

Wilder in the City

A city park in North Carolina is an experiment in biodiversity stewardship and food-web management.

BY TIMOTHY A. SCHULER

ABOVE
Downtown Cary Park's ponds serve as a backdrop for Marc Fornes's *L'île Folie* and the backbone of a constructed ecosystem.

The new downtown park in Cary, North Carolina, is an undeniable crowd-pleaser. The constructed sandstone bluffs with fountain jets that erupt from the rocks and the boulder-strewn dog park turn the space into a wonderland for kids and canines alike. But the seven-acre park, which opened in November 2023, also offers a haven for more demure denizens. The park's abundant and diverse plant palette has measurably increased biodiversity in this part of the city in an ongoing experiment in how to manage a public park as a bo-

tanical garden and, more specifically, a food resource for wildlife.

"We're up to 118 different species of birds that have been seen in the park," says Patrick McMillan, the director of horticulture for the park. He points to the surface of the park's rock-lined pond, which doubles as a stormwater basin. "Look at the dragonflies. We've got 19 species of dragonflies that use this pond. It's crazy."

Downtown Cary Park is a testament to what is possible when a commu-

nity invests not just in public space but also in a design philosophy that prioritizes local ecology, and in the personnel required to maintain that stewardship. McMillan's position is full-time and dedicated to this one park alone. This extraordinary investment makes McMillan more like a curator of a botanical garden, a role he's played elsewhere. Prior to joining the City of Cary, McMillan was the director of Heronswood Garden in Kingston, Washington, and before that the director of the South Carolina Botanical Garden on the Clemson

University campus. He saw in Downtown Cary Park an opportunity to steward a different type of garden.

The park was unusual from the start. Around 2000, the city began acquiring residential and commercial properties near downtown with a plan to preserve the land as open space. In 2017, the city completed the first phase of work: a one-acre green space comprising an oval-shaped lawn, a circular fountain, and trees and benches along Academy Street. In 2019, a new public library was built next to the site, along with a parking garage to serve the library and the future park. That same year, voters approved a \$112 million parks bond, including \$50 million for the rest of the park.

A team led by OJB's Boston office and the architecture firm Machado Silvetti conceptualized a park that capitalizes on the site's natural topography and the microclimates created by the existing trees. The site generally slopes west to east, dropping in elevation by 30 feet with pockets of uneven terrain and a shallow ravine that had been turned into a stormwater channel. The designers carved out some areas and filled others but otherwise followed the contours of the landscape. OJB worked with the designers at Fluidity to transform the stormwater channel into a rushing stream, which, like the park's two splash pads, is fed with recirculated water. The stream cascades into a series of ponds, which receive storm-

water from a total of 18 acres—an area almost three times the size of the park itself—and which are sized to manage a 500-year storm, helping alleviate flooding and water-quality issues downstream.

As one descends toward the stream and the lotus-filled pools, the plantings grow denser and the character of the park becomes wilder, though still highly choreographed. It is here on a serpentine boardwalk floating above the largest pond that the sights and sounds of the park's nonhuman visitors begin to eclipse those of children playing or couples conversing. The trill of what sounds like a yellow-rumped warbler emanates from the forest glade next to the

BELOW

The park forms a new social and ecological spine for the community within North Carolina's Research Triangle.



