 ppm (to put this in context, CO₂ around 1800, before the industrial revolution, was about 280 ppm). These are huge changes that influence the larger context in which we practice the conservation of biological diversity, including rare plants.

Frank and I used to joke that CPC was just a temporary measure until Western Civilization blows over and life could get back to normal. I mention these changes because it should be clear to everyone by now that nothing in conservation — or anything else, for that matter — exists in a vacuum.

We also used the metaphor of the canary in the coalmine, the sensitive indicator of some larger environmental change. From this perspective, rare plants were (and remain) well chosen — that's part of what makes them both interesting and worthwhile objects of our attention.

Rare plants, like all endangered species, reflect both biology and society. Our understanding of the biology of rarity has



(ABOVE) Don Falk then (circa 1985) and now (BELOW).



“In a variety of ways, humanity is beginning to understand that the environment is not a special interest.”

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I have always valued the perspective my CPC colleagues have given me and the encouragement to continue my conservation work.



Joyce Maschinski,
conservation ecologist at Fairchild Tropical Botanic Garden

changed significantly in the last two decades. For example, every species is rare almost by definition when it first evolves, diverging from its parent lineage. In some (but not all) cases, species can also become rare as they approach extinction, although it is much less clear that this is what actually happens except in unusual cases, such as species stranded on islands on unsuitable habitat. How much do we really know about the evolutionary dynamics of species? A lot more than we did 20 years ago, but still not enough to say confidently that we understand whether rarity is a passing phase on the way to abundance or a permanent condition.

But we can't forget that species have been, and continue to be, driven to extinction by humanity's relentless consumption of the Earth and its resources. According to the World Conservation Monitoring Centre, 12-13 percent of the world's flora (about one out of every eight plant species) is globally rare and endangered. Half of the world's wetlands, the most productive terrestrial ecosystems in the world, have been destroyed in the last century, and what remains may be flooded, drained or compromised by rising sea and atmospheric temperature. The U.N. Development Programme estimates that tropical deforestation is now proceeding – fueled by our tax dollars and shopping mall purchases – at an annual rate of 46,000 square miles.

Rare species show us that the problem of the destruction of nature – or, if you will, the appropriation of nature for human economic and cultural purposes – lies at the very heart of Western society for the last thousand years. But this doesn't mean that things can't change – they can. In a variety of ways, humanity is beginning to understand that the environment is not a special interest. For those of us who have made a lifetime commitment to biological diversity and conservation, the struggle is ongoing.

Since leaving CPC my own path has focused increasingly on ways of restoring ecological damage. In my view, and that of many others, ecological restoration offers the prospect of biological survival in a fragmented and hammered natural world. Indeed, I call restoration "ecological hope" because restoration goes beyond conservation, beyond simply drawing the line at the current sorry state of affairs. Instead, restoration proposes that things can get better; that we can recover lost ground; that we can find a better and more sustainable resolution between nature and culture; that what has been destroyed can be recovered if we dedicate ourselves to it.

And so my hope for CPC is that it will grow and change, always struggling to rise to the new world that greets us every morning, never resting on its laurels, never satisfied that it has done enough, always restless to climb the next mountain. You, the staff, colleagues, and friends of CPC, are the guardians of that hope. With a sense of humility and awe, I salute your accomplishments, your skill, your persistence, and your passion.

Falk, the former director of CPC, is now on the faculty of the Laboratory of Tree-Ring Research at the University of Arizona. This piece was adapted from his speech delivered at CPC's annual meeting in October 2004 in Santa Barbara, Calif.

Growth curve set astonishing pace

By Frank Thibodeau

Twenty years allows ample time for hindsight, reflection and even substantial forgetting. I know one thing, though: if I'm ever called to Judgment, I'll be wearing my CPC T-shirt to the meeting. It is enormously important work and I'm proud to have been there at the beginning.

The first spark of what was to become the Center for Plant Conservation happened in a basement office at Tufts University. I had recently completed a Ph.D. in environmental sciences, done in conjunction with The Nature Conservancy and looking at improving *in-situ* plant conservation. I was making ends meet short-term by editing an International Union for the Conservation of Nature and Natural Resources seminar series and wondering what would come next.

As I thought about my work on *in-situ* plant protection, I couldn't quiet the small voice that was having trouble with the established dogma of the day. That dogma held that on-site conservation was the only way to preserve species. That little iconoclastic voice kept saying that nature reserves did not make endangered plants accessible for applied researchers. They didn't allow the public to experience the plants directly. They didn't help us support wild populations with controlled research or give us material for reintroduction. In short, they preserved plants in the best way possible for the natural evolution of the species, but they didn't connect us with them.

Both the plants and I needed something more.

My first act was to enlist Don Falk, a friend from Tufts. At the time, he was the policy expert and I was the scientist. (We've since reversed roles completely.) We started talking in a coffeehouse in Harvard Square. The conceptual work for the center happened at one table. Someone was writing poetry at the next. The group in the corner seemed to be plotting a revolution of some sort. As far as I know, our table was the only one to leave a lasting legacy.

My second act was to visit Dick Phippen, who had established the fellowship I held at Tufts. Dick thought he was done with me when I graduated, but I was back in his office, trying to enlist his help again. He gave me a piece of advice that has stayed with me ever since. He told me that while he heard I had done well in my scientific studies, I was effectively talking about starting a business, and that in business, "Things happen when one person talks to another." Many times over the five following years I thought about how right he had been. Don and I knew a bit about plants and

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(ABOVE) Frank Thibodeau then (circa 1985) and now (BELOW).



"I couldn't quiet the small voice that was having trouble with the established dogma of the day."

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Through CPC, I've become a part of a wonderful family of botanists, ecologists, and scientists who are truly committed to the conservation of the native flora of the U.S. and the world.

”

Anita Tiller,
botanist at Mercer Arboretum and Botanic Gardens

environmental policy, but we were growing an ever-expanding organization. I was entirely unprepared.

Dick was enlisted as the first potential trustee of the center. Don and I started talking, just as he recommended. We talked to scientists, program administrators, horticulturists, conservationists, philanthropists, gardeners, public relations people, artists, accountants, database programmers, reporters, to name just the first few who come to mind first. We talked a lot and enlisted support wherever we could.

It was the support of all those people that made the center a reality and continues to make it a reality today.

Don has written about the central role the Arnold Arboretum of Harvard University and the New England Wildflower Society played, so I will write more about a few of the others.

Three key events come to mind immediately.

The first was at the Smithsonian, where many of the established leaders of the day in plant conservation invited Don and me to talk about what we were doing. While I am sure there were misgivings about us and the way we conceived our mission, we enlisted the unofficial support of many of the key governmental and nonprofit conservation organizations, including the U.S. Fish and Wildlife Service, The Nature Conservancy, the Smithsonian itself and many others.

The second was a meeting held at the headquarters of the Garden Club of America. The club had been asked to help most of the notable conservation groups. They organized a luncheon to hear first-hand about what each of the organizations were doing. This was heady stuff. Many of the people we looked up to as young conservationists were there, talking about the important work their groups were doing. Our message, that horticulture is a central component of plant conservation, rang true. As a result of that gathering, GCA decided to throw its considerable support behind CPC.

Finally, there was the organizing meeting for CPC itself. Held in Hawaii, the leaders of the soon-to-be participating organizations were there, as were the early trustees and scientific advisers. It was not at all clear at the beginning of the meeting that everyone was ready to commit to this new enterprise. Ritchie Bell of the North Carolina Botanical Garden listened to several hours of discussion, questioning and debate. Then he stood up, handed us a personal check for \$5,000 and threw the unreserved support of his organization behind CPC. That single gesture galvanized the sense of the meeting and the Center for Plant Conservation was launched.

As a bit of back story, the first time I spoke with Ritchie, he was equally expansive but less enthusiastic. He wanted to know why two young guys – from Harvard of all places – (we were based at the Arnold Arboretum by then) were calling him up and inviting him to participate in work he had been carrying on successfully for 20 years. He wanted to know what we had to offer that he didn't already have. He wanted to know what we knew about plant conservation that he didn't already know. He wanted to know so many things that there was a point where I had the

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The Western prairie fringed orchid, also known as *Platanthera praeclara*, was once found in grassy swales from Manitoba to Oklahoma.

mouthpiece of the phone up near my forehead. It was clear that I wouldn't be needing it for a while. In the end, though, he came through in Hawaii and remained one of the most enthusiastic leaders of the participating institutions.

After five years, I stepped down as a director of the center and pursued other goals. Actually, I decided that someone must know how to organize startups and I needed to do some remedial work. I have been building new organizations ever since.

When I returned for the center's 20th anniversary meeting, I was struck by both the changes and the similarities. Most importantly, *ex situ* conservation is now accepted as a key component of preserving biological diversity. Federal recovery plans regularly include off-site propagation. Even The Nature Conservancy has reintroduction programs based on cultivated stock. Astonishing stuff.

