



Reinventing the Children's Garden

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AABGA Editor

By turning plant science into child's play, public gardens are reaching an important new audience.

It's a Thursday afternoon in early July, the thermometer registers 93 degrees F, and the air is sticky—conditions that ordinarily cause a kid to tug on his or her parent's arm and ask "when can we go home?"

But that's not the case at the Everett Children's Adventure Garden, 12 acres of interactive learning landscapes and exhibits at The New York Botanical Garden in the Bronx. Instead, children here are asking parents and "explainers" (interpreters) questions about plants. They're also winding their way through garden paths, responding to simple signs and discovery stations, laughing while splashing in a fountain, and huddling over microscopes. On any given day throughout the year, the Everett Children's Adventure Garden is filled with children who are excited to be learning about *plants and the environment*.

The New York Botanical Garden is not unique in having a children's garden (at least 60 of AABGA's 475 institutional members have some type of children's garden or youth gardening program). But along with Michigan State University's 4-H Children's Garden and several others, the Adventure Garden represents a new *kind* of program taking shape at public gardens across America. This year alone, the Red

Butte Garden and Arboretum, the Atlanta Botanical Garden, and the Camden City Garden Club, to name just a few, will open or have opened similar children's gardens. Many more are in the planning stages.

What's going on? The new wave of children's gardens reflects a shift, not so much in popular taste, but in the way public gardens view this visitor segment and in educational programming. "Children and families were underrepresented in public gardens until we [public gardens] realized that this is an important audience," explains Catherine Eberbach, Director of Exhibitions at The New York Botanical Garden. "It also became clear that we could reach and keep this audience by using interactive exhibits and landscapes through which kids have the freedom to explore on their own."

Discovering What Works

Like many botanical gardens and arboreta, NYBG has operated a children's gardening program for years. The area now called the Ruth Rea Howell Family Garden has been NYBG's place for children's gardening since 1986, and an earlier children's site preceded it. Until eight years ago, NYBG's Family Garden resembled other traditional youth gardens—plots that children could dig, plant, weed, and water. Beginning in

1991, guided tours and discovery stations were added, resulting in a free drop-in program called Family Garden Adventures. The positive response to these new offerings, coupled with changes in public schools, helped lay the groundwork for the Everett Children's Adventure Garden.

"The Adventure Garden emerged from a confluence of factors," says Catherine. "We were aware of the growing crisis in science education within our schools, along with the understanding that schools cannot be expected to 'do it all'. At the same time, more federal support was becoming available to institutions such as ours." Museums of all kinds, including botanical gardens, began reexamining their educational programming for children. NYBG completed an institutional plan to improve visitor experience and, specifically, to develop family experiences, building upon its successful, existing children's program.

The Ruth Rea Howell Family Garden proved an excellent venue for testing prototypes for the Adventure Garden. In addition to gathering information about new discovery activities and interactive exhibits, the staff found that interpretive signs needed to be very simple and direct. Words such as "pollinator," which caused some visitors to falter, were replaced with more descrip-



Illustrations courtesy of The New York Botanical Garden; Kids Adventure Guide booklet

tive terms, such as “pollen mover.” To keep children involved, signs were revised to include a specific action (“Do This”). In

fact, every feature was evaluated from the child’s perspective:

the staff discovered that topiaries, for instance, don’t have to be huge—especially if children are helping to make them. These

lessons, current research

on how children learn, expertise from landscape architects and exhibit designers, and NYBG’s master plan all helped shape the Everett Children’s Adventure Garden. In addition, Catherine Eberbach and her team worked with teachers to ensure that exhibits would fulfill New York State science curriculum requirements for grades 1 through 6.

Now in its second year, the Adventure Garden includes distinct areas, or indoor and outdoor “galleries,” with plant-related activities that correspond to classroom science lessons for a given grade. In the Con Edison Pond Gallery, for example, children *experience* an ecosystem (a grade 6 level concept). Kids scoop water from the pond, then examine the tiny plants and animals with a hand lens; others weave plant materials around frames to replicate the process a bird uses to build its nest, and to help illustrate the relationship between the plants and animals that share an ecosystem.

The garden’s appeal goes far beyond the classroom and school year, though. Children

visit the Adventure Garden year-round with parents, grandparents, and other caretakers, freely exploring and learning from all areas of the garden. During the summer, the Adventure Garden is open to families 10:00 a.m. to 6:00 p.m. During the school year, families visit from 1:00 p.m. to closing.

One very unique feature of the garden is the William and Lynda Steere Plant Discovery Center, which includes indoor discovery rooms and the Bendheim Teacher Center, where children can study plants much as a botanist would. Here, kids of all ages perform science experiments, press plant specimens for the Bendheim Kids Herbarium, and learn to use microscopes.

