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A photograph of a person's hands hugging a large tree trunk in a park setting. The tree has a thick, textured bark. The background shows a grassy field, a path, and bare trees under a soft sky.

No Child Left Inside  
Why Environmentalism Must Change  
Reconsidering My Redneck Brother  
Hunting for the World's Largest Tree

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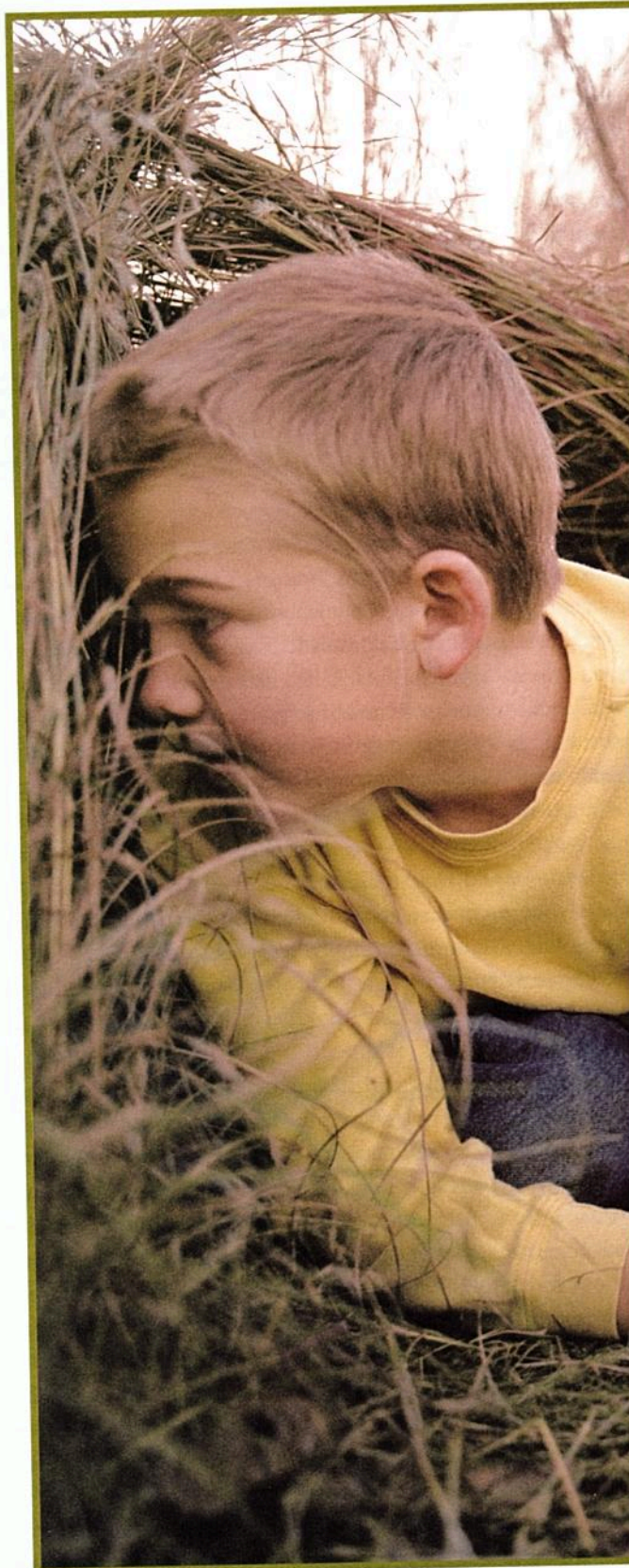
PHOTOGRAPHS BY KATE ANDERSON