At the same time, there is still too much to do, too little money to do it with and an equally astonishing dedication on the part of the gardens and so many others to conserving rare plants for preservation and for intelligent use. These things haven't changed.

I can't help thinking that if the 3,000 or so rarest plant species of the United States were instead 3,000 artifacts from the American Revolution, there would be no question in anyone's mind that they were part of a cultural heritage of enormous importance that must be preserved. Maybe the job for the next 20 years is to grow the popular appreciation of the biological aspects of our cultural heritage. If it happens, it will happen because we bring plants and people together for the betterment of both. That's what the Center for Plant Conservation does best.

Thibodeau is a business consultant and investor who lives in Oakland, Calif. He is a member of CPC's Board of Trustees.

“

The CPC network of gardens encompass some of the best scientists and resources in plant conservation in the USA.

”

Nellie Suggii,
micropropagationist
at Harold L. Lyon
Arboretum



Applied conservation biology is a maze of specialized knowledge. CPC guides us through the maze by its publications, protocols, and support network. I would not know how to approach the subject without the basic guidelines provided by CPC's publications.



Peter Van Dyke,
manager of Amy B.H. Greenwell Ethnobotanical Garden

Perspective

Continued from Page 3

the perfect places to study, preserve and eventually restore rare, native plants across the United States. The two men from Tufts University believed gardens contained the right personnel and the right places for native plants to be studied, preserved through seed banking, and when necessary, reintroduced back into the wild. In the following pages, you can capture a glimpse into the minds and memories of those founders as well as the faithful stewards who have remained true to CPC's original mission to research, preserve and restore native plants that are crucial to the continued health of habitats and human life.

Time and lives are often measured by the notions of past, present and future. While CPC's past is remarkable, its present is strong and viable. By the end of CPC's first year, 14 gardens had committed resources and personnel to plant conservation. In the beginning, Garden Club of America members donated their time, passion and money to CPC's mission. A slide show, "Garland of Generations," served as a spark among GCA members across the country. In 1986, the traveling side show, narrated by actor Christopher Reeve, began its trek across America with six versions that highlighted specific plants in different regions. The show borrows its title from a quote by the late Henry Mitchell, who wrote his "Earthman" gardening column for the Washington Post. His words hold true today: "Maybe it all comes down to this: that the prevailing view in America is that life is better than death, that the long garland of continuing generations is better than extinction. In the long run — in the short run, for that matter — all things die. But while we live it is our business to encourage, applaud, and stand in awe of life. Because it is living, it should live."

After CPC marked its first year of existence, 20 donors had pulled out their checkbooks to support its mission.

Today, 33 institutions commit personnel, resources and expertise to plant conservation. While GCA members have remained constant and committed partners with CPC, the list of collaborators in plant conservation has grown to include several U.S. Department of Interior agencies, the U.S. Department of Agriculture and private foundations that see CPC as integral to their missions. With this sort of momentum and expertise, CPC is poised to see at least another two decades and beyond.

— *Mark F. Barnett*



Renewing friendships

Peter's Mountain mallow (*Iliamna corei*) is found in the wild only on Peter's Mountain near Narrows, Va.

CPC anniversary celebration focuses on past, present plant conservation

CPC's annual meeting is a chance to bring together conservation officers, garden directors, board members and national office staff. It's a learning experience, a chance to strengthen friendships, a time to take stock of where CPC is, and determine the direction it is heading.

Conservation officers from participating institutions give presentations on their work, board members learn about the financial health and direction of CPC, and national office staff highlight the work done over the last year in the name of plant conservation and the challenges they are embracing for the next year.

Timeline

Key events in the 20-year history of CPC and its participating institutions and trustees.

1982: Frank Thibodeau and Don Falk approach Harvard Arnold Arboretum Director Peter Ashton to consider beginning a botanic garden-based program to conserve rare plants.

1984: CPC formally instituted. By September, 14 gardens have signed on as participating institutions. They were Arnold Arboretum, Bok Tower Gardens (now Historic Bok Sanctuary), Denver Botanical Gardens, Desert Botanical Garden, Fairchild Tropical Botanic Garden, Garden in the Woods (New England Wild Flower Society), The Holden Arboretum, Missouri Botanical Garden, North Carolina Botanical Garden, Pacific Tropical Garden (now National Tropical Botanical Garden), Rancho Santa Ana Botanic Garden, State Arboretum of Utah (now Red Butte Garden and Arboretum), Transition Zone Horticultural Institute (now The Arboretum at Flagstaff), and Waimea Arboretum.

1985: CPC institutions begin plant collection and cultivation. Collaboration begins with the U.S. Department of Agriculture to develop a seed storage program for rare U.S. taxa.

1986: Plant Preservation Fund launched to ensure the collection, permanent cultivation and seed storage.

1986: "Garland of Generations" slide show tour begins.

1987: Broadmoor Garden Club of Colorado Springs, Colo., becomes the first garden club to fully sponsor a plant, in the National Collection of Endangered plants, *Mirabilis rotundifolia*.

1988: Peter Ashton appointed president of CPC's Board of Trustees. William Truslow Esq. named chairman.

1988: CPC makes available the first comprehensive list of more than 500 professionals and offices involved in conserving U.S. native plants. The book, "The 1988 Plant Conservation Resource Book," contained contact information on federal agencies, botanists and data on rare plant laws. The 96-page book sold for \$9.

1989: The Abbot and Dorothy H. Stevens Foundation awarded CPC an \$11,200 grant to fund internships.

1989: Fund-raising campaign hits \$51,046, double the amount the previous year. The Andrew W. Mellon Foundation Challenge Grant matched the gifts 1:1.

1989: Polly Pierce, current chair of the board, joins trustees, bringing the number to 14.

1990: CPC begins campaign to raise \$1.5 million for plant sponsorships with a lead gift from the Andrew W. Mellon Foundation.

1991: CPC moves to the Missouri Botanical Garden. Peter Raven, director of the garden, praises the relocation. The Plant Conservation Fund stands at over \$750,000.

1991: CPC signs a Memorandum of Understanding with the Bureau of Land Management.

1991: Ann B. Fordyce chosen as president of the Board of Trustees.

Annual meeting 2004



A view from the Santa Barbara Botanic Garden.

Milestone marked amid wine country

Family reunions can often be a chance for renewal, reconnecting with old faces, and meeting new ones.

CPC's anniversary annual meeting wasn't much different.

The founders of CPC and other early staff members joined the new faces of CPC for a night of nostalgia to talk about how

CPC influenced their lives and careers. Former staffers Don Falk, Frank Thibodeau, Peggy Olwell, and Loyal Mehrhoff reiterated how CPC still continues to make a difference in plant conservation and how the original concept has been validated and affirmed throughout the years. From the small beginnings of 14 institutions by September 1984, CPC has grown to 33



Executive Director Kathryn Kennedy (center) speaks with conservation officers Anita Tiller (left) and Steve Clemants.



TOP: Bruce Rittenhouse and Peggy Olwell work on an exercise during a training session at Santa Barbara. RIGHT: Kennedy, Don Falk and Mima Falk talk during a break.



ABOVE: From left, Peter White, Jena Lewinsohn and Marlin Bowles chat outside Bien Nacido Vineyard.

LEFT: Steve Miller welcomes attendees to the vineyard while CPC board member and wife Ladeen listens.

participating institutions with more than 125 botanists working with imperiled plants. A year after CPC began, there were 40 plants in the National Collection of Endangered Plants. In 2004, there were 625.

But the annual meeting is also a chance for conservation officers to go through training to sharpen their skills and learn new techniques they can apply in their work. Expanding the conservation officers' education in the best science is a key component to the gathering.

1991: "Genetics and Conservation of Rare Plants," co-edited by Don Falk and Kent Holsinger, is published.

1992: Hurricanes batter member institutions Fairchild Tropical Garden, Miami, Fla., and National Tropical Botanical Garden, Lawai, Hawaii.

1992: CPC and the U.S. Fish and Wildlife Service sign a cooperative agreement to assist in funding a conference on reintroduction, which led to CPC's second book.

1993: CPC hosts conference, "Restoring Diversity: Is Reintroduction an Option for Endangered Plants?" in St. Louis.

June 1993: CPC concludes its five-year campaign for the national collection, generating \$1.36 million. National collection tops 450 U.S. native plants.

1993: Brien Meilleur chosen as president and executive director of CPC after Don Falk resigns to return to graduate school.

1994: CPC becomes an original cooperator with the Plant Conservation Alliance.

1994: C.W. Elliot Paine, Emmy Seymour and Richard (Rick) Daley join CPC's trustees. All are currently on the board.

1996: "Restoring Diversity: Strategies for Reintroduction of Endangered Plants," edited by Don Falk, Constance Millar, and Peggy Olwell, is published.

