



PRESCRIPTION WRITTEN BY
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Rx:

Nature as Nurturer

Protecting land
to protect
HUMAN HEALTH

Every year since 2002, many families of the New York City firefighters who lost their lives on 9/11 gather in the woods to plant a tree in memory of their loved ones. It is a day of remembrance and solace. And every tree they plant is helping to revive the largest unfragmented forest near the city.

The Sterling Forest is one of the area's largest collaborative conservation efforts, with 22,000 acres protected so far. At Arrow Park, 405 acres of the forest that Orange County Land Trust helped protect, an ambitious program is underway to heal human hearts. The nonprofit Sterling Center is helping people like the bereaved families of firefighters face life's most difficult problems: Death. Pain. Trauma. Grief.

Kim Ahearn, program director of Line of Duty Family Connections for the New York Fire Department counseling services, says the annual tree planting is "incredibly healing" for participants. "It has become our main event for those who experienced this great loss, and it is the event people go out of their way not to miss," she says.

"Camp Courageous," Calvary Hospital's free program for children and teenagers grieving the death of a close family member, has convened at Arrow Park since 1996. Many camp participants come from low-income families and have never before rowed on a lake or hiked in the woods. The Sterling Center has also hosted children of war from Sierra Leone, and professionals working to prevent suicide in the military.

While recreational activities like hiking and fishing are often cited as the human benefits of land conservation, the founders of the Sterling Forest Project recognized

a human connection to nature more profound than spending a day outdoors. “We were deeply inspired by the writings of the creator of the Appalachian Trail, Benton MacKaye,” says Paul Dolan, president of the Sterling Center. “He saw land preservation as being linked very much to health, and he had innovative ideas like regional farms and children’s camps.”

Arrow Park’s beautiful lake, waterfalls and trees impart a feeling of tranquility, Dolan says, “I think for the people who have been there, the landscape has an extraordinary potential and power to help restore the human spirit.”

Scientific Evidence

Clean water and air, carbon sequestration, wildlife habitat and locally grown foods are all compelling reasons to protect natural and agricultural lands. But increasingly, scientists are recording another factor that has long been intuitive: that nature helps us heal—physically and psychologically; that having a connection to the natural world improves peoples’ physical, mental and emotional well-being.

Here are just a few examples of recent research findings:

- People with low incomes who have more exposure to natural environments are healthier than those who do not, and access to green space helps to reduce the socio-economic health gap.¹
- Senior citizens in Tokyo who lived close to walkable green streets and spaces lived longer than those who didn’t by an average of five years.²
- Children with Attention Deficit Hyperactivity Disorder (ADHD) can lessen their symptoms with a walk in a park. Children in the study who took a 20-minute walk in natural surroundings experienced a greater decrease in their symptoms than those who walked in a suburban or downtown area.³
- The ADHD study was conducted by the University of Illinois’ Landscape and Human Health Laboratory. The lab’s research indicates that green space provides a variety of benefits to communities. One study found that there are fewer crimes in apartment buildings surrounded by trees and greenery than in nearby identical apartments surrounded by barren land. Another found that girls who live in apartments with more natural views scored better on tests of self-discipline than those living in otherwise identical housing.⁴

A Room with a View

Much of the University of Illinois research took place in Chicago public housing where some of the courtyards and greenery have survived, and others have died away. “Children with green space outside their window were doing better,” said Dr. Andrea Faber Taylor, a researcher with the lab, in a recent radio interview.

Other researchers have documented the difference a view from a window can make:

- Students at Michigan high schools with views of trees and greenery out their windows scored better on standardized tests, graduated and attended college at higher rates than similar students at other schools.⁵



Elizabeth Orndorff, a land trust volunteer, found solace and healing in gardening.

ELIZABETH ORNDORFF

- Patients recovering from surgery in a Pennsylvania hospital who were assigned rooms with views of trees recovered faster and needed less pain medication than those with windows looking out at a brick wall.⁶

Jennifer Sundman is living proof of this last finding. Diagnosed in 2006 with leukemia, Jennifer spent a month in the hospital taking treatments. Confined to the hospital grounds, she one day spotted a robin’s nest in the atrium. “I was sitting there trying to soak up as much fresh air and sunshine as I could before having to return to my room—not easy to do wearing a mask. I noticed the nest in a small spruce tree, just above eye level, with the mother bird sitting on the eggs. For three weeks I watched as the eggs hatched, the babies fed, and then fledged.” The experience helped Jennifer through the pain of treatment, and to begin to heal. “I still remember the glorious feeling of wind on my face as I rode in the car on the way home, with my head out the window!”

Restorative Space

So, why does nature have such a profound effect on humans? In his book, *Biophilia*, Pulitzer Prize-winning biologist Edward O. Wilson explains his theory that humans are psychologically oriented to have positive feelings for natural systems and other living things.