TREES

Acer floridanum (Florida maple)
Acer rubrum 'Built to Last' (Built to Last red maple)
Amelanchier × grandiflora (Serviceberry)
Asimina triloba (Pawpaw)
Betula nigra (River birch)
Carpinus caroliniana (American hornbeam)
Cercis canadensis (Eastern redbud)
Chionanthus virginicus (Fringe tree)
Cladrastis kentukea (Kentucky yellowwood)
Cornus kousa (Kousa dogwood)
Cryptomeria japonica (Japanese cedar)
× Gordlinia grandiflora (Mountain gordlinia)
Hamamelis × intermedia (Hybrid witch hazel)
Ilex 'Nellie R. Stevens' (Nellie R. Stevens holly)
Ilex opaca (American holly)
Ilex vomitoria (Yaupon holly)
Juniperus virginiana (Eastern red cedar)
Liquidambar styraciflua 'Rotundiloba' (Sweet gum)
Magnolia 'Ann' (Ann magnolia)
Magnolia 'Betty' (Betty magnolia)
Magnolia grandiflora (Southern magnolia)
Magnolia macrophylla (Bigleaf magnolia)
Magnolia virginiana 'Green Shadow'
 (Green Shadow sweetbay magnolia)
Magnolia × loebneri 'Leonard Messel'
 (Loebner magnolia)
Nyssa sylvatica (Black gum)
Pinus taeda (Loblolly pine)
Quercus lyrata (Overcup oak)
Quercus phellos (Willow oak)
Quercus shumardii (Shumard oak)
Quercus texana 'QNFTA' (Highpoint Nuttall oak)
Quercus texana 'QNSTC' (Esplanade Nuttall oak)
Sabal minor (Dwarf palmetto)
Salix babylonica (Weeping willow)
Taxodium ascendens (Pond cypress)
Taxodium distichum (Bald cypress)

SHRUBS

Abelia × 'Rose Creek' (Rose Creek abelia)
Aesculus parviflora (Bottlebrush buckeye)
Agarista populifolia (Florida hobblebush)
Ardisia japonica (Marlberry)
Aronia arbutifolia (Red chokeberry)
Aronia melanocarpa 'UCONNAM165'
 (Low Scape Mound black chokeberry)
Aspidistra elatior (Cast iron plant)
Callicarpa americana (American beautyberry)
Callicarpa dichotoma 'Issai' (Purple beautyberry)
Calycanthus floridus (Eastern sweetshrub)
Camellia sasanqua 'Setsugekka' (Setsugekka camellia)
Caryopteris × clandonensis (Bluebeard)
Ceanothus americanus (New Jersey tea)
Cephalanthus occidentalis 'Bailoptics'
 (Fiber Optics buttonbush)
Cephalotaxus harringtonia 'Prostrata'
 (Spreading Japanese plum yew)
Clethra alnifolia 'Hummingbird'
 (Hummingbird summersweet)
Clethra alnifolia 'Ruby Spice' (Ruby Spice summersweet)
Deutzia gracilis 'Nikko' (Dwarf Nikko deutzia)
Distylium 'Linebacker' (Linebacker distylium)
Distylium 'Vintage Jade' (Vintage Jade distylium)
Fatsia japonica (Paperplant)
Fothergilla gardenii (Dwarf fothergilla)
Fothergilla major (Large fothergilla)
Gardenia jasminoides 'Frostproof' (Frostproof gardenia)
Hydrangea arborescens 'Annabelle' (Annabelle hydrangea)
Hydrangea paniculata 'Limelight' (Limelight hydrangea)
Hydrangea quercifolia 'Alice' (Alice oakleaf hydrangea)
Ilex vomitoria 'Stoke's Dwarf' (Stoke's Dwarf yaupon holly)
Ilex × 'Mary Nell' (Mary Nell holly)
Ilex × 'Sparkleberry' (Sparkleberry winterberry)
Illicium floridanum (Florida anise tree)
Itea virginica 'Henry's Garnet'
 (Henry's Garnet Virginia sweetspire)
Itea virginica 'Little Henry' (Little Henry sweetspire)
Juniperus chinensis 'Nick's Compact'
 (Nick's Compact Chinese juniper)
Mahonia × 'Soft Caress' (Soft Caress mahonia)
Morella cerifera (Southern wax myrtle)
Morella cerifera 'Don's Dwarf' (Don's Dwarf wax myrtle)
Morella cerifera 'Fairfax' (Fairfax wax myrtle)
Rhododendron 'George L. Taber' (George Taber azalea)
Sambucus canadensis (American black elderberry)
Sarcococca hookeriana var. humilis (Himalayan sweet box)
Spiraea japonica 'Little Princess' (Little Princess spirea)
Syringa × 'Penda' (Bloomerang purple lilac)
Vaccinium corymbosum (Highbush blueberry)
Viburnum nudum 'Winterthur' (Smooth witherod)
Viburnum × 'Moonlit Lace' (Moonlit Lace viburnum)

GRASSES & SEDGES

Bouteloua gracilis (Blue grama)
Carex amphibola (Eastern narrowleaf sedge)
Carex bicknellii (Bicknell's sedge)
Carex bromoides (Brome-like sedge)
Carex cherokeensis (Cherokee sedge)
Carex crinita (Fringed sedge)
Carex divulsa (Grassland sedge)
Carex flacca 'Blue Zinger' (Blue Zinger sedge)
Carex howei 'Bonnie and Clyde' (Bonnie and Clyde Howe's sedge)

LEFT

The park grows wilder as visitors move toward the center, with dense plantings of native shrubs and grasses creating a sense of discovery and enclosure.