1996: Kathryn Kennedy selected as member of CPC's Science Advisory Council.

1998: Trustee Bill Truslow steps down as chairman. Paine succeeds him.

1998: CPC receives the Chevron Conservation Award, which honors individuals and groups who protect and enhance renewable resources.

1998: Paine testifies before the House Interior Appropriations Subcommittee, seeking increased funding for the Interior Department for recovery work.

1999: Six new trustees are elected: Dr. Robert Breunig, Ann Coburn, Richard Lighty, Andrew Love, Ed Schneider and Peter White.

2000: The USFWS cites CPC in the Federal Register, urging that agencies use CPC's protocols in propagating federally listed species.

2000: Meilleur steps down as executive director.

2000: CPC, the American Association of Botanic Gardens and Arboreta and Botanic Gardens Conservation International partner for the first World Botanic Gardens Congress at the North Carolina Arboretum.

2000: Kennedy named executive director and president of CPC. "America's Vanishing Flora," published.

2001: CPC receives the National Natural Resource Conservation Award for Leadership from the Bureau of Land Management and the U.S. Forest Service. Merrill Hall at the Center for Urban Horticulture in Seattle, Wash., is firebombed by eco-terrorists.

2002: Robbins' cinquefoil is removed from the Endangered Species List.

2004: "Ex Situ Plant Conservation: Supporting Species Survival in the Wild" is published.

Note: This is not an exhaustive listing of CPC's history and accomplishments. Some events may have been omitted.

1. Establish a consortium of botanical gardens and other institutions with the geographic scope and facilities to conserve endangered U.S. plant species.

2. Develop a data system and species selection system that can help to determine which of the endangered plants are the highest priorities for protection and to maintain an ongoing inventory of plants in cultivation.

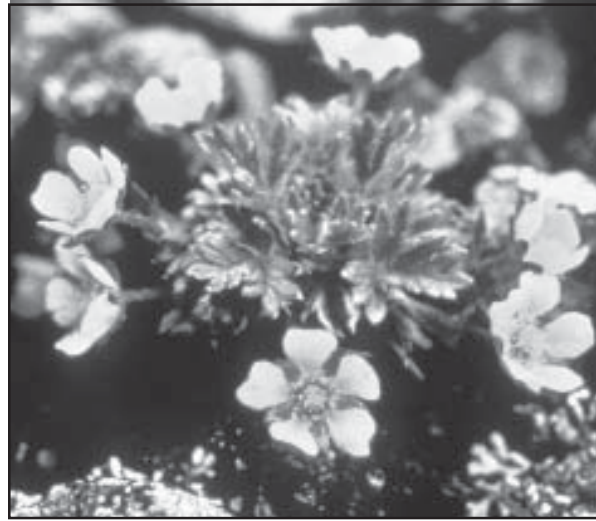
3. Establish a National Living Collection to be held in participating institutions and seed storage facilities.

4. Develop a public education and public relations program to make both the scientific community and the general public aware of the resources offered by the center and the participating gardens.

5. Develop a system of financial, intellectual and programmatic support to ensure the coordination of conservation efforts and the permanence of the National Living Collection.

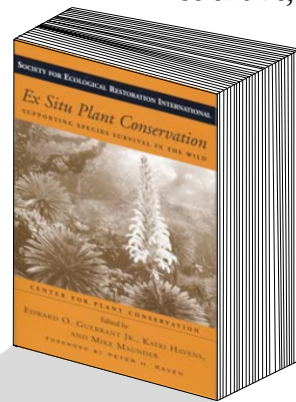
Responding to a call

The vision for CPC was set out in a story headlined “A new response to endangerment” by Frank Thibodeau and Don Falk in the January 1985 issue of “The Public Garden.” Throughout this



The New England Wild Flower Society began a long-term program of restoration for Robbins' cinquefoil (*Potentilla robbinsiana*) that led to its eventual delisting by federal officials in 2002.

Maunder edited CPC's third book, published in 2004. It provides a perspective on integrated plant conservation strategies and examines the scientific, technical and the strategic basis of the *ex-situ* approach. The book outlines the role, value, and limits of *ex-situ* conservation as well as updating best management practices for the field.



In early days, it was recognized that collecting and managing plant information was required to support good decisions for priorities, species selection, and monitoring our progress. CPC staff members Kerry Walter and Mike O'Neil developed our custom CPC-Base database system to summarize species information and track our *ex-situ* collections. CPC-Base was the progenitor of what is now BG-Base, a collections management program for botanical gardens that is used worldwide. While our software has changed over time, CPC still maintains a comprehensive database including information on more than 8,000 species.

and the facing page, you can discover how CPC is accomplishing those objectives today.

CPC added the Cincinnati Zoo and Botanical Garden to its list of participating institutions in 2004. The team there has been instrumental in furthering research on tissue culture propagation methods, helping save species that are hard to grow under normal conditions.

CPC conservation officers Ed Guerrant, Kay Havens, and Mike

Milestones tell you where you are and often how long you have left to travel. CPC's participating institutions gave us their statistics for the year and they added up to quite a few milestones for plant conservation. In 2004, CPC counted among its network 33 participating institutions maintaining 625 species with four new sponsorships for a total of 192 sponsored plants.

Staff and funding

126 full-time staff

1,780 volunteers **102,000** volunteer hours

\$6 million budgeted for conservation programs

Outreach

72 scientific journal publications

77 lay articles

315 presentations

Restoration

16 institutions provide plants for reintroductions for other partners

17 institutions work on projects to control invasive species at **45** sites

30 institutions work on revegetation/habitat restoration projects, including **15** prescribed burns

49 species reintroductions were conducted at **102** sites

Monitoring

818 species monitoring projects are conducted at **1,648** sites

Ex-Situ

160 new collections were made at **98** new sites

“

What is needed are not substitutes, but rather complements to *in-situ* protection that can act quickly, accurately and decisively to protect the individual species in the greatest need, that can generate information about the species' requirements, and that can provide living plants to potential users.

”

Excerpt from “A new response to endangerment” in the January 1985 issue of The Public Garden

Contributing foundations over 20 years

When CPC was a young organization with a visionary approach to conservation, we received critical support that helped us begin our work at the national office and establish our plant sponsorship program to make sure funds would reach our participating institutions regularly. As we look back over the last 20 years, we want to recognize the following foundation supporters who, through their significant financial contributions, showed confidence in the mission and vision of CPC.

The Andrew W. Mellon Foundation

David and Lucile Packard Foundation

Edward K. Love Conservation Foundation

George Gund Foundation

Geraldine R. Dodge Foundation

Henry Luce Foundation

John D. and Catherine T. MacArthur Foundation

The John Merck Fund

The Joyce Foundation

The Pew Charitable Trusts

R.J. Reynolds Tobacco Foundation

Spencer T. and Ann W. Olin Foundation

Surdna Foundation

W. Alton Jones Foundation

Firm financial foundations

Plant conservation is most successful when dedicated people are on the ground, collecting and storing seed, conducting research on imperiled plants, and undertaking restoration projects. The greatest obstacle to these activities is the relative lack of funding nationwide. CPC has always recognized this problem, which is why we made a commitment to find funds for our participating institutions and for the scientists who work with plants every day.

“

Some of our foundation donors have been with us for 20 years. I think we have proved that their trust in us has been justified.

”

Maria Bradford,
CPC Development Manager

Since 1984, CPC has made payments to participating institutions to help fund their conservation programs. Funds donated to the Plant Sponsorship program are placed in an endowment that generates a yearly stipend to institutions working with sponsored species. The institutions use the funds to support their conservation programs. The endowment also supports data management and conservation activities at CPC's national office.

Since 1985, CPC has paid more than \$2 million in species payments to our institutions. Currently, CPC pays out almost \$100,000 each year to our PI's to support their conservation efforts.

In addition to plant sponsorship funds, CPC has brought more than \$3 million in project funds to our participating institutions through our work with other governmental and non-governmental conservation partners. We also support our institutions' grant-writing efforts through letters of support for grant

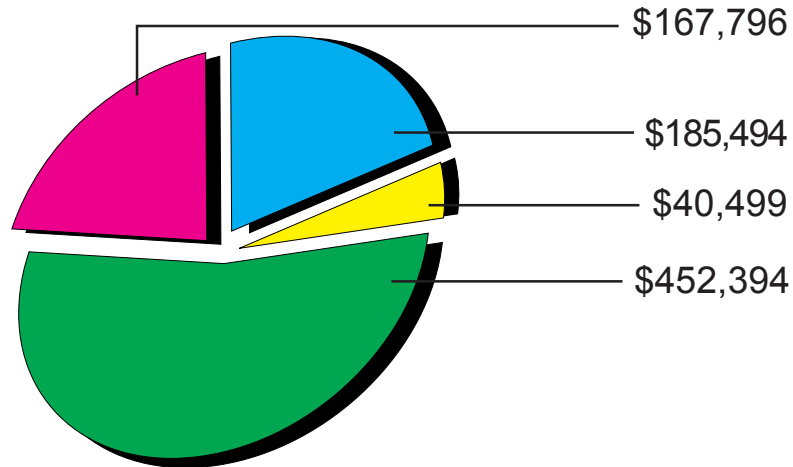
proposals they write and submit to support their conservation programs.