Stephen and Rachel Kaplan, professors at the University of Michigan who are often cited as pioneers in the field of environmental psychology, developed a theory that nature is an antidote to mental fatigue. Natural settings, they say, offer relief from a world where we are required to expend a lot of “directed attention” on tasks—whether it is participating in a meeting or driving in traffic. In nature, a sense of “fascination” kicks in, where our minds effortlessly take in sights, sounds and scents. Time in nature refreshes our minds and renews our capacity to focus on tasks, the Kaplans theorize.

Connecting People and Nature

Land trusts across the country are working to make natural areas and green spaces more accessible to diverse populations through educational programs, community gardens, and outreach to underserved communities.

¹R. Mitchell and F. Popham, *The Lancet*, 372(9650): 1655-60, Nov. 2008

²T. Takano, K. Nakamura, M. Watanabe, *Journal of Epidemiology and Community Health*, 56(12): 913-8, Dec. 2002

³A.F. Taylor, F.E. Kuo, *The Journal of Attention Disorders*, 12(5):402-9, March 2009

⁴<http://lhl.illinois.edu/all.scientific.articles.htm>

⁵R. H. Matsuoka, University of Michigan, <http://hdl.handle.net/2027.42/61641>, 2008

⁶R.S. Ulrich, *Science*, 224:420-21, 1984

Here are a few examples:

- The Cascade Land Conservancy (WA) is engaging local municipalities and other partners in a “Cascade Agenda,” a grand land use vision for the region. One important goal of the agenda is for every resident to have green space within 1/8 mile of home.
- When McDowell Sonoran Conservancy (AZ) in September 2009 opened a barrier-free trail, accessible even for motorized wheelchairs, the response was phenomenal, says Executive Director Ruthie Carll. Along with visitors with disabilities, young families, senior citizens, dog walkers and others said they found the trail a safe and easy way to experience the land trust’s vast desert preserve.
- Likewise, Orange County Land Trust, which negotiated the protection of Arrow Park in New York, is also working to build a wheelchair-accessible trail. And this spring, it will open or restore community gardens near low-income housing in three cities.

These types of programs make very real differences in people’s lives. Just ask Elizabeth Orndorff, who credits Howard County Conservancy (MD) with changing her life when it granted her a community garden plot. In addition to nutritious food, the 26-year-old says she gained a love of natural areas near her home that she had never before explored, a sense of community with other gardeners, and a hunger to learn more about gardening and local flora and fauna. (She also lost about 30 pounds and became a runner!)

“I went from being depressed, isolated, sleeping in past noon. When I began gardening, it just all came into focus for me. I physically feel 100% better now,” she says.

Green Prescription

“Time in nature is not leisure time; it’s an essential investment in our children’s health (and also, by the way, in our own),” writes Richard Louv in his watershed book *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*.

Doctors are increasingly recognizing this need for nature, writes Daphne Miller, a family physician in California, in the *Washington Post* (11/17/09). She notes that a breath of fresh air with exercise is more rewarding to many of her patients than slogging through a workout on a treadmill.

A “Prescription Trails” program launched in 2009 for patients of all ages in Albuquerque and Sante Fe, New Mexico. Doctors use trail maps to prescribe walking or wheelchair rolling to their patients to prevent or treat diabetes and other ailments.

Similarly, pediatricians at Saratoga Hospital in New York are using “green prescription pads” to prescribe hikes or other outdoor fun. The prescription pads were encouraged and provided through a local affiliate of the Children and Nature Network and the regional land trust, Saratoga PLAN.

Our Children’s Future

The Children and Nature Network, founded in 2006 by Richard Louv, Cheryl Charles and others, is a national nonprofit focused on reconnecting children with nature. It encourages and provides support to local and regional initiatives like the one in Saratoga.

The network has summarized more than 100 scientific studies related to children and nature in four volumes, available on www.childrenandnature.org. “When you look at all the research and how it adds up, kids are happier, healthier and smarter when they have direct experiences in the natural world as part of their daily lives,” Charles says.

In a recent blog entry on childrenandnature.org, Louv lauded the Catawba Lands Conservancy’s leadership in establishing the Carolina Thread Trail, a regional trail system linking communities in 15 counties of North and South Carolina. “The Thread Trail is one example of how regions can address what will be, in an urbanizing world, a growing hunger for the health and well-being that nature provides to human beings. In fact, the availability of nearby nature is or should be seen as an integral element of

our future health care system, for reasons related to both physical and mental health,” Louv writes.

The link between nature and health shows how important land trusts’ work is to everyone, agrees Barbara L. Glaser, president of the Nordlys Foundation and emeritus board member of Saratoga PLAN. “We are the ones providing the trails and places to explore and recharge in nature. We’re the ones providing the community gardens and protecting agricultural lands that produce local foods. Connecting with health departments, programs for children, hospitals—I think these are all very exciting directions for land trusts.”

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A participant at Camp Courageous

THE STERLING CENTER