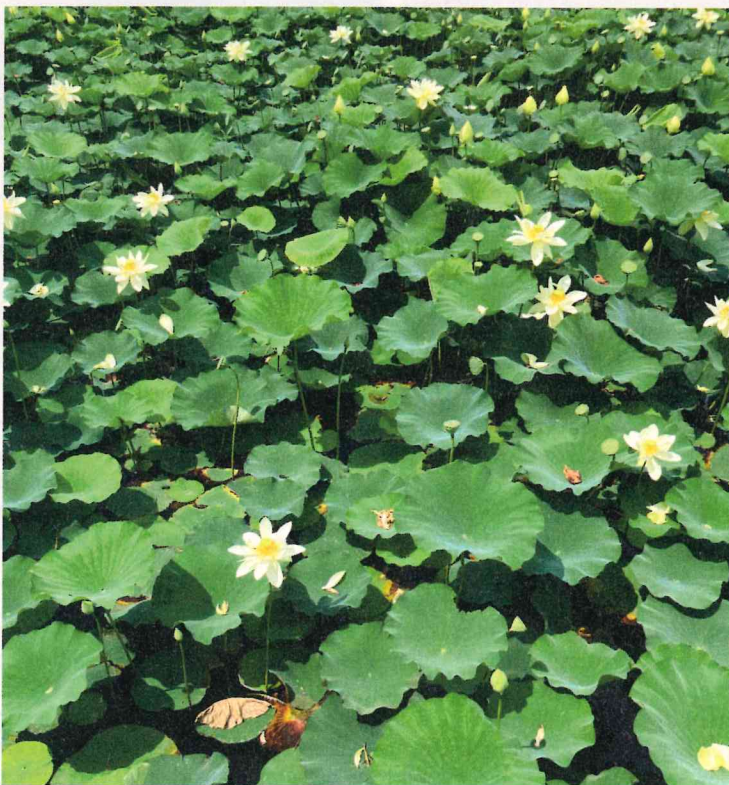


ABOVE

A stream bank is colonized by frogfruit, a perennial that will grow in water, sand, or clay.

RIGHT

Lotus plants provide a key habitat for dragonflies and damselflies.



Carex muskingumensis (Muskingum sedge)
Carex pensylvanica (Pennsylvania sedge)
Carex plantaginea (Plantain-leaf sedge)
Carex retroflexa (Reflexed sedge)
Carex socialis (Low woodland sedge)
Carex stricta (Upright sedge)
Carex texensis (Texas sedge)
Chasmanthium latifolium (Northern sea oats)
Coreopsis palustris (Swamp tickseed)
Deschampsia cespitosa (Tufted hair grass)
Equisetum hyemale (Scouring rush horsetail)
Juncus effusus (Common rush)
Muhlenbergia capillaris (Pink muhly grass)
Panicum virgatum 'Cape Breeze'
 (Cape Breeze switchgrass)
Panicum virgatum 'Northwind' (Northwind switchgrass)
Rhynchosporium latifolia (Broadleaf whitetop sedge)
Schizachyrium scoparium (Little bluestem)
Sporobolus heterolepis (Prairie dropseed)

PERENNIALS, VINES, GROUND COVERS & AQUATICS

Achillea millefolium (Common yarrow)
Actaea racemosa (Black baneberry)
Allium 'Millenium' (Millenium ornamental onion)
Amsonia hubrichtii (Arkansas bluestar)
Amsonia tabernaemontana (Eastern bluestar)
Asclepias incarnata 'Cinderella' (Swamp milkweed)
Asclepias perennis (White swamp milkweed)
Athyrium filix-femina (Common lady fern)
Baptisia australis (Blue wild indigo)
Dennstaedtia punctilobula (Eastern hay-scented fern)
Dryopteris erythrosora (Autumn fern)