The Ruth Rea Howell Family Garden—a short walk away from the Adventure Garden—complements the newer garden. “After kids experience the Adventure Garden, many come back with their parents and go to the Family Garden to put into practice what they’ve learned,” says Catherine.

The Family Garden offers ongoing programs, such as its four cultural gardens (52 languages are spoken within one neighboring school district!), its “greenthumbs program” (a drop-in gardening program), and permanent features, such as a pond and meadow. In addition, children help create new features each year; this year, for instance, projects included topiaries, a plant petting zoo, and a rainbow garden.

Kids also can sign up for the Children’s Gardening Program, a 10- to 12-week program that offers down-to-earth activities

such as digging, planting, watering, and composting. About 150 children and parents—most from the surrounding Bronx neighborhoods—participate each season.

Blazing a New Trail

Back in 1993, when The New York Botanical Garden was beginning to rethink and expand its existing children’s garden program, Jane Taylor was preparing to open an entirely new children’s garden, part of the Horticultural Demonstration Gardens on the campus of Michigan State University in East Lansing. That garden—MSU’s 4-H Children’s Garden—is considered by some to be the forerunner (and still one of the finest) of the new interactive children’s gardens. Jane Taylor, the garden’s founder and first curator, has inspired many others to follow her lead.

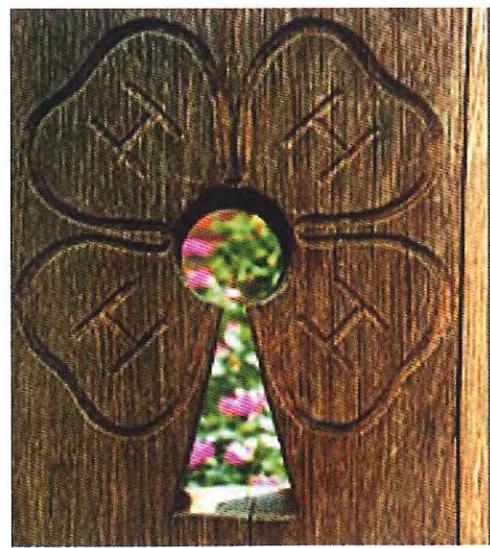
“When Jane Taylor made the children’s garden presentation at the 1992 AABGA annual meeting, we were all blown away,” says Cindy Reitinger, Atlanta Botanical Garden’s Education Director. “We all went home thinking, ‘we’ve got to have this!’ The concepts introduced would enable us to bring children into the garden in ways and numbers we never dreamed possible.”

Planning for the 4-H Children’s Garden began as early as 1986. As a botanist who had visited many public gardens, Jane had observed that children typically left gardens disenchanted and bored because “plants didn’t seem relevant to their everyday lives.” Traditional youth gardening pro-



KAY WHEELER

Entryways for children: At NYBG’s Con Edison pond gallery (left)—part of the Everett Children’s Adventure Garden—kids discover aquatic plants; keyhole view of the 4-H Garden (below)



BRUCE A. FOX, MEDIA RELATIONS, MSU

grams, though successful in getting children into the garden, could reach only a small number each year.

Certain that there had to be a better way to make gardens appealing to children, Jane met with landscape architects Deb Kinney and Jeff Kacos of the University's Division of Campus, Park, and Planning, then began research, fund-raising, and planning for a new children's garden. Educational research to be used in designing the garden was conducted by Dr. Alice Whiren, professor of Family and Child Ecology with MSU, who worked with staff and students in MSU's Laboratory Preschool.

"We were the first garden to do research with young children," says Jane. "Previously, gardens were designed only for children 8 and older. Now, research confirms that the most important time for brain development is birth through age 3."

The 4-H Children's Garden is just $\frac{1}{2}$ acre in size but includes 60 different theme areas—all of them interactive and focused on plants. According to Jane, a small, enclosed garden is best for children because it allows children the freedom to explore the plants within it.

"Our goal is to allow children to interact with real plants," she says. "A children's garden can be interactive without a lot of expensive displays." To that end, the 4-H Garden includes areas such as the Butterfly Garden (kids walk through a butterfly-shaped planting composed of species attractive to butterflies), the Cereal Bowl Garden (corn, wheat, and other grains planted in a

cereal bowl shape, with an antique millstone at the center), and a round Pizza Garden (minus a slice!).

Dr. Norm Lownds, the garden's current curator, is now working to extend the garden's educational reach even further by developing computer programs to link with classrooms, not only in Michigan, but all over the world. (For the garden's website, see the end of this article.) Jane Taylor, now retired, is an adjunct faculty member in the department of horticulture and works as a consultant on children's gardens.