# Leave No Child Inside

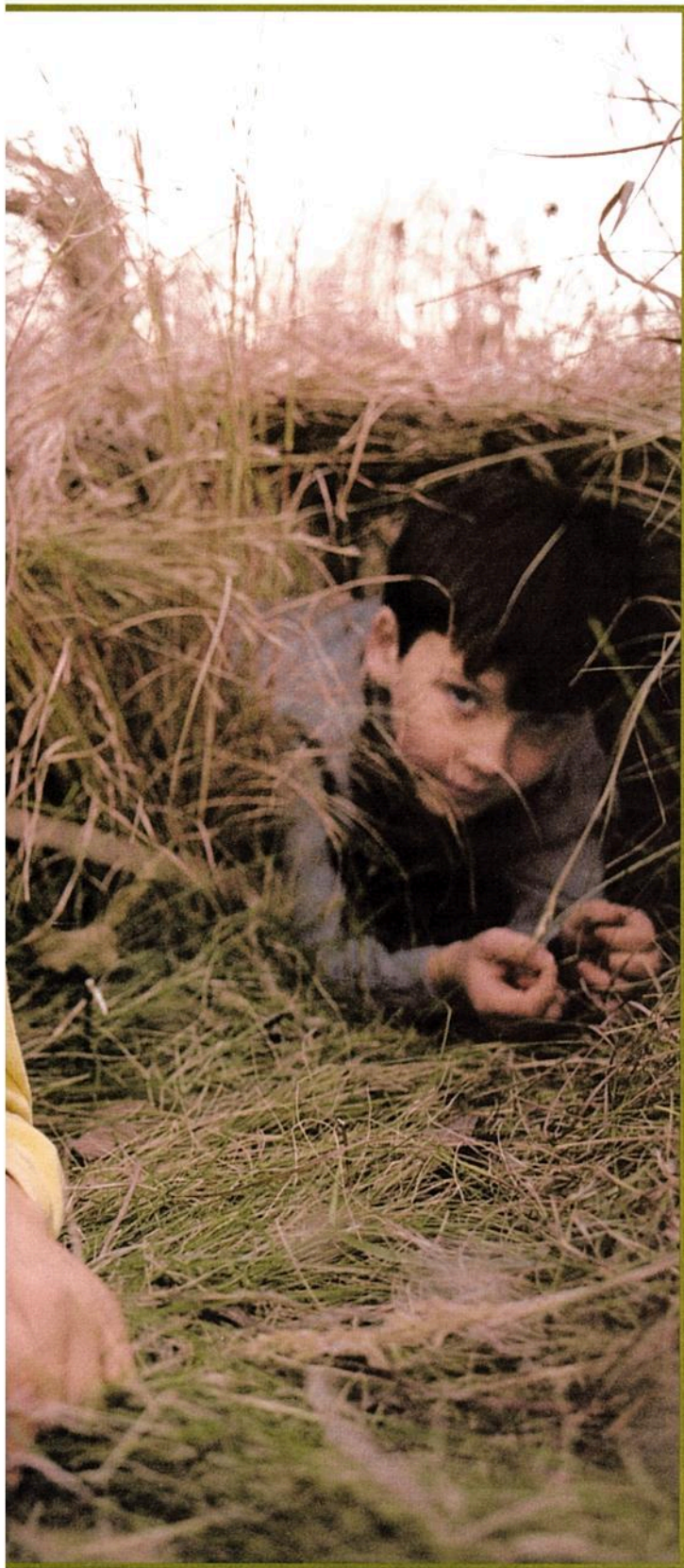
*The growing movement to reconnect children and nature*

**A**S A BOY, I pulled out dozens—perhaps hundreds—of survey stakes in a vain effort to slow the bulldozers that were taking out my woods to make way for a new subdivision. Had I known then what I've since learned from a developer, that I should have simply moved the stakes around to be more effective, I would surely have done that too. So you might imagine my dubiousness when, a few weeks after the publication of my 2005 book, *Last Child in the Woods*, I received an e-mail from Derek Thomas, who introduced himself as vice chairman and chief investment officer of Newland Communities, one of the nation's largest privately owned residential development companies. "I have been reading your new book," he wrote, "and am profoundly disturbed by some of the information you present."

Thomas said he wanted to do something positive. He invited me to an envisioning session in Phoenix to "explore how Newland can improve or redefine our approach to open space preservation and the interaction between our homebuyers and nature." A few weeks later, in a conference room filled with







about eighty developers, builders, and real estate marketers, I offered my sermonette. The folks in the crowd were partially responsible for the problem, I suggested, because they destroy natural habitat, design communities in ways that discourage any real contact with nature, and include covenants that virtually criminalize outdoor play—outlawing tree-climbing, fort-building, even chalk-drawing on sidewalks.

I was ready to make a fast exit when Thomas, a bearded man with an avuncular demeanor, stood up and said, “I want you all to go into small groups and solve the problem: how are we going to build communities in the future that actually connect kids with nature?” The room filled with noise and excitement. By the time the groups reassembled to report the ideas they had generated, I had glimpsed the primal power of connecting children and nature: it can inspire unexpected advocates and lure unlikely allies to enter an entirely new place. Call it the doorway effect. Once through the door, they can revisualize seemingly intractable problems and produce solutions they might otherwise never have imagined.