Echinacea purpurea (Eastern purple coneflower)
Eryngium aquaticum var. *ravenelii* 'Charleston Blues'
 (Ravenel's swamp rattlesnake master)
Eupatorium perfoliatum (Common boneset)
Eutrochium dubium (Coastal plain joe-pye weed)
Farfugium japonicum var. *giganteum*
 (Giant leopard plant)
Ficus pumila (Climbing fig)
Geranium x 'Gerwat' (Rozanne hardy geranium)
Glandularia canadensis 'Homestead Purple'
 (Homestead Purple rose verbenas)
Helianthus agrestis (Southeastern sunflower)
Helianthus divaricatus (Woodland sunflower)
Helleborus 'Walhelivor' (Ivory Prince hellebore)
Heuchera x *hybrida* 'Carnival Black Olive'
 (Carnival Black Olive coral bells)
Hibiscus moscheutos (Swamp rose mallow)
Hymenocallis littoralis (Beach spider lily)
Iris virginica (Southern blue flag)
Kosteletzkya virginica (Virginia saltmarsh mallow)
Liatris spicata (Dense blazing star)
Liriope spicata (Creeping lilyturf)
Lobelia siphilitica (Great blue lobelia)
Macbridea caroliniana (Carolina birds-in-a-nest)
Malvaviscus drummondii (Wax mallow)
Monarda fistulosa (Bee balm)
Nymphaea odorata (American white water lily)
Oenothera lindheimeri (Lindheimer's beeblossom)
Onoclea sensibilis (Sensitive fern)
Osmundastrum cinnamomeum (Cinnamon fern)
Pachysandra procumbens (Allegheny spurge)
Phlox divaricata (Wild blue phlox)
Phlox stolonifera (Creeping phlox)
Polygonatum biflorum (Smooth Solomon's seal)
Polystichum acrostichoides (Christmas fern)
Pontederia cordata (Pickerelweed)
Rudbeckia fulgida var. *sullivantii* 'Goldsturm'
 (Goldsturm black-eyed Susan)
Rudbeckia hirta (Black-eyed Susan)
Sagittaria latifolia (Broad-leaf arrowhead)
Saururus cernuus (Lizard's tail)
Solidago rugosa (Wrinkle leaf goldenrod)
Symphyotrichum oblongifolium (Aromatic aster)
Thelypteris kunthii (Kunth's maiden fern)
Tiarella cordifolia (Heartleaf foamflower)
Verbena bonariensis (Purpletop vervain)
Veronica oltensis (Thyme-leaf speedwell)
Zephyranthes atamasca (Atamasco lily)

TURF

Cynodon transvaalensis x *C. dactylon* 'DT-1'
 (TifTuf Bermuda grass)
Zoysia (Lawnglass)



Patrick McMillan understands OJB's vision but can also iterate on it.



→ pond. A mallard dives for food amid the sedges. Cyan-colored damselflies drone their way through the bright green lotus leaves. It's an understatement to say that Downtown Cary Park would be a different place without the water; the ponds are a focal point but also, in the words of the designers, the park's "dominant ecological element."

it's up to the client to bolster that, protect it, and preserve it. And Patrick's done an incredible job of taking a baseline of what we've given the town and enhancing it in ways that I don't think even we envisioned."

In many ways, McMillan is a landscape architect's ideal partner. He understands OJB's vision but is also capable of iterating on it. Though native plants abound throughout the park, a section the designers dubbed the "botanical garden" offers the truest showcase of biodiversity. Extending perpendicular to the park's main axis, this quieter, scruffier space has emerged as McMillan's biological laboratory. Along paths surfaced only with mulch and scattered with a few groupings of Adirondack chairs, he points to a thick green mass of

Apocynum cannabinum, or dogbane, a relative of milkweed. It's a twiggy, tangled mess, nearly four feet high. Also known as Indian hemp, dogbane supports a host of pollinator species, in particular an iridescent beetle—*Chrysomelid auratus*, or dogbane beetle—endemic to the plant. "It's the only thing they eat," McMillan says, plucking the small insect off a leaf and holding it out. Its metallic sheen changes in the sunlight. "It's the most beautiful beetle in North America."