Designing for Children

Both the Everett Children's Adventure Garden and Michigan State University's 4-H Children's Garden are national models of successful alternatives to traditional children's gardens. But Catherine Eberbach and Jane Taylor are quick to point out that a children's garden should be designed to meet the needs of its particular community: What works in one region might not be the best idea for another. "Gardens need to figure out what they do best, then do research to fit their niche, before creating a new garden for children," says Jane Taylor. "Too many gardens are just copying what others have done."



BRUCE A. FOX, MEDIA RELATIONS, MSU—PHOTO FROM 4-H GARDEN WEBSITE

At the 4-H Children's Garden, plants are irresistible!

Successful children's gardens do share some common elements, however.

Although it might seem obvious, planners of interactive children's gardens need to remember that plants should come before any bells or whistles. Jane feels strongly that plants should be central to a children's garden that seeks to teach, and that a horticulturist should be involved in the garden's planning.

The primary role of plants in a child's garden is supported by research done by Catherine Eberbach for her 1988 Longwood (University of Delaware) graduate thesis, *Garden Design for Children*. When Catherine analyzed 178 children's drawings of gardens (demonstrating a child's perception of a



FRED CHARLES

Simple signs and interactive exhibits at the Adventure Garden's Meadow Gallery encourage children to become "pollen movers." In the process, they learn about pollination.

“garden”), she found that 98 percent included plants. Animals ranked second at 27 percent and water (evoking activity) ranked third at 21 percent, followed by fences, people, and trellises.

Equally important, nearly all of the drawings depicted activity, further reinforcing the notion that children perceive gardens as interactive experiences, adds Catherine.

Also, remember to treat respectfully the children who will visit your garden. “Don’t make the mistake of thinking that children won’t notice if you are inaccurate when modeling a display after a children’s book,” warns Jane. “If you are following a *Wizard of Oz* theme, for example, make sure your yellow brick road is *yellow*, not orange or red, and the ‘brick’ is real brick. Children are literal!”

Respect for children should influence the use of art in the garden, as well. “I was horrified when a landscape architect suggested that an inner city children’s garden should include old tires and trash bathtubs used as sculpture, because the kids could relate better to that environment,” recalls Jane. “It’s important to teach children—

regardless of their background—an appreciation of fine art. Instead of ‘talking down’ to them, our choices should send the message that we believe they have enough sense to appreciate authentic art. Children are to celebrate.”

For more advice on children’s garden design, see page 8.

Handling Success

If the Everett Children’s Adventure Garden and MSU’s 4-H Children’s Garden are good indicators, then the new interactive children’s gardens are a success. Although no follow-up studies have been completed to assess the effect of these gardens upon children, Michigan State University has begun to measure attitudinal changes in children who visit the 4-H Children’s Garden. Meanwhile, visitor response suggests that these gardens are, at the least, an excellent way to bring children and families into the garden.

At the Adventure Garden, attendance has met expectations, according to Catherine Eberbach. Since the Adventure Garden opened in May 1998, about 135,000 people

Everett



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New York Botanical Garden
Bronx, New York

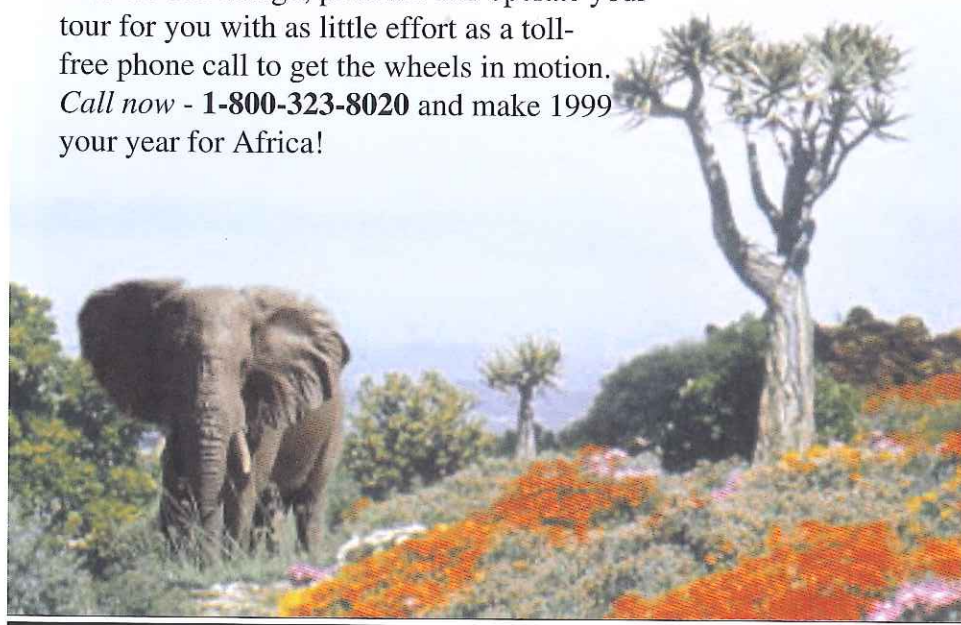
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have visited. And, according to NYBG Director of Public Relations Nancy Ross, "our family membership base has grown from about 8,000 to more than 11,000 since the opening of the Everett Children's Adventure Garden."

