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### The National Association of Recreation Resource Planners

## Green Environments Essential for Human Health, Research Shows

*Courtesy of sciencedaily.com*

ScienceDaily (Apr. 26, 2011) — Research shows that a walk in the park is more than just a nice way to spend an afternoon. It's an essential component for good health, according to University of Illinois environment and behavior researcher Frances "Ming" Kuo.

"Through the decades, parks advocates, landscape architects, and popular writers have consistently claimed that nature had healing powers," Kuo said. "But until recently, their claims haven't undergone rigorous scientific assessment."

Kuo is also the director of the Landscape and Human Health Laboratory at the U of I and has studied the effect of green space on humans in a number of settings in order to prove or disprove the folklore notions.

"Researchers have studied the effects of nature in many different populations, using many forms of nature," Kuo said. "They've looked at Chicago public housing residents living in high-rises with a tree or two and some grass outside their apartment buildings; college students exposed to slide shows of natural scenes while sitting in a classroom; children with attention deficit disorder playing in a wide range of settings; senior citizens in Tokyo with varying degrees of access to green walkable streets; and middle-class volunteers spending their Saturdays restoring prairie ecosystems, just to name a few."

Kuo says that although the diversity of the research on this subject is impressive and important, even more important is the rigor with which the work was conducted.

"In any field with enthusiasts, you will find a plethora of well-meaning but flimsy studies purporting to 'prove' the benefits of X," Kuo said. "But in the last decade or so, rigorous work on this question has become more of a rule than an exception. The studies aren't simply relying on what research participants report to be the benefits of nature. The benefits have been measured objectively using data such as police crime reports, blood pressure, performance on standardized neurocognitive tests, and physiological measures of immune system functioning."

Kuo said that rather than relying on small, self-selected samples of nature lovers such as park-goers, scientists are increasingly relying on study populations that have no particular relationship to nature. One study examined children who were receiving care from a clinic network targeting low-income populations. Another looked at all United Kingdom residents younger than retirement age listed in national mortality records for the years 2001-2005.

"Scientists are routinely taking into account income and other differences in their studies. So the question is no longer, do people living in greener neighborhoods have better health outcomes? (They do.) Rather, the question has become, do people living in greener neighborhoods have better health outcomes when we take income and other advantages associated with greener neighborhoods into account?" That answer is also, yes, according to Kuo.

After undergoing rigorous scientific scrutiny, Kuo says the benefits of nature still stand.

"We still find these benefits when they are measured objectively, when non-nature lovers are included in our studies, when income and other factors that could explain a nature-health link are taken into account. And the strength, consistency and convergence of the findings are remarkable," she said.

Kuo drew an analogy to animals. "Just as rats and other laboratory animals housed in unfit environments undergo systematic breakdowns in healthy, positive patterns of social functioning, so do people," she said.

"In greener settings, we find that people are more generous and more sociable. We find stronger neighborhood social ties and greater sense of community, more mutual trust and willingness to help others.

"In less green environments, we find higher rates of aggression, violence, violent crime, and property crime -- even after controlling for income and other differences," she said. "We also find more evidence of loneliness and more individuals reporting inadequate social support."

The equation seems too simple to be true.

- Access to nature and green environments yields better cognitive functioning, more self-discipline and impulse control, and greater mental health overall.

- Less access to nature is linked to exacerbated attention deficit/hyperactivity disorder symptoms, higher rates of anxiety disorders, and higher rates of clinical depression.

If that isn't convincing enough, Kuo says the impacts of parks and green environments on human health extend beyond social and psychological health outcomes to include physical health outcomes.

- Greener environments enhance recovery from surgery, enable and support higher levels of physical activity, improve immune system functioning, help diabetics achieve healthier blood glucose levels, and improve functional health status and independent living skills among older adults.

- By contrast, environments with less green space are associated with greater rates of childhood obesity; higher rates of 15 out of 24 categories of physician-diagnosed diseases, including cardiovascular diseases; and higher rates of mortality in younger and older adults.

"While it is true that richer people tend to have both greater access to nature and better physical health outcomes, the comparisons here show that even among people of the same socioeconomic status, those who have greater access to nature, have better physical health outcomes. Rarely do the scientific findings on any question align so clearly."

Because of this strong correlation between nature and health, Kuo encourages city planners to design communities with more public green spaces in mind, not as mere amenities to beautify a neighborhood, but as a vital component that will promote healthier, kinder, smarter, more effective, more resilient people.

Parks and Other Green Environments: Essential Components of a Healthy Human was published in a research series for the National Recreation and Park Association.

## **Conservation, Design and the 21st Century National Parks: NPS Director Talks with UVA Architecture Students**

WASHINGTON – National Park Service (NPS) Director Jonathan B. Jarvis last night addressed students and faculty at the University of Virginia’s School of Architecture on the role of landscape and architectural design in national parks of the 21st century.

Jarvis asked the students to tackle the very concept of the national park visitor center. “We have long believed that the visitor center was the gateway to the park; the first stop to learn all that the park had to offer – where to go and what to see.” But maybe that’s not necessarily the case today.