Not far from the dogbane is a youngish tree with slightly drooping branches and narrow lanceolate leaves—a sugarberry, *Celtis laevigata*, another of McMillan's additions. In general, sugarberry is an unpopular species.

ABOVE
Naturalistic play spaces take advantage of the site's existing topography and 30 feet of grade change.

ABOVE RIGHT
Dogs abound in this affluent community and get their own amenity-filled dog run on the east side of the park.

Attracting diverse wildlife and supporting pollinator species was a priority for OJB. But it was the city's decision to hire McMillan as a full-time director of horticulture for Downtown Cary Park—and, as of this summer, two more full-time staff—that pushed the vision into even more experimental territory. "As landscape architects, we can envision something being a certain way," says Simon Beer, ASLA, a principal at OJB. "However,

RIGHT

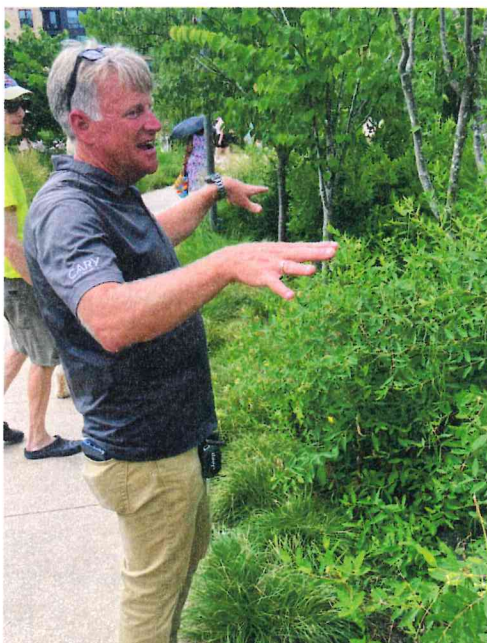
Large stone blocks bring visitors to the water's edge.

BELOW

Patrick McMillan, the park's director of horticulture, shows off a mass of *Apocynum cannabinum*, a key food resource for wildlife.

"It's one of the 'dirty' trees. It drops all the fruit and gets aphids in the fall, and so it gets all nasty with the aphid droppings," McMillan says. "But that's exactly why it's the most important tree for migratory songbirds in the autumn. All of the droppings from the aphids attract tons of little insects. So sugarberries are the most important neotropical migrant feeding tree in the South."

Downtown Cary Park opened in 2023, and it's clear that there is an ongoing exchange between McMillan and



the OJB team. Later on our visit, McMillan points out a delicate-looking plant that has colonized a portion of the stream: a flowering ground cover called frogfruit, *Phyla nodiflora*, a relative of lantern that's a prominent nectar source for skipper butterflies. Then he walks us up to where stacked sandstone blocks and a ring of birch trees enclose a multipurpose lawn. Frogfruit is also thriving here on a steep slope that descends from the top of the sandstone blocks, a completely different condition. "It grows in the desert or underwater," McMillan says of the perennial. "It'll grow on sand. It'll grow in rock-hard clay, like banks that nobody can ever do anything with."

"I mean, how great for slopes like this?" Beer says.

McMillan is working to bring this biodiversity to the forefront of the park experience. He keeps a list of all the birds sighted in the park, categorizing them by abundance. Once a year, in June, he helps organize a

weeklong BioBlitz at the park. Over the three years the park has been open, avian diversity has increased by 156 percent, according to the city.

These efforts are made possible by the coherence between the park's overall design and McMillan's stewardship efforts, which are mutually reinforcing. Dogbane, for example, could easily overwhelm many parks, growing too high and messy. But the planting design in Cary's downtown park, particularly in the botanical garden, is consistently fuller and more naturalistic than that of other public parks, McMillan says, which gives him freedom to experiment. "I can incorporate this plant that I've always wanted to have in habitats," he says of the dogbane. "I can leave advantageous things for the environment that otherwise wouldn't look good enough." ●

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