Altogether in CPC's first 20 years, we have provided more than \$5 million to our participating institutions to do the work of plant conservation. These funds have had a direct impact on the ability of our participating institutions to carry out their conservation objectives and keep their conservation programs moving toward greater excellence.

2004 REVENUE AND EXPENSES

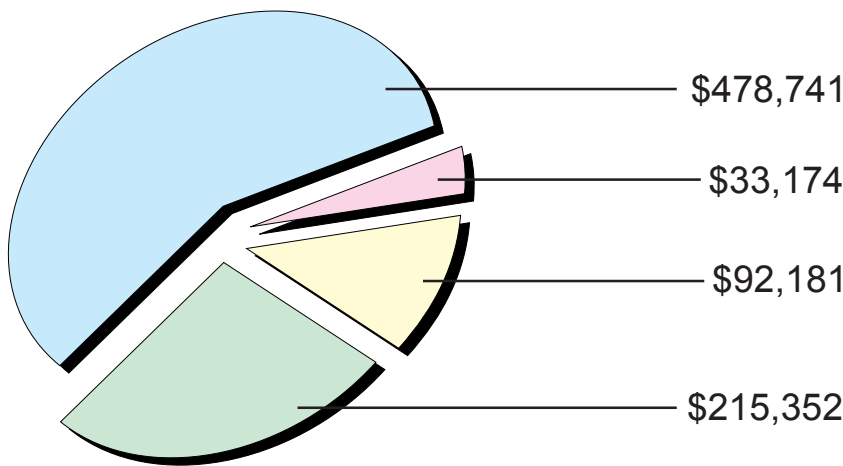
Revenue

- Grants and contracts (53%)
- Contributions, Friends and Misc. (20%)
- Endowment earnings allocated to operating fund (22%)
- Other (5%)



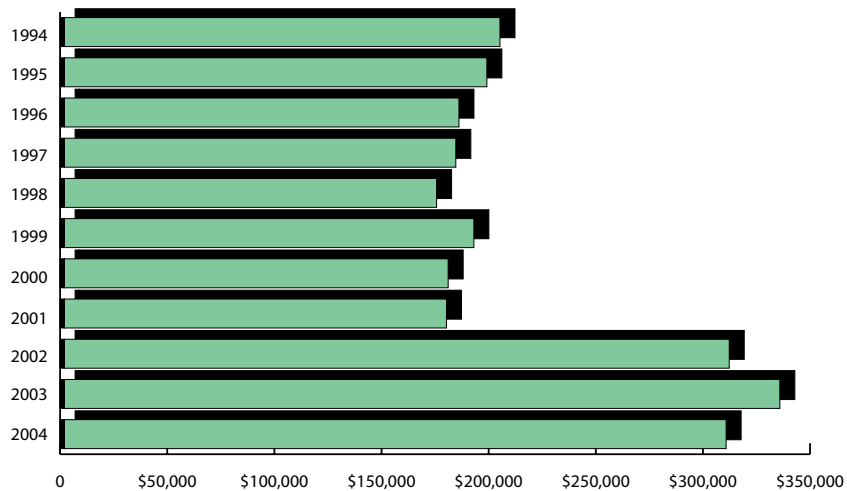
Expenses

- Support and project payments to Participating Institutions (58%)
- National Office Program expenses (26%)
- Management and general (11%)
- Fund raising (4%)



Payments to CPC's Participating Institutions 1994-2004

CPC National Office funding paid to participating institutions for on-the-ground conservation efforts has increased by 52 percent since 1994.



New revenue to endowment

Plant sponsorships	\$26,000
Interest and dividend income (net)	\$51,209

“

It is hard to believe how far and how fast CPC has come in 20 years. CPC remains a lonely first: First in its embrace and approach to the mission: ‘To end native plant extinction.’ First in the collection of data surrounding that extinction; and first in the high standards demanded by the collective wisdom of scientists, professional botanists and determined volunteers. CPC remains nationally the most important factor in the three R’s of endangered plant conservation: Rescue, research and restoration.”

”

Polly Pierce,
CPC Board chair

Building
partnership



DS

Balance. We all seek it. Some call it harmony. Some call it equilibrium. But whatever you call it, certain conditions have to be just so for your day to be perfect – or as near as it can be to perfect.

Just like plants need the right amount of water, light, nutrients and the right place to thrive, plant conservation needs the right mix of partnerships to succeed.

And just like well-established plants, CPC has grown a support system that is strong, vibrant and prolific. The partnerships that have been forged over CPC's 20 years have helped us secure a future for native U.S. plants. Civic groups, government entities, private foundations, and individuals who passionately believe in the powerful role plants play in our lives are committed to the same ideal: native plants are an important part of ensuring a brighter future.

In the beginning, Garden Club of America members devoted their time, energy and skills to spread the word about imperiled native plants. Thousands of members have contributed to CPC's mission and have stayed with us. Without GCA, we wouldn't have seen our 20th anniversary.

Government partnerships have strengthened CPC over the years. While the public trust is safeguarded by federal and state agencies, CPC is one of the partners helping ensure the continuing legacy on public lands. The U.S. Department of Agriculture's Agricultural Research Service and U.S. Forest Service, the U.S. Fish and Wildlife Service, the National Park Service, and the Bureau of Land Management have all partnered with CPC.

Private foundations, individuals and other collaborations are essential to the effectiveness of CPC's programs. The Andrew W. Mellon Foundation has helped CPC build capacity for progress over the past 20 years. The National Fish and Wildlife Foundation, a private, nonprofit group, is committed to sustaining healthier habitats and enhanced stewardship of our natural resources. With NFWF's partnership, CPC has been able to grow its programs and increase funding for "on-the-ground" plant recovery. The Plant Conservation Alliance has helped bring together several parties for native plant issues.

The following pages provide details on our partnerships that make a difference in the sustainability of native plant populations. The work of our civic, federal and private partners form a strong system of expertise, funding and passion for the preservation and restoration of imperiled native plants.

“

I believe very strongly in the mission of CPC. I believe that nationally and globally, plant conservation is something we must address. If we don't, there will be a great void in what we can accomplish. When people work collaboratively, it gives you a much stronger position.

”

Janet Meakin Poor, CPC board member and longtime GCA leader

Garden Club of America

Brains and beauty aren't mutually exclusive. The Garden Club of America and its members embody both attributes. Their mission is to improve their communities through gardening, civic involvement, education and conservation. They're not just about pretty flowers and trees.

And the members displayed their smarts and strength by financially supporting CPC from the beginning. "I felt very strongly in what CPC was doing," said Janet Meakin Poor, a longtime leader in GCA who has also served on CPC's board since 1987. "I thought how advantageous it would be if two like-minded organizations were working together in plant conservation. We didn't want to duplicate efforts."



Janet Meakin Poor

In a cooperative spirit, CPC and GCA created the "Garland of Generations," a traveling slide show that focused on the nation's endangered plants. It was customized for different regions of the country, so viewers from Greenwich, Conn., to Miami, Fla., to San Diego, Calif., could learn about imperiled plants close to home.

"The idea was to tailor the show so it wasn't one plant in the tropics to get sympathetic about. It needed to be about plants that people could identify with from their region," Poor said.

The traveling show, narrated by the late actor Christopher Reeve, was viewed by thousands of women and men who gave generously to endow plants from the slopes of Oahu to the mountains of Vermont.

Without their continued and invaluable support, CPC would not have been able to see its 20th year.

On the following pages, you'll read the stories of just two of the women who have consistently and unflinchingly supported CPC. They know it's the right thing to do. They know it's smart to save the earth's natural beauty.

Like a mother and child

Connecticut woman's devotion is no accident

Mary Patterson's the mothering type. And when it comes to plant conservation, she comes by it naturally.

At least that's how she describes her continued financial support of CPC. The Greenwich, Conn., resident has been giving to CPC since the beginning when the Garden Club of America began its push for every club in the United States to see the "Garland of Generations" slide presentation noting the importance of

Continued on Page 21



CPC: The early years. Employees at the time included, from left, Kerry Walter, Barbara Gard, Frank Thibodeau, Don Falk, Adel Hagar, and George McCully.

plant conservation and CPC's role in the endeavor.

"I guess the reason I've stayed with it is because I've felt like one of its mothers," Patterson said. "When you get into a cause like this, you tend to stay with it. It's kind of like caring for a child."