A half hour after Thomas’s challenge, the groups reported their ideas. Among them: leave some land and native habitat in place (that’s a good start); employ green design principles; incorporate nature trails and natural waterways; throw out the conventional covenants and restrictions that discourage or prohibit natural play and rewrite the rules to encourage it; allow kids to build forts and tree houses or plant gardens; and create small, on-site nature centers.

“Kids could become guides, using cell phones, along nature trails that lead to schools at the edge of the development,” someone suggested. Were the men and women in this room just blowing smoke? Maybe. *Developers exploiting our hunger for nature, I thought, just as they market their subdivisions by naming their streets*



after the trees and streams that they destroy. But the fact that developers, builders, and real estate marketers would approach Derek Thomas's question with such apparently heartfelt enthusiasm was revealing. The quality of their ideas mattered less than the fact that they had them. While they may not get there themselves, the people in this room were visualizing a very different future. They were undergoing a process of discovery that has proliferated around the country in the past two years, and not only among developers.

For decades, environmental educators, conservationists, and others have worked, often heroically, to bring more children to nature—usually with inadequate support from policymakers. A number of trends, including the recent unexpected national media attention to *Last Child* and “nature-deficit disorder,” have now brought the concerns of these veteran advocates before a broader audience. While some may argue that the word “movement” is hyperbole, we do seem to have reached a tipping point. State and regional campaigns, sometimes called Leave No Child Inside, have begun to form in Cincinnati, Cleveland, Chicago, the San Francisco Bay Area, St. Louis, Connecticut, Florida, Colorado, Texas, and elsewhere. A host of related initiatives—among them the simple-living, walkable-cities, nature-education, and land-trust movements—have begun to find common cause, and collective strength, through this issue. The activity has attracted a diverse assortment of people who might otherwise never work together.

In September 2006, the National Conservation Training Center and the Conservation Fund hosted the National Dialogue on Children and Nature in Shepherdstown, West Virginia. The conference drew some 350 people from around the country, representing educators, health-care experts, recreation companies, residential developers, urban planners, conservation agencies, academics, and other groups. Even the Walt Disney Company was represented. Support has also come from religious leaders, liberal and conservative, who understand that all spiritual life begins with a sense of wonder, and that one of the first windows to wonder is the natural world. “Christians should take the lead in reconnecting with nature and disconnecting from machines,” writes R. Albert Mohler Jr., president of the Southern Baptist Theological Seminary, the flagship school of the Southern Baptist Convention.

To some extent, the movement is fueled by organizational or economic self-interest. But something deeper is going on here. With its nearly universal appeal, this issue seems to hint at a more atavistic motivation. It may have something to do with what Harvard professor E. O. Wilson calls the biophilia hypothesis, which is that human beings are innately attracted to nature: biologically, we are all still hunters and gatherers, and there is something in us, which we do not fully understand, that needs an occasional immersion in nature. We do know that

when people talk about the disconnect between children and nature—if they are old enough to remember a time when outdoor play was the norm—they almost always tell stories about their own childhoods: this tree house or fort, that special woods or ditch or creek or meadow. They recall those “places of initiation,” in the words of naturalist Bob Pyle, where they may have first sensed with awe and wonder the largeness of the world seen and unseen. When people share these stories, their cultural, political, and religious walls come tumbling down.

And when that happens, ideas can pour forth—and lead to ever more insightful approaches. It's a short conceptual leap, for example, from the notions generated by Derek Thomas's working group to the creation of a truly sustainable development like the pioneering Village Homes, in Davis, California, where suburban homes are pointed inward toward open green space, vegetable gardens are encouraged, and orchards, not gates or walls, surround the community. And from there, rather than excusing more sprawl with a green patina, developers might even encourage the green redevelopment of portions of strip-mall America into Dutch-style eco-communities, where nature would be an essential strand in the fabric of the urban neighborhood.

In similar ways, the leave-no-child-inside movement could become one of the best ways to challenge other entrenched conceptions—for example, the current, test-centric definition of education reform. Bring unlike-minded people through the doorway to talk about the effect of society's nature-deficit on child development, and pretty soon they'll be asking hard questions: Just why have school districts canceled field trips and recess and environmental education? And why doesn't our school have windows that open and natural light? At a deeper level, when we challenge schools to incorporate place-based learning in the natural world, we will help students realize that school isn't supposed to be a polite form of incarceration, but a portal to the wider world.

