



The FOREST as NATURE'S Health Service

BY LINDA E. KRUGER

“The function of protecting and developing health must rank even above that of restoring it when it is impaired.” Hippocrates

While we rarely talk about it, I suggest that caring for the land and serving people, long a Forest Service motto, includes being a provider of health benefits. I think I have found support in one of the guiding principles of sustainability—to contribute to a healthy population. I believe the economic return on nature and wild places, by increasing wellness and quality of life, has the capacity to reduce health care costs. Agencies are talking about planning for and implementing sustainable recreation. I hope these discussions include attention to the health benefits of spending time in nature, because delivering health benefits contributes to a healthy future for both people and the natural landscape. Emphasizing the health benefits of forests, parks, and open space is one way to draw attention to the importance of access to these vital resources.

Recreation providers and land managers need to join with health care and medical professionals in encouraging people to spend more time in nature. This is what Professor John Crompton (2008) referred to as “joined up thinking.” Spending time in forests can improve physical, psychological, and social well-being (Maller et al., 2008). I’m also borrowing from the Forestry Commission of England who suggested that we start thinking in terms of trees and woodlands as “Nature’s Health Service.”

Sustaining health requires effective medical approaches coupled with healthy environments and lifestyles. A Presidential Proclamation (June 1, 2009) to kick off America’s Great Outdoors Month stated: “Exploring the great outdoors can also help improve one’s health. These spaces provide

countless venues for walking, hiking, running, swimming and boating among other activities. Americans can combine the enjoyment of being outside with the exercise we all need to stay healthy.”

In addition to facilitating healthy lifestyles and improving mental and physical health, other benefits of leisure (including recreation and tourism) are community regeneration, cultural and historic preservation, achieving higher levels of educational attainment, alleviating deviant behavior, alleviating unemployment distress, fostering friendships and a sense of belonging and connectedness (Crompton, 2008), and reducing effects of Post Traumatic Stress Disorder (Maller et al., 2008).

Nature plays an important role in the prevention of illness. According to the Centers for Disease Control and Prevention (CDC) (2009) the public health challenge of the 21st century is chronic disease, resulting in seven of ten deaths among Americans. In 2005, one out of two adults had at least one chronic illness with 25 percent limiting daily activity. Mental health and chronic disease are closely related, with chronic disease leading to impaired mental health including depression; and impaired mental condition leading to other chronic health issues in a vicious circle that can be hard to escape from.

The top three causes of death in the United States are cancer, heart disease, and stroke. Obesity, a common contributor to disease, can be an underlying factor for each of these conditions. Between 1991 and 2001 obesity increased 75 percent among adults. Today, one in three adults is obese and one in five young people between the ages of 6 and 19 are obese. If current trends continue one in three Americans born in 2000 will develop diabetes. Lack of physical activity,

poor nutrition, and tobacco and alcohol use play a role in these diseases. Physical activity is directly related to recreation and spending time in nature; spending time in nature also has benefits for reducing the use and abuse of tobacco, alcohol and other drugs.

The World Health Organization predicts that diabetes will rise 50 percent in the next decade, with diabetes deaths doubling in the next ten years (WHO, 2010). Obesity, an underlying cause of diabetes, is skyrocketing globally. In a pre-emptive strike many employers are implementing health initiatives for their employees, and as a result saving millions of dollars in lost work time, productivity and health care costs.

Obesity is not the only health issue we face. According to the American Institute of Stress (2008) over 43 percent of U.S. adults have adverse health conditions due to stress. The same report estimated 75 percent of visits to primary care physicians are stress related. Stress puts people at risk for colds, heart attacks, cancer, obesity, high blood pressure, and elevated heart rates. Furthermore, stress can reduce blood flow to the heart, cause migraines, rheumatoid arthritis, chronic fatigue, increase receptiveness to allergies, suppresses immune system function, and lead to hormonal imbalances that increase production of abnormal cells (Godbey, 2009). Here again, spending time in nature can make a positive contribution by lowering stress.

“Empirical, theoretical, and anecdotal evidence demonstrates that contact with nature positively affects blood pressure, cholesterol, outlook on life, stress reduction, and behavioral problems among children” (Godbey, 2009). This is important because mental health and cardiovascular disease are expected to be the biggest contributors

to disease worldwide by 2020 (Murray and Lopez, 1996).

Increasing diagnoses of attention-deficit disorder (ADD) and attention-deficit-hyperactivity disorder (ADHD) are also causing concern. Over two million youth have been diagnosed with ADD/ADHD in the U.S. There has recently been an explosion in diagnosis of adult ADHD with approximately four million adults diagnosed (Kessler, 2006). Research has shown that spending even a little time in nature reduces symptoms of ADHD and “could be a lifesaver for the ten percent of children whose symptoms don't respond to medication” (Kuo & Taylor, 2004). Nature is important for both adults and children with ADD/ADHD. Activity in nature can give those with ADD or ADHD the ability to manage their symptoms without addictions or troublesome side effects (and costs) of prescription medications (Hallowell & Ratey, 2005; Kuo and Taylor, 2004). Hallowell and Ratey (2005) suggest that regular walks in nature can be as effective as medications for some people. People with ADD report that being in nature increases their focus (Honos-Webb, 2008) and researchers suggest spending time in nature is necessary for optimal levels of attentional functioning for all children and adults (Kuo & Taylor 2004; Taylor et al., 2001). Studies of children with ADHD have shown that they may perform better throughout the day if they take “green breaks” and spend time in a natural environment (Taylor et al., 2001). This may hold true for all children ... and adults as well. For children with ADHD being outdoors every day significantly reduced their ADHD symptoms, with green outdoor activity more effective in reducing symptoms than other settings across age, gender, income, community type, geographic region, and diagnosis (Kuo & Taylor 2004). Nature areas near schools and housing developments have been found to foster

resilience of children and promote healthy development (Wells & Evans, 2003).