In early 1986, Mrs. Patterson was asked to chair a GCA Special Committee, the Plant Conservation Traveling Team, charged with ensuring that the "Garland of Generations" presentation, narrated by the late actor Christopher Reeve, was presented to each of the 190 or so clubs across the nation.

"I've found it hard to say no to people," she said.

"It was the 28-member team's job to 'beg, borrow or steal' slide projectors, show the program at garden club meetings and then ask for volunteers in the audience to take the show and present it to other groups in the area. The mission was to build awareness of endangered species. We were not fund raising, but if a little money happened to come our way, we were not disappointed."

Patterson was appointed chair to this committee by then-GCA President Kay Donahue and continued for two and a half years by which time virtually every garden club member had seen and heard CPC's message.

"This team was a wonderful group of 28 ladies who were totally committed to plant conservation. There were past and future presidents as well as passionate young conservationists and horticulturists from all over the country."

The idea of endowing plants both by garden clubs and by individuals began to catch on and actually became competitive and exciting, she said.

"Here in Greenwich, Don Falk, from CPC when it was at Arnold Arboretum, came from Boston and gave a stirring talk

Continued on Page 34

“

I guess the reason I've stayed with it is because I've felt like one of its mothers. When you get into a cause like this, you tend to stay with it. It's kind of like caring for a child.

”

Mary Patterson,
*GCA member from
Greenwich, Conn.*

To further the work of imperiled native plant conservation, CPC builds relationships with several federal partners who serve similar missions. All are involved in stewardship of the nation's natural resources and charged with keeping the public trust by conserving and protecting natural resources on public and private lands. Through these relationships, CPC is able to do more effective and responsible research, conservation, and restoration of imperiled plants. These partnerships are invaluable to CPC's mission of recovering America's vanishing flora.

U.S. Department of Agriculture

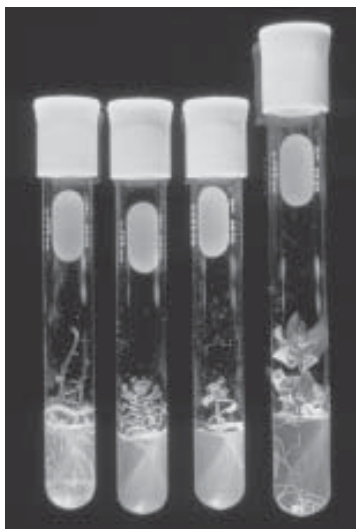
What is the U.S. Department of Agriculture?

President Abraham Lincoln founded the U.S. Department of Agriculture in 1862 as the "people's Department." In that era, 58 percent of the nation's population were farmers. The USDA leads the federal anti-hunger effort; serves as a steward to the environment by encouraging voluntary efforts to protect soil, water and wildlife; supports housing, telecommunications and safe drinking water to rural America; acts as a research leader in fields ranging from nutrition to new crop technologies; and helps ensure open markets for agricultural products. According to its mission, the USDA "provides leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management."

Web: www.usda.gov

How do CPC and the USDA work together?

Preservation of seed or plant material is crucial for restoration. CPC works with the Agricultural Research Service to preserve seed in long-term storage in a secure place. As part of ARS, the Seed Viability and Storage Research Unit, National Seed Storage Laboratory, in Fort Collins, Colo., works to "effectively document, preserve, and maintain viable seed and propagules of diverse plant germplasm in long-term storage, to develop and evaluate procedures for determining seed quality of accessions, and to provide administrative support to allow for effective operation of this Unit." The seed lab serves as an insurance policy in case of disasters that could harm plants and as a method of promoting sustainable agriculture.



Ex-situ work with imperiled plants involves genetics, seed physiology and tissue culture. The seed lab in Fort Collins and CPC's newest participating institution, the Cincinnati Zoo and Botanical Garden, both work with this kind of technology.



“

CPC has strengthened our restoration ecology research by providing focus on critical species and habitats, providing

For many seeds, cold storage can extend viability for several years. Hundreds of species in CPC's National Collection of Endangered Plants are stored in Fort Collins.



workshops, and stimulating discussion on restoration challenges.

”

Marlin Bowles,
plant conservation biologist, Morton Arboretum

■Amy B.H. Greenwell
Ethnobotanical Garden
provides nursery spaces and
plants for the Kaupulehu Dry
Forest Preserve.

■The Arboretum at Flagstaff
has partnered with the Forest
Service to collect native seed
for revegetation projects.

■Berry Botanic Garden has
a project to collect seed of
imperiled plants on the
Siskiyou and Umpqua
National Forests and is
examining the effects of
grazing on populations of
pale blue-eyed grass
(*Sisyrinchium sarmentosum*)
on Forest Service lands.

■Chicago Botanic Garden is
monitoring rare species at
Midwin National Tallgrass
Prairie.

■Denver Botanic Gardens'
Partners for Colorado Native
Plants project cooperates with
the Forest Service to organize
volunteers and monitoring of
rare orchids.

■Desert Botanical Garden
staff are completing a flora of
the Arizona Trail for the Forest
Service, and are partnering in
a Forest Health Grant for
mapping and removal of
Tamarisk.

■The Historic Bok Sanctuary
monitors two species at
Ocala National Forest.

■The Holden Arboretum is
conducting a Beech bark
disease project to determine if
seedlings can be bred to
become resistant to European
Beech Scale.

U.S. Forest Service

What is the U.S. Forest Service?

The U.S. Forest Service expresses a dual mission in its motto: "Caring for the Land and Serving People." As a division of the U.S. Department of Agriculture, the Forest Service manages 191 million acres of land, the equivalent of Texas. Established by Congress in 1905, the service has expanded its original mission beyond timber production for the nation. It has become the world's largest forestry research organization, providing technical and financial assistance to state and private forestry groups. The service accomplishes its mission through five main activities. They are protecting and managing natural resources on National Forest System lands; researching all aspects of forestry, rangeland management, and forest resource utilization; providing community assistance and cooperation with State and local governments, forest industries, and private landowners; achieving and supporting an effective workforce that reflects the full range of diversity of the American people; and giving international assistance in forming policy and coordinating U.S. support for the protection and sound management of the world's forest resources.

Web: www.fs.fed.us

How do CPC and the Forest Service work together?

The U.S. Forest Service has initiated a Species Conservation Project as a part of the service's revision of national forest plans. CPC's national office is helping to develop detailed, technical species assessments and conducting two or more blind peer reviews of 76 plant species assessments before final documents are accepted by the Forest Service. These assessments will help in the decision-making of land managers and planners in the Rocky Mountain region. CPC finds and recruits botanists with field experience and knowledge of the conservation needs for these species to ensure that the assessments contain accurate and current information. These ecological assessments will likely assist in evaluating the effects of proposed management on species population persistence. The assessments will help biologists trying to synthesize the needs of many species and derive sound management practices and plans for forest lands. Objectives for the project include help in providing a more consistent and coordinated process for evaluating species viability in forest planning, providing help to biologists and planners in understanding the ecology of emphasized species and the potential response of individual species to environmental change. The project also provides a mechanism for cooperative work among agencies, the scientific community and conservation professionals to optimize resource management and succeed in the shared objectives for conservation of diversity on forest lands. CPC is also providing partial in-kind support and matching funds in the coordination effort.



The Sacramento prickly-poppy (*Argemone Pleiakantha* ssp. *pinnatisecta*) is found along drainages and roadsides near the Sacramento Mountains in New Mexico.

■ Mercer Arboretum and Botanic Gardens's Anita Tiller has served as an adviser on the Forest Service's reintroduction of Neches River rose-mallow (*Hibiscus dasycalyx*).

■ Morton Arboretum is conducting restoration work on the Shawnee National Forest in southern Illinois.

■ The New England Wild Flower Society continues its work after the delisting of Robbin's cinquefoil (*Potentilla robbinsiana*) in the White Mountain National Forest.

■ Rancho Santa Ana Botanic Garden has conducted rare species surveys for several species at the Angeles National Forest and the San Bernardino National Forest.

■ The University of Washington Botanic Gardens works with several different projects on Forest Service lands.

■ Red Butte Garden and Arboretum has been working on a monitoring project on Forest Service land.

■ Regional Parks Botanic Garden has conducted an assessment of a possible new population of Howell's umbrellawort (*Tauschia howellii*) at the Tahoe National Forest.

■ Santa Barbara Botanic Garden continued a reintroduction plan for the Arroyo de la Cruz manzanita (*Arctostaphylos cruzensis*) with the help of the Forest Service at Los Padres National Forest.

■Amy B.H. Greenwell Ethnobotanical Garden supplies rare plants for outplanting on two national parks in West Hawaii. More than 130 plants of the Hawaiian fan palm, *Pritchardia affinis*, were outplanted at the parks.

■The Arboretum at Flagstaff has received a grant to help NPS collect a seed bank of rare and endangered species within six parks in three states.

■Chicago Botanic Garden partners with NPS in a land management intern program and in seed banking species.