All this may be wishful thinking, of course, at least in the short run. But as Martin Luther King Jr. often said, the success of any social movement depends on its ability to show a world where people will want to go. The point is that thinking about children's need for nature helps us begin to paint a picture of that world—which is something that has to be done, because the price of not painting that picture is too high.



WITHIN THE SPACE OF A FEW DECADES, the way children understand and experience their neighborhoods and the natural world has changed radically. Even as children and teenagers become more aware of global threats to the environment, their physical contact, their intimacy with nature, is fading. As one suburban fifth grader put it to me,



in what has become the signature epigram of the children-and-nature movement: "I like to play indoors better 'cause that's where all the electrical outlets are."

His desire is not at all uncommon. In a typical week, only 6 percent of children ages nine to thirteen play outside on their own. Studies by the National Sporting Goods Association and by American Sports Data, a research firm, show a dramatic decline in the past decade in such outdoor activities as swimming and fishing. Even bike riding is down 31 percent since 1995. In San Diego, according to a survey by the nonprofit Aquatic Adventures, 90 percent of inner-city kids do not know how to swim; 34 percent have never been to the beach. In suburban Fort Collins, Colorado, teachers shake their heads in dismay when they describe the many students who have never been to the mountains visible year-round on the western horizon.

Urban, suburban, and even rural parents cite a number of everyday reasons why their children spend less time in nature than they themselves did, including disappearing access to natural areas, competition from television and computers, dangerous traffic, more homework, and other pressures. Most of all, parents cite fear of stranger-danger. Conditioned by round-the-clock news coverage, they believe in an epidemic of abductions by strangers, despite evidence that the number of child-snatchings (about a hundred a year) has remained roughly the same for two decades, and that the rates of violent crimes against young people have fallen to well below 1975 levels.

Yes, there are risks outside our homes. But there are also risks in raising children under virtual protective house arrest: threats to their independent judgment and value of place, to their ability to feel awe and wonder, to their sense of stewardship for the Earth—and, most immediately, threats to their psychological and physical health. The rapid increase in childhood obesity leads many health-care leaders to worry that the current generation of children may be the first since World War II to die at an earlier age than their parents. Getting kids outdoors more, riding bikes, running, swimming—and, especially, experiencing nature directly—could serve as an antidote to much of what ails the young.

The physical benefits are obvious, but other benefits are more subtle and no less important. Take the development of cognitive functioning. Factoring out other variables, studies

of students in California and nationwide show that schools that use outdoor classrooms and other forms of experiential education produce significant student gains in social studies, science, language arts, and math. One 2005 study by the California Department of Education found that students in outdoor science programs improved their science testing scores by 27 percent.

And the benefits go beyond test scores. According to a range of studies, children in outdoor-education settings show increases in self-esteem, problem solving, and motivation to learn. "Natural spaces and materials stimulate children's limitless imaginations," says Robin Moore, an international authority on the design of environments for children's play, learning, and education, "and serve as the medium of inventiveness and creativity." Studies of children in schoolyards with both green areas and manufactured play areas have found that

children engaged in more creative forms of play in the green areas, and they also played more cooperatively. Recent research also shows a positive correlation between the length of children's attention spans and direct experience in nature. Studies at the University of Illinois show that time in natural settings significantly reduces symptoms of attention-deficit (hyperactivity) disorder in children as young as age five. The research also shows the experience helps reduce negative stress and protects psychological well-being, especially in children undergoing the most stressful life events.

Even without corroborating evidence or institutional help, many parents notice significant changes in their children's stress levels and hyperactivity when they spend time outside. "My son is still on Ritalin, but he's so much calmer in the outdoors that we're seriously considering moving to the mountains," one mother tells me. Could it simply be that he needs more physical activity? "No, he gets that, in sports," she says. Similarly, the back page of an October issue of *San Francisco* magazine displays a vivid photograph of a small boy, eyes wide with excitement and joy, leaping and running on a great expanse of California beach, storm clouds and towering waves behind him. A short article explains that the boy was hyperactive, he had been kicked out of his school, and his parents had not known what to do with him—but they had observed how nature engaged and soothed him. So for years

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they took their son to beaches, forests, dunes, and rivers to let nature do its work.

The photograph was taken in 1907. The boy was Ansel Adams.