“Today’s visitors are more technologically attuned than ever before. Many people – and not just those under 30 – plan their visits online, using the National Park Service’s website and other sources to find interactive maps, watch videos of the trails they will hike, listen to podcasts about the wildlife they will encounter, and study online exhibits on the history of the place.

“They download everything they need to iPhones, iPads, Droid, devices that also tell them where they are and where they want to be, and allow them to share the experience in real time with friends and family anywhere on the planet.”

While there is no question that having a place where a real visitor can talk to a real ranger is vital, is the visitor center, in its current incarnation, the best way to do that? Jarvis asked.

“The visitor center as we know it today was born in the 1950s,” Jarvis said. “After World War II, returning U.S. soldiers found a patriotic country with a strong sense of national identity. America had prosperity, cars, and a new interstate highway system. Veterans saw in the national parks their heritage and their birthright; the national parks saw a surge in visitation. We had a building boom in national parks called Mission 66 to meet demands of unprecedented visitor numbers.”

Today the National Park Service is five years away from its 100th anniversary and U.S. soldiers are fighting in Iraq and Afghanistan. When they return home they experience the same desire to visit these powerful American shrines.

“While we don’t have a new federal highway system but we do have the Internet, which may bring us closer together than our father’s Chevy ever could,” Jarvis said. “America remains a prosperous nation, but the demands on our federal budget are many, so the likelihood of an ambitious national park building program are dim, especially in light of our now \$10 billion maintenance backlog.

Perhaps it is time to reassess some long-held assumptions, Jarvis said.

Jarvis also noted other challenges that threaten the National Park Service's mission and visitor experiences – climate change, the nature deficit, a national health care crisis and ecological and economic sustainability. Jarvis said the bureau will look to the next generation of design professionals to help overcome these challenges so that tomorrow's visitors will continue to have experiences to hand down to future generations.

Jarvis' remarks were delivered as part of the Benjamin C. Howland, Jr. Memorial Lecture series. The lecture is named for former National Park Service landscape architect Ben Howland who joined the faculty of the University of Virginia's School of Architecture in the 1970s.

The National Park Service and the University of Virginia also partner in the Designing the Parks initiative, a way to elevate the conversation about design and stewardship and advance the role of design in parks. Designing the Parks conferences reexamine planning and design in parks and how that ties into the National Park Service conservation mission and public outreach.

## **Editorial: Don't hold state parks hostage**

*Courtesy of the Chico Enterprise-Record*

Our view: We don't like the idea of California's renowned state parks system being a bargaining chip in state budget negotiations.

It's spring, and with the tantalizing promise of better weather on the way, people are thinking about summer vacations. For many families, particularly in this bleak economy, that means time in California's state parks. They're close, they're wonderful and they're inexpensive.

The problem with planning vacations is that the threat of state park closures is still hanging in the air, and dysfunctional state politicians are doing nothing to defuse the situation.

Sadly, our wonderful state parks system has become a bargaining chip.

Back in January, new Gov. Jerry Brown stated parks would have to be shuttered for the first time in state history because of the state's ongoing budget problems. He asked state parks officials to draw up a list of closures to save \$11 million this year and \$22 million next year.

We expected that list to be released by the governor's office, but it hasn't been. We have a pretty good idea why: Brown is keeping it in his back pocket in case he needs to make Republicans look bad later.

After state budget talks fell apart last month, Brown was justifiably frustrated. Republicans wanted no part of any compromise and sprung a last-minute wish list on Brown and his fellow Democrats that derailed everything.

Democrats wanted a combination of cuts and tax increases (actually, the extension of existing "temporary" taxes that will expire in June). Republicans failed to give enough support to put tax extensions in front of voters, yet they've also failed to reveal a budget plan of their own.

If it's a cuts-only budget, things will get ugly for schools, higher education, prisons, public safety ... and parks.

California citizens will be upset. Former Gov. Arnold Schwarzenegger — playing the poker game himself — talked about closing 220 state parks in 2009, then backed off when his office was deluged with complaints. This time, however, Brown will try to find a way to deflect criticism so that citizens will blame the Republicans.

It's sad it has come to this. On the bright side, the closer we get to summer, the less likely it is that parks will suddenly be locked tight. And realistically, we can't imagine a scenario where popular parks like Lake Oroville, San Diego's Old Town, Hearst Castle or Southern California's famed beaches will be closed. They bring tourism and revenue. But places like Woodson Bridge and Bidwell Sacramento River State Park could be in jeopardy.

We'd like to think some parks slated for closure could be adopted by a local government, foundation or nonprofit. Would Chico allow Bidwell Mansion to close? It's doubtful.

The problem is that the longer Brown refuses to reveal the list, and the longer Republicans and Democrats fail to address the state budget problem, the less opportunity there is for others to offer solutions to the park closures.

We implore Brown and legislators to figure out where they're going. Politicians may not like to plan ahead, but vacationers do.