■Desert Botanical Garden provides Chisos hedgehog cactus (*Echinocereus chisoensis*) plants for reintroduction, and assists with seed collection and monitoring of rare plants at Big Bend National Park.

■Fairchild Tropical Botanic Garden has conducted genetic studies and demographic/reintroduction projects with Biscayne National Park.

■The Historic Bok Sanctuary has worked on collection and surveying populations of American chaffseed (*Schwalbea americana*) at Timucuan Ecological and Historical Preserve.

■The Holden Arboretum has assessed Michigan Monkey-flower (*Mimulus glabratus* var. *michiganensis*) populations in Sleeping Bear Dunes National Lakeshore for *ex-situ* conservation.

National Park Service

What is the National Park Service?

Created in 1916 with the stroke of President Woodrow Wilson's pen, the National Park Service is probably the most well-known federal entity. The "Organic Act" states that the service "shall promote and regulate the use of Federal areas known as national parks, monuments and reservations." The act goes on to say that the purpose of these sites "is to conserve the scenery and the natural and historic objects and wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." NPS manages 384 sites covering more than 83 million acres in 49 states, the District of Columbia, American Samoa, Guam, Puerto Rico, Saipan, and the Virgin Islands. The United States forged the way for parks when in 1872, Congress established Yellowstone National Park.

Web: www.nps.gov



Meredith Gosejohan (lower right) of the Missouri Botanical Garden works with NPS biologist Nathan Helton on seed collection of *Conradina verticillata*.

How do CPC and NPS work together?

The National Park Service initiated a partnership in 2003 with CPC to collect seed for imperiled and at-risk plant species known from national parks. The purpose of this project is to collect and store genetically representative plant materials of imperiled plant species for future restoration. Collected plant material will act as a genetic safety net in the event of a loss of a species from a national park. Seed collected from this project will be stored long-term at the National Center for Genetics Resource Preservation (NCGRP) lab in Fort Collins, Colo. NPS recognized that CPC's participating institutions could provide the personnel and expertise to locate, collect, and document the materials to ensure they can be used in the future. The project involves 29 CPC institutions, making 227 collections of plant materials for 179 species in 60 national parks across the continental United States and Hawaii. Plant material is being collected by participating institutions. The project is expected to be complete by the end of 2007. CPC is providing matching funds and in-kind match for this effort.



The federally listed Western lily (*Lilium occidentale*) is found adjacent to National Park Service land in the West and is in CPC's National Collection of Endangered Plants.

■ Mercer Arboretum and Botanic Garden is partnering with NPS to amend the national seed bank for the federally endangered Texas trailing phlox (*Phlox nivalis* ssp. *texensis*), and is advising NPS staff on an introduction at Big Thicket National Preserve.

■ Missouri Botanical Garden is involved in the introduction of Pyne's ground-plum (*Astragalus bibullatus*) on property in Tennessee managed by NPS.

■ The New York Botanical Garden has begun the process of obtaining permits to collect swamp-pink (*Helonias bullata*) seed at Blue Ridge National Park.

■ North Carolina Botanical Garden is re-collecting all of its National Collection taxa through a CPC/NPS grant. Permits to collect on NPS lands have been obtained and collectors have been given guidelines on how and when to obtain the seed.

■ The New England Wild Flower Society surveyed nine ponds on the Cape Cod National Seashore.

■ The University of Washington Botanic Gardens conducts rare plant seed collection at Roosevelt National Recreation Area.

■ Santa Barbara Botanical Garden has provided data on the distribution of eight threatened and endangered species within Channel Islands National Park and began developing a cooperative plan for recovery for three species.

■Amy B.H. Greenwell Ethnobotanical Garden has teamed with USFWS in collecting, propagating, and outplanting *Pritchardia schattaueri*, resulting in more than 800 of this rare fan palm growing on state and The Nature Conservancy land.

■Berry Botanic Garden contracted with the USFWS to develop a genetic management plan for the Western lily (*Lilium occidentale*).

■Chicago Botanic Garden has conducted research and reintroduction work on the prairie white-fringed orchid (*Platanthera leucophaea*) on USFWS land.

■Denver Botanic Gardens is cooperating with USFWS at the Rocky Mountain Arsenal National Wildlife Refuge to reintroduce Texas bluebell (*Eustoma grandiflorum*) and organize noxious weed control with seasonal employees and at-risk children.

■Fairchild Tropical Botanic Garden has received funding from USFWS to expand its recovery efforts with beach jacquemontia (*Jacquemontia reclinata*) and Crenulate lead-plant (*Amporha herbacea* var. *crenulata*).

■The Historic Bok Sanctuary has worked on introductions of Lakela's mint (*Dicerandra immaculata*) in St. Lucie County.

■Holden Arboretum has participated in discussions on an introduction of Northern Monkshood (*Aconitum noveborasense*) with Ohio state and local agencies, and the Cincinnati Zoo and Botanic Gardens.

U.S. Fish and Wildlife Service

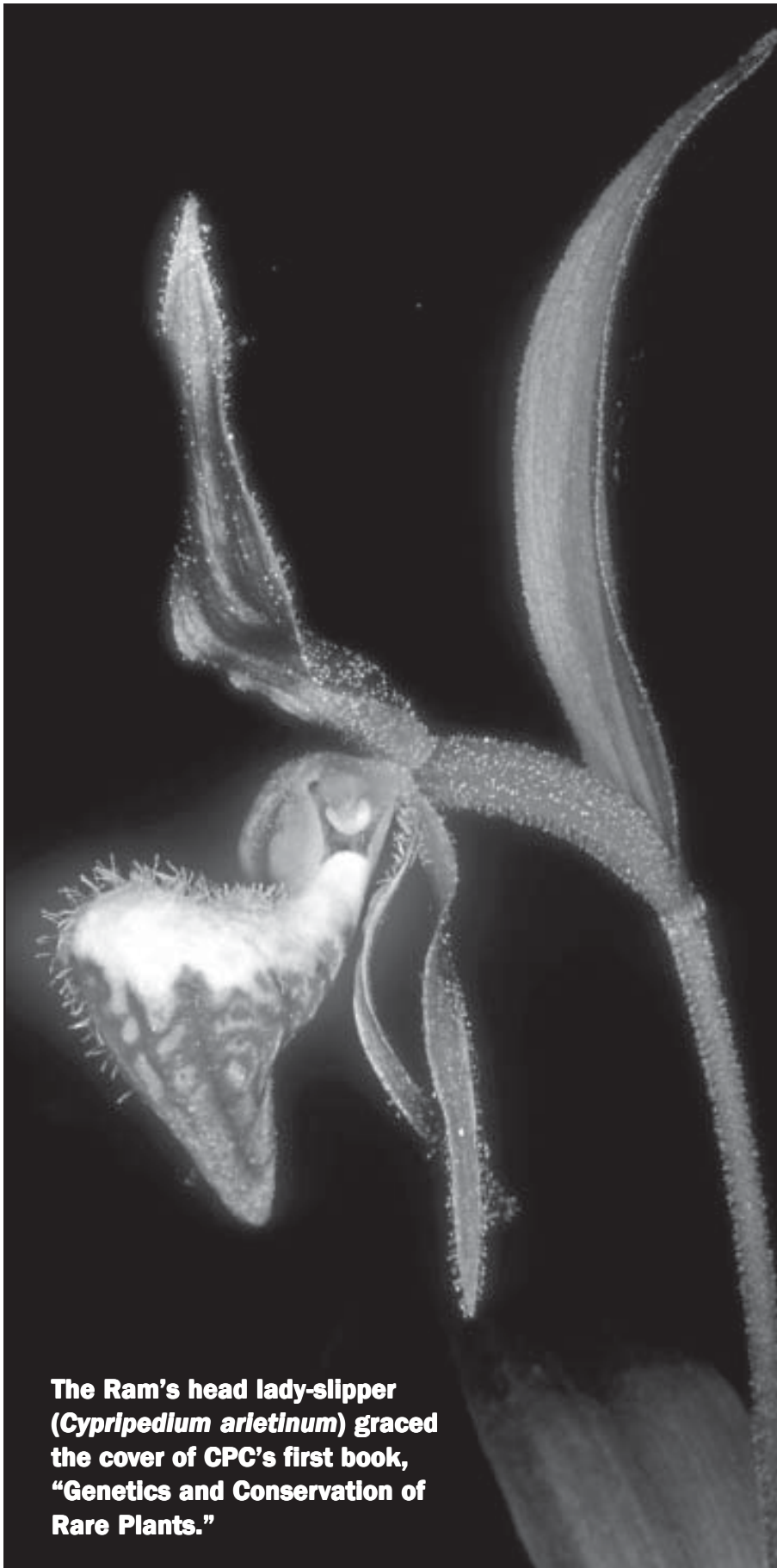
What is the U.S. Fish and Wildlife Service?