**L**AST SPRING, I found myself wandering down a path toward the Milwaukee River, where it runs through the urban Riverside Park. At first glance,

there was nothing unusual about the young people I encountered. A group of modern inner-city high school students, they dressed in standard hip-hop fashion. I would have expected to see in their eyes the cynicism so fashionable now, the jaded look of what D. H. Lawrence long ago called the "know-it-all state of mind." But not today. Casting their fishing lines from the muddy bank of the Milwaukee River, they were laughing with





pleasure. They were totally immersed in the fishing, delighted by the lazy brown river and the landscape of the surrounding park, designed in the late nineteenth century by Frederick Law Olmsted, the founder of American landscape architecture. Ducking a few backcasts, I walked through the woods to the two-story Urban Ecology Center, made of lumber recycled from abandoned buildings.

When this Milwaukee park was established it was a tree-lined valley, with a waterfall, a hill for sledding, and places for skating and swimming, fishing and boating. But when adjacent Riverside High School was expanded in the 1970s, some of the topography was flattened to create sports fields. Industrial and other pollution made the river unfit for human contact, park maintenance declined, and crime became a problem. Then, in the early 1990s, something remarkable happened. A retired biophysicist started a small outdoor-education program in the abandoned park. A dam on the river was removed in 1997, and natural water flow flushed out contaminants. Following a well-established pattern, crime decreased as more people used the park. Over the years, the outdoor-education program evolved into the nonprofit Urban Ecology Center, which annually hosts more than eighteen thousand student visits from twenty-three schools in the surrounding neighborhoods.

The center's director, Ken Leinbach, a former science teacher, was giving me a tour. "Many teachers would like to use outdoor classrooms, but they don't feel they're trained adequately. When the schools partner with us, they don't have to worry about training," he said. An added benefit: the center welcomes kids from the surrounding neighborhood, so they no longer associate the woods only with danger, but with joy and exploration as well. Later, we climbed to the top of a wooden tower, high above the park. Leinbach explained that the tower creates the impression that someone is watching over the kids—literally.

"From up here, I once tracked and gave phone reports to the police about a driver who was trying to hit people on the bike path," he said, looking across the treetops. "Except for that incident, no serious violent crime has occurred in the park in the past five years. We see environmental education as a great tool for urban revitalization." Even as it shows how nature can be better woven into cities, the Urban Ecology Center also helps paint a portrait of an educational future that many of us would like to see: every school connected to an outdoor classroom, as school districts partner with nature centers, nature preserves, ranches, and farms, to create the new schoolyards.

Such a future is embodied in the nature-themed schools that have begun sprouting up nationwide, like the Schlitz Audubon Nature Center Preschool, where, as the *Milwaukee Journal Sentinel* reported in April 2006, "a 3-year-old can identify a cedar

tree and a maple—even if she can't tell you what color pants she's wearing. And a 4-year-old can tell the difference between squirrel and rabbit tracks—even if he can't yet read any of the writing on a map. Young children learn through the sounds, scents, and seasons of the outdoors." Taking cues from the preschool's success in engaging children, an increasing number of nature centers are looking to add preschool programs not only to meet the demand for early childhood education but also to "create outdoor enthusiasts at a young age," the *Journal Sentinel* reported. And their success points to a doorway into the larger challenge—to better care for the health of the Earth.

**S**TUDIES SHOW that almost to a person conservationists or environmentalists—whatever we want to call them—had some transcendent experience in nature when they were children. For some, the epiphanies took place in a national park; for others, in the clump of trees at the end of the cul-de-sac. But if experiences in nature are radically reduced for future generations, where will stewards of the Earth come from? A few months ago, I visited Ukiah, California, a mountain town nestled in the pines and fog. Ukiah is Spotted Owl Central, a town associated with the swirling controversy regarding logging, old growth, and endangered species. This is one of the most bucolic landscapes in our country, but local educators and parents report that Ukiah kids aren't going outside much anymore. So who will care about the spotted owl in ten or fifteen years?

Federal and state conservation agencies are asking such questions with particular urgency. The reason: though the roads at some U.S. national parks remain clogged, overall visits by Americans have dropped by 25 percent since 1987, few people get far from their cars, and camping is on the decline. And such trends may further reduce political support for parks. In October 2006, the superintendent of Yellowstone National Park joined the cadre of activists around the country calling for a no-child-left-inside campaign to make children more comfortable with the outdoors. In a similar move, the U.S. Forest Service is launching More Kids in the Woods, which would fund local efforts to get children outdoors.