For many adults the fast pace and explosion of technology has resulted in ADHD/ADD like symptoms—difficulty concentrating, being distracted easily by unimportant stimuli, feeling driven by a motor, impulsiveness, prone to jump into a project without following directions, likely to mix up the order and sequence of well-defined tasks, disorganized, struggle paying attention in work and recreation (Honos-Webb, 2008). The natural environment can provide a buffer from everyday impacts of life stresses—having a variable impact depending on level of nature exposure.

In their review of literature documenting the health benefits of contact with nature in parks, Maller et. al. (2008) stressed the need for additional information describing the vital role that access to nature plays in human-health and well-being. These authors suggested a link between loss of contact with nature and alcohol, food and drug addictions and then referred to nature as “a fundamental health resource, particularly in terms of disease prevention.” Studies included in the review document the positive effects of nature on blood pressure, cholesterol, outlook on life and stress (Maller et al., 2008). Studies in Japan, Scandinavia and the Netherlands have documented links between spending time in nature and longevity and decreased risk of mental illness (Takano et al., 2002; DeVries et al., 2003; Grahn & Stigsdotter, 2003).

Spending time in nature may also have positive benefits for injury prevention and control, diabetes, asthma, arthritis, musculoskeletal conditions, and other maladies, including cancer. In Japan, Shinrin-yoku or forest bathing is a short, leisurely visit to a forest providing a natural aromatherapy session. A Japanese study (Li, 2009) involved both men and women in a three-day, two-night trip to a forest where participants took short walks each of these days. Blood and urine were sampled on days two, three, seven and thirty. Adrenaline was measured in the urine and natural killer (NK) cells were measured in the blood. The increase in NK cells lasted more than thirty days suggesting that trips in nature once a month could provide maintenance levels of NK cells which release anticancer proteins into the blood that work to prevent cancer generation and development. Researchers suggest that breathing in wood essential oils with antimicrobial compounds while walking through the forest results in relaxation and improves stress management resulting in significantly increased vigor, decreased anxiety, depression, anger – and may decrease the risk of psychosocial stress related diseases (Li, 2009).

People who walk 15-30 minutes a day are healthier than people who don't—they have fewer diseases, are less likely to get cancer, have a lower risk of heart attack and stroke, and better bone density (DeYoung, 2009). Walking improves digestion and decreases the risk of intestinal cancer, reduces risk of Type II Diabetes, and reduces insulin dependency of diabetics.

Walking recalibrates energy/fat storage so the body becomes more efficient and trim. Walking helps the kidneys, lymphatic system, maintains joints, and diminishes some types of arthritis (Hartmann, 2006). Research at Duke University in 1999 found that a brisk 30-minute walk three times a week was more effective in reducing depression symptoms than Zoloft alone or a combination of Zoloft and walking, and walkers were less likely to have a recurrence of depression (Hartmann, 2006).

In closing, linking leisure and recreation to health and wellness helps shift our attention to “upstream” efforts to prevent ill health rather than only working “downstream” on rescue and care of people already suffering illness (Maller et al., 2008). Much of the literature reviewed suggests that outdoor nature-based activity deserves a position both upstream as part of disease prevention and downstream as part of rehabilitation and recovery. We frequently hear about the importance of a healthy diet and daily physical activity. Two additional pillars of health worthy of more attention are daily activity that connects us to nature and social interaction with others. Together these four pillars provide a stable foundation for improved physical, psychological, emotional and social health and wellbeing, increased interest in nature, and increased community engagement, resulting in increased community capacity, higher performance at work and school, and lower health care costs (See Figure 1).■

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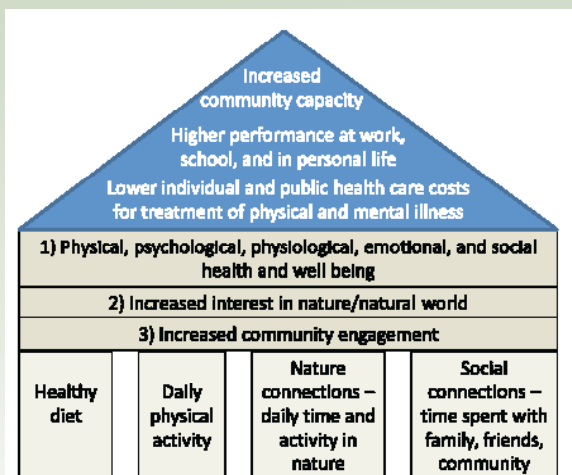


Figure 1. A solid foundation for health and well-being and engaged communities.