While the U.S. Fish and Wildlife Service (FWS) is a relatively new bureau within the Department of Interior (transferred there from the Department of Commerce in 1939), it is by no means any less important than other bureaus. FWS manages 93 million acres that make up the National Wildlife Refuge System of more than 520 refuges and thousands of small wetlands and other management areas. FWS also operates 66 national fish hatcheries, 64 fishery resource offices, and 78 ecological services field stations (local offices) where agency staff work to conserve the nation's natural resources. The agency is charged with conserving, protecting and enhancing fish, wildlife and plants and their natural habitats. The agency's major responsibilities are protecting migratory birds, endangered species, certain marine mammals, and fish. The agency is also responsible for the listing, recovery and delisting of species under the Endangered Species Act.

Web: www.fws.gov

How do CPC and USFWS work together?

Conservation officers at CPC participating institutions are working with U.S. Fish and Wildlife officials on a multitude of projects. The network has pledged to help USFWS with recovery plans for native species that are federally endangered or threatened under the Endangered Species Act, proposed or candidate species, and state species of special concern or interest. Both CPC and USFWS work together to support research, education, conservation and the transfer of information and technology to enhance the formal recovery program and the recovery planning process for federally listed species. Conservation officers work with USFWS staff to obtain permits to collect seed or plant material to enhance existing supplies of plants or material suitable for seed banking. "Having the participation of the CPC network has been invaluable in achieving *ex-situ* conservation goals for some of our most endangered species," said Connie Rutherford, a botanist with the U.S. Fish and Wildlife Service in California. "It's a huge relief to know that, at the same time we are working in the field to find ways of improving habitat conditions for the last remaining pockets of these rare species, the entire genetic diversity of those species is being safeguarded at (participating institutions, including the Santa Barbara Botanic Garden), and will be available for restoration and outplanting efforts when the time is right."



The Ram's head lady-slipper (*Cypripedium arletinum*) graced the cover of CPC's first book, "Genetics and Conservation of Rare Plants."

■Honolulu Botanical Gardens maintains an *ex-situ* conservation collection of species from land managed by USFWS, the U.S. Army and the state.

■Harold L. Lyon Arboretum has stored germplasm and propagated endangered species on USFWS and U.S. Army land.

■Mercer Arboretum and Botanic Garden has partnered with USFWS for all eastern Texas species in the National Collection.

■The New England Wild Flower Society has surveyed populations of the federally listed small whorled pogonia (*Isotria medeoloides*), collected seed of the federally listed sandplain false fox-glove (*Agalinis acuta*), and worked on the restoration of the federally listed Jesup's milkvetch (*Astragalus robbinsii* var. *jesupii*).

■Rancho Santa Ana Botanic Garden has participated in the Ventura Marsh Milkvetch Recovery Plan Task Force.

■Red Butte Garden and Arboretum has partnered with the USFWS on a reintroduction of Clay phacelia (*Phacelia argillacea*).

■San Antonio Botanical Garden is producing plants of South Texas ambrosia (*Ambrosia cheiranthifolia*) reintroduction on USFWS land.

■Santa Barbara Botanical Garden has provided information to USFWS on rare species of the California central coast region.

■The Arboretum at Flagstaff is working on Seeds of Success to collect native seed to use in restoration after wildfires.

■Berry Botanic Garden works with the national, state and district offices of BLM, including a reintroduction, seed collecting, monitoring, and processing and storing seed.

■Chicago Botanic Garden recruits, trains and manages a land management intern program where field work is completed on BLM lands. Staff at Chicago have also worked on restoration genetics of *Penstemon* and *Eriogonum* species in the Great Basin.

■Denver Botanic Gardens is working with BLM on monitoring four rare plant species throughout Colorado.

■Desert Botanical Garden is working on a flora of the Agua Fria National Monument, assisting with rare plant monitoring and is involved in Seeds of Success.

■Lady Bird Johnson Wildflower Center is working on Seeds of Success.

■Two graduate students at Rancho Santa Ana Botanic Garden have completed two floristic studies on BLM lands.

■University of Washington Botanic Gardens is working on Seeds of Success.

■Red Butte Garden and Arboretum is conducting a monitoring project with BLM for two candidate species and is working on Seeds of Success.

■Regional Parks Botanic Garden completed a floristic study on Monoline Ridge and nearby areas in Fresno County, Calif.

Bureau of Land Management

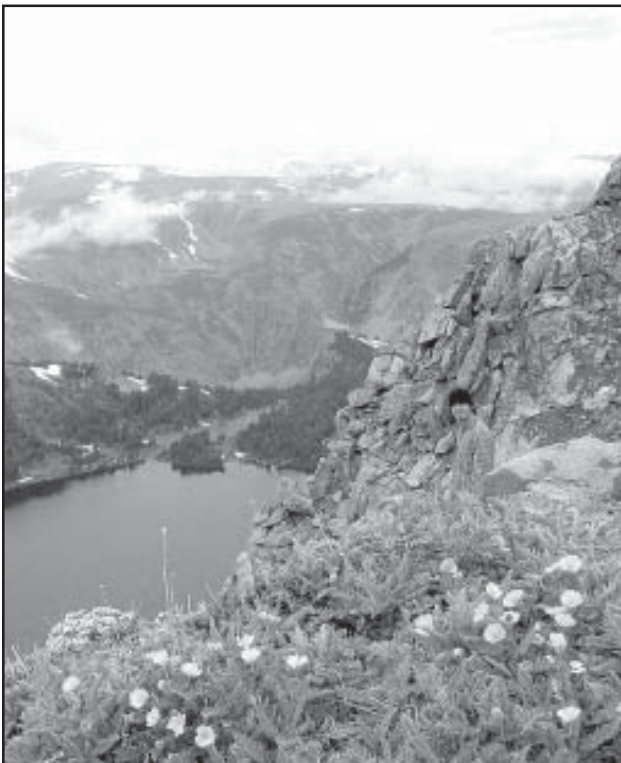
What is the Bureau of Land Management?

The Bureau of Land Management (BLM) manages more than 260 million surface acres of America's public lands, primarily in 11 western states, Alaska, Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, and Wyoming. The stated mission of BLM is "to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations." As an agency of the Department of Interior, BLM also manages 300 million acres of mineral estate throughout the nation. While the lands were historically held mainly for the commodities extracted from them, the bureau maintains some of its holdings for the recreational, natural, historical and cultural benefits they hold. Within BLM's surface lands, 55 million acres are forests and woodlands, including 11 million acres of commercial forests and 44 million acres of woodlands. The agency is responsible for managing the habitats for more than 600 federally listed species and more than 1,500 sensitive species. BLM's Fish, Wildlife and Botany Group oversees the outdoor recreation, livestock grazing, mining development and energy production. BLM provides advice, guidance and information for the protection, conservation and improvement of fish, wildlife and botanical resources. Additionally, BLM works on recovery of listed plants and development of native plant materials through the Plant Conservation Program.

Web: www.blm.gov

How do CPC and BLM work together?

CPC has had a cooperative agreement with BLM since 1991. Wildfires ravage the western landscapes frequently. Shortages of native plant materials are troublesome. BLM is providing funding to CPC participating institutions to assist in collection to establish stock materials of native plants. The Chicago Botanic Garden completed literature reviews of widespread native species that might be useful in restoration projects and also began some restorations tests. Berry Botanic Garden completed germination tests on seed from 26 populations to determine the seeds' viability and long-term storage capability. Other CPC institutions are working on BLM's Seeds of Success project to collect native seed to increase the amount of seed available for use in stabilizing, rehabilitating and restoring plants to the wild. BLM has also supported outreach programs, such as "Celebrating Wildflowers," a program aimed at educating the public about native plants and their value. In 2004, CPC expanded its relationship with BLM to include an assessment of *ex-situ* materials available for BLM species of conservation concern, an assessment of monitoring efforts on BLM lands and help in the organizing of a national meeting of non-federal cooperators for the Plant Conservation Alliance.



ABOVE: Most of the remaining wild populations of Wright's fishhook cactus (*Sclerocactus wrightiae*) survive on BLM land.
LEFT: Interns with the Chicago Botanic Garden get a chance to work in some of the most inspiring areas in the West.

“

CPC and its participating institutions have consistently provided practical information on *ex-situ* conservation and as a collective, is generally regarded as the main source of information on the subject.

”

Bill Brumback,
conservation director, New England Wild Flower Society



CPC and many of its participating institutions have been instrumental in the successful PCA/NFWF grant program, which has funded 185 projects totaling at least \$8 million for on-the-ground conservation.



Peggy Olwell,
BLM Plant Conservation Program manager and PCA Federal Committee chair

Plant Conservation Alliance

What is the Plant Conservation Alliance?