Nonprofit environmental organizations are also showing a growing interest in how children engage with nature. In early 2006, the Sierra Club intensified its commitment to connecting children to nature through its Inner City Outings program for at-risk youths, and it has ramped up its legislative efforts in support of environmental education. The National Wildlife Federation is rolling out the Green Hour, a national campaign to persuade parents to encourage their children to spend one hour a day in nature. John Flicker, president of the National



Audubon Society, is campaigning for the creation of a family-focused nature center in every congressional district in the nation. "Once these centers are embedded, they're almost impossible to kill," says Flicker. "They help create a political constituency right now, but also build a future political base for conservation."

Proponents of a new San Diego Regional Canyonlands Park, which would protect the city's unique web of urban canyons, have adjusted their efforts to address these younger constituents. "In addition to the other arguments to do this, such as protecting wildlife," says Eric Bowlby, Sierra Club Canyons Campaign coordinator, "we've been talking about the health and educational benefits of these canyons to kids. People who may not care about endangered species do care about their kids' health." For conservationists, it could be a small step from initiatives like these to the idea of dedicating a portion of any proposed open space to children and families in the surrounding area. The acreage could include nature centers, which ideally would provide outdoor-oriented preschools and other offerings. Of course, such programs must teach children how to step lightly on natural habitats, especially ones with endangered species. But the outdoor experiences of children are essential for the survival of conservation. And so the truth is that the human child in nature may be the most important indicator species of future sustainability.

The future of children in nature has profound implications not only for the conservation of land but also for the direction of the environmental movement. If society embraces something as simple as the health benefits of nature experiences for children, it may begin to re-evaluate the worth of "the environment." While public-health experts have traditionally associated environmental health with the absence of toxic pollution, the definition fails to account for an equally valid consideration: how the environment can *improve* human health. Seen through that doorway, nature isn't a problem, it's the solution: environmentalism is essential to our own well-being. Howard Frumkin, director of the National Center for Environmental Health, points out that future research about the positive health effects of nature should be conducted in collaboration with architects, urban planners, park designers, and landscape architects.

If experiences in nature are radically reduced for children, where will future stewards of the Earth come from?

"Perhaps we will advise patients to take a few days in the country, to spend time gardening," he wrote in a 2001 *American Journal of Preventive Medicine* article, "or [we will] build hospitals in scenic locations, or plant gardens in rehabilitation centers. Perhaps the . . . organizations that pay for health care will come to fund such interventions, especially if they prove to rival pharmaceuticals in cost and efficacy."

Here's one suggestion for how to accelerate that change, starting with children: nationally and internationally, pediatricians and other health professionals could use office posters, pamphlets, and personal persuasion to promote the physical and mental health benefits of nature play. Such publicity would give added muscle to efforts to reduce child obesity. Ideally, health providers would add nature therapy to the traditional approaches to attention-deficit disorders and

childhood depression. This effort might be modeled on the national physical-fitness campaign launched by President John F. Kennedy. We could call the campaign "Grow Outside!"

**I**N EVERY ARENA, from conservation and health to urban design and education, a growing children-and-nature movement will have no shortage of tools to bring about a world in which we leave no child inside—and no shortage of potential far-reaching benefits. Under the right conditions, cultural and political change can occur rapidly. The recycling and antismoking campaigns are our best examples of how social and political pressure can work hand-in-hand to create a societal transformation in just one generation. The children-and-nature movement has perhaps even greater potential—because it touches something even deeper within us, biologically and spiritually.

In January 2005, I attended a meeting of the Quivira Coalition, a New Mexico organization that brings together ranchers and environmentalists to find common ground. The coalition is now working on a plan to promote ranches as new schoolyards. When my turn came to speak, I told the audience how, when I was a boy, I pulled out all those survey stakes in an attempt to keep the earthmovers at bay. Afterward, a rancher stood up. He was wearing scuffed boots. His aged face had never seen acid wash, only dirt and rock. His face was sunburned and creased. His drooping moustache was whit



and he wore thick eyeglasses with heavy plastic frames, stained with sweat. "You know that story you told about pulling up stakes?" he said. "I did that when I was a boy, too."

The crowd laughed. I laughed.

And then the man began to cry. Despite his embarrassment, he continued to speak, describing the source of his sudden grief: that he might belong to one of the last generations of Americans to feel that sense of ownership of land and nature. The power of this movement lies in that sense, that special place

in our hearts, those woods where the bulldozers cannot reach. Developers and environmentalists, corporate CEOs and college professors, rock stars and ranchers may agree on little else, but they agree on this: no one among us wants to be a member of the last generation to pass on to its children the joy of playing outside in nature. ✎

*For more information on the movement to connect children to nature, and to share your thoughts, visit [www.orionmagazine.org](http://www.orionmagazine.org).*