Visitor response at the 4-H Children's Garden has been equally strong. In its opening year, the garden received more than 10,000 visitors per week, five to six times more than anticipated. Visitation to the 4-H Children's Garden now averages about 250,000 per year, with many visitors returning several times each week, according to Jane Taylor. In addition, the garden has received national media attention, including coverage on the *Today* show and *Good Morning America*.

How does a garden manage so many excited children? To handle school groups, NYBG has instituted a system of timed admissions to the Everett Children's Adventure Garden. From 10 a.m. to 1 p.m., Tuesday through Friday, the Adventure Garden is open exclusively to school groups.

Between 10 a.m. and 11 a.m. (called "Prime Time"), teachers who have participated in a training program may reserve a gallery for their exclusive use. School group admission is by preregistration. Between 11 a.m. and 1 p.m., school groups can enter three at a time, every 15 minutes, depending on demand. This enables explainers to interact with a steady flow of visitors.

During the summer, the Adventure Garden is open to the public from 10 a.m. to 6 p.m.; during the school year, it is open to families from 1 p.m. until closing.

The university campus setting of the 4-H Children's Garden has made visitor management all the more challenging for that garden. Because the garden lacked the staff needed to handle large groups, the university hired a part-time tour manager who works from April through October. Groups call in advance to schedule a tour, and the tour manager then lines up docents to lead the tour. The tour manager also handles special events in the garden.

Safety concerns? Even though both the Everett Children's Adventure Garden and MSU's 4-H Children's Garden encourage children to move freely throughout the garden, neither has experienced any serious problems with injuries to children. "Our biggest problem is with university students who visit at night after the bars close, as there is no gate to lock," reports Jane Taylor.

Managing visitors is important, but don't go too far—keep in mind that an educational environment, such as a children's garden, should be nonthreatening. And "because children's gardens are nonthreatening environments, they are the best possible places to teach people of all ages," says Jane. "Children's gardens draw visitors, giving you the opportunity to educate—the whole purpose of many institutions. When people are not in your garden, you lose that opportunity."

Thanks to Sally Reece Benfield, who contributed to this article.



Editor's note: For a listing of AABGA institutional members with children's programs, visit the AABGA website at <http://www.aabga.org>. Click on Member Gardens, then use the search feature. For more information on the Everett Children's Adventure Garden, visit <http://www.nybg.org>. For more information on the 4-H Children's Garden, visit <http://www.4bgarden.msu.edu/>.

A Parent's View

For the past three years, our school—the A.W. Hammer Elementary School in Wethersfield, Connecticut—had sponsored a parent-and-child bus trip to the Bronx Zoo during the school's spring break week. This year we offered a choice of either the Zoo or the Everett Children's Adventure Garden at The New York Botanical



JASON GREEN

Garden, which had opened the previous spring.

Parents and children filled three 47-passenger buses in total, with slightly less than one full bus choosing to visit the garden. But those who did visit the garden gave rave reviews.

The children in our group rushed into the Adventure Garden with all the unrestrained enthusiasm that the word "adventure" promises. Within minutes, children were participating in a variety of interactive, interpretive activities throughout the garden. While David jumped on a lily pad—causing water to arc over a topiary frog—Meg led Ben through a maze garden, and Ned and Caroline began weaving their own cozy home in an oversized, stainless steel bird's nest. Elizabeth was busy constructing a 5-foot flower from brightly colored component parts, learning key elements of plant identification in the process.

The morning hours of timed entry by reservation for school groups allowed the children to freely explore all areas of the garden at their own pace, with ample opportunities for docent interaction. Although indoor, docent-led activities were available, our group leaned strongly toward the outdoor exhibit areas. Many children were captivated by the wetlands and pond, where they spotted fish, turtles, nesting waterfowl, birds, and butterflies; docent-led pond-dipping and microscope exercises offered participants a micro-view of the same environment.

Children's gardens that provide experiences such as these for their visitors almost certainly guarantee long-term rewards for their institutions and visitors alike.

*Sally Reece Benfield
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