PCA is a consortium of 10 federal government member agencies and more than 220 non-federal cooperators representing various organizations, agencies and plant-based industries. PCA members and cooperators work collectively to solve the problems of native plant extinction and native habitat restoration, ensuring the conservation of our native plant ecosystems. Federal officials and cooperators serve together on working groups that deal with restoration, medicinal plants, public outreach and invasives. Those groups meet to discuss the issues relevant to their topic area and work collaboratively to accomplish more native plant conservation. Two key components of the on-the-ground conservation work of PCA are the Native Plant Materials Development Program and the Seeds of Success Project. The NPMDP provides funding for the development of new native plant materials that can be used for rehabilitation in fire-ravaged areas, restoration of sagegrouse habitat and restoration of habitats after removal of invasives. Working with the Forest Service and other USDA agencies, NPMDP focuses on developing a wider variety of native grasses, forbs, and shrubs for restoration projects throughout the U.S. Seeds of Success is a collaborative effort with The Royal Botanic Garden Kew's Millennium Seed Bank project, which coordinates seed collection of native plant populations to increase the number of species and the amount of native seed that can be used in stabilizing, rehabilitating and restoring land in the U.S.

Web: www.nps.gov/plants

How do CPC and PCA work together?

CPC is committed to gathering other non-governmental organizations together to work for plant conservation. In 2004, Kathryn Kennedy, CPC's executive director, was chosen to lead the NGO committee for PCA. Plans were made to survey various groups that represented industry, nonprofits and other conservation groups and bring together representatives in a meeting to discuss what these groups believe is necessary to further the development and use of native plant materials and what they can do to help. PCA is the administrator for the Native Plant Materials Development Program within BLM.

National Fish and Wildlife Foundation

What is the National Fish and Wildlife Foundation?

Established by Congress in 1984, the National Fish and Wildlife (NFWF) Foundation is a private, nonprofit organization dedicated to the conservation of fish, wildlife, plants and the habitat on which they depend. The foundation's state goals are "to promote healthy populations of fish, wildlife and plants by generating new commerce for conservation." The foundation accomplishes its goals by creating partnerships with the public and private sectors by investing in conservation and the sustainable use of the nation's natural resources. NFWF provides matching grants for on-the-ground conservation by building partnerships with various groups committed to conservation, by leveraging funds through assuring a 2-to-1 return on invested funds and by delivering revenue.

Web: www.nfwf.org

How do CPC and NFWF work together?

The foundation has considered and funded several CPC projects since the 1980s. Some of the projects include sponsorships for plants in the national collection and training for conservation biologists. NFWF funded several editions of CPC's conservation directory, a publication listing contact information for plant specialists around the nation, and funded the development of CPC's Plant Conservation Workshop. Currently, NFWF is assisting a project to assess the potential for recovery of imperiled plants on federal lands. CPC participating institutions have begun work on an unprecedented and comprehensive review of native plants regulated under the Endangered Species Act. "CPC is honored to receive these funds and is pleased to be able to move ahead with this project," said Kathryn Kennedy, president and executive director of CPC. "We believe these summaries will illuminate the species where federal agencies can move forward efficiently to achieve recovery. We will also have a more realistic idea of the resources needed for both federal and private recovery programs." NFWF has also funded many projects at CPC's participating institutions. For instance, the Lady Bird Johnson Wildflower Center in Austin, Texas, received NFWF funding to pay for seed collecting on private lands. Because there is a small percentage of land under federal control in Texas, the center has conducted more than 50 projects through its access to more than 150,000 acres of private land.

“

The Center for Plant Conservation has bolstered the NCBG Conservation Department rare plant recovery activities by providing opportunities for grant funding, research, training workshops, and by encouraging us to strive for excellence in our program.

”

Johnny Randall,
*assistant director
for conservation,
North Carolina
Botanical Garden*

“

One of the benefits of working with CPC is that it provides our institution the opportunity to work with the most sensitive and endangered native plants of our region... CPC helps us to deepen our knowledge and interest in the most vulnerable of these species.

”

Sheila Murray,
research assistant,
The Arboretum at
Flagstaff

Patterson

Continued from Page 21

along with the slide show at tri-club dinner meeting,” Patterson said. “Shortly thereafter, the three clubs jointly sponsored van Brunt’s Jacob’s ladder, *Polemonium vanbruntiae*. Subsequently there were many more (sponsorships) and we all felt very good about the work we had done and in many instances continue to do.”

She remembers former CPC staff member Polly Penney’s coming to GCA headquarters in New York to train the team so they weren’t going in cold with just a slide show. “We had three things to do: Tell them what you’re gonna tell them, tell them and tell them what you told them. That was the nuts and bolts of it,” she said.

And Patterson’s path in the plant world has been no accident. It started early in Bernardsville, N.J., with her working with her garden-loving father, pushing a faded red toy wheelbarrow and pulling weeds by hand. And after lying dormant for a few years while she was a mother and housewife through the 1960s, it began to grow again after she attended a lecture at the New York Botanic Garden by noted landscape architect Dan Stewart.

“He was fabulous. He changed my vocabulary of thinking. So I took more courses and took more courses until I got the landscape design certificate,” she said.

After volunteering her new skills for a garden club project, Patterson’s first paying job was designing a detailed plan for a woman’s home at \$5 an hour. Twenty-five years later, she’s still running Patterson Design and Consulting in Greenwich.

“I had never planned to become a landscape designer. It was just another example of life happening while you’re making other plans.”

While her business is small, she does what she can to make sure her clients use the “right plants in the right place.”

“I try to encourage the use of native plants where it’s feasible,” she said. “And I try to keep the chemical content down. You can only do so much but you can do something.”

Patterson has been involved with Hortulus, a GCA club in Greenwich, since 1967. She’s served in nearly every role from president on down and served on the national level. And she’s encouraged by the future.

“We’ve got an incredible core of young gals from 30 to 50,” she said.

“Hortulus recently celebrated its 75th anniversary this spring and it was encouraging indeed to see the core group of bright and caring young women 30ish and up who clearly care about the future of our planet.”

— Mark F. Barnett



Florida ziziphus, or *Ziziphus celata*, is so rare that the taxonomists who named it thought they were describing an extinct species. It was named and described in 1984 from a specimen that had languished in an herbarium drawer for 36 years. No live plant was known to the taxonomists who described it. In 1987, however, six small populations of Florida ziziphus were discovered along a 35-mile stretch of the Lake Wales Ridge in Central Florida.

Woman leaves her mark with passion for gardening

Florida woman helps start educational programs in conservation for children living in suburban Chicago

Patricia Healy loves children and gardening. And to her, plant conservation is a key component of education.

“If you ask the average child where a carrot comes from, they’d say the supermarket,” Mrs. Healy said. “We want them to know where they come from. They come from the ground and a seed.”

Mrs. Healy and her husband, Laurin, have financially supported CPC since 1988 through her connection with the Garden Club of America. “I believe in plant conservation,” Mrs. Healy said. “That’s my main interest in life, besides my family. It doesn’t do any good to save that rose if you don’t save the ground that it grows in. I’ve been an ardent supporter of plant conservation for a good many years.”

A founding member of the Grass River Garden Club in Delray Beach, Fla., Mrs. Healy has combined her loves by working on an educational program that began when she was a member of the Winnetka (Ill.) Garden Club. At the time, the education project she worked on in Winnetka taught fourth-graders about prairies, fifth-graders about woodlands and sixth-graders about wetlands. The roots of that program have grown and the study of different ecosystems is still going on today. “I love to share what I know with others,” she said. “I used to give a speech once in a while.”

The snowbirds moved permanently to Delray Beach in 2001. They’ve been married for 66 years; she celebrated her 89th birthday in November 2005 and her husband turned 92 in September 2005. “And he’s a dream for putting up with me for all these years,” she said.

Mrs. Healy and her husband have visited and supported the Chicago Botanic Gardens and Fairchild Tropical Botanic Garden, both CPC participating institutions, over the years.

“

I’ve been an ardent supporter of plant conservation for a good many years.

”

Patricia Healy,
longtime CPC donor and GCA member

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Our donors really are the heart of the Center for Plant Conservation. Their passion inspires us to work even harder so we can meet their expectations of supporting a well-managed, committed, caring conservation organization with a nationwide reach.

CPC salutes all of our donors. Some have been with us for 20 years. Some found us for the first time this year. They all care about our world and want to help save imperiled plants. We are honored that they believe CPC can make it happen.

“
We would not exist without our donors. We share our vision with them and in return we catch their enthusiasm. Their commitment to conservation is humbling and inspiring.”

And CPC can make it happen for this country's imperiled plants. We have the network, the expertise, and the ability to collect seed, conduct research, and undertake restoration. We can get the word out and build the coalitions

that will bring people in the public and private sectors together to reach our common goal of saving America's vanishing flora.

That is what our donors' support makes possible and that is what will save plants threatened by loss of habitat, invasive species and over-collecting.

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