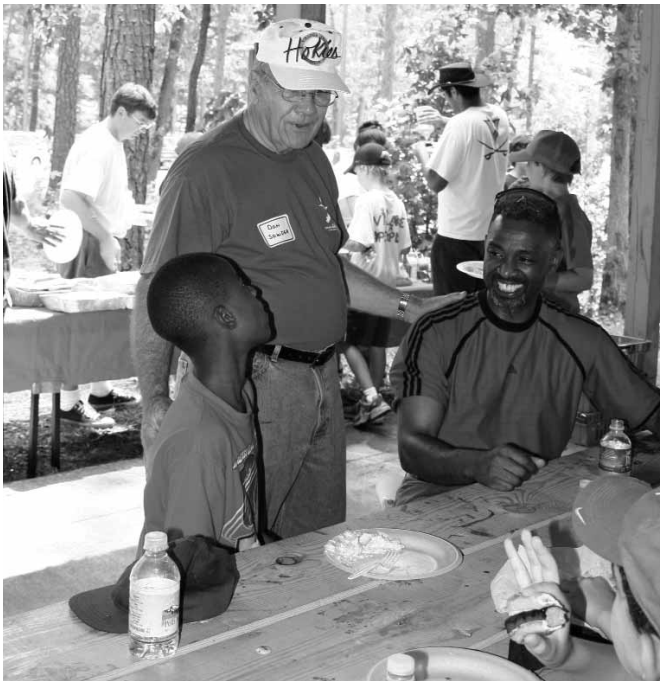
Concern for the environment and access to parks and open space is not frivolous or peripheral, rather, it is central to the welfare of people—body, mind, and spirit. —Laurance Rockefeller



Celebrating the James River Regional River Cleanup at Robious Landing Park in Chesterfield County. Photo by Gail Brown.

Top 10 Reasons Parks are Important

Adapted from a report by Richard J. Dolesh, Monica Hobbs Vinluan and Michael Phillips, National Recreation and Park Society

The following "top 10" list of park and recreation values is in no particular order; rather, it encompasses the range of why we collectively believe that public parks and recreation is an essential part of our national heritage.

1. Public parks provide millions of Americans with the opportunity to be physically active. Physical activity is an essential part of an individual's efforts to stay healthy, fight obesity and prevent chronic conditions that lead to coronary disease, high blood pressure and diabetes. Having close-to-home access to places where one can recreate is one of the most important factors linking whether people will become active and stay that way.
2. Parks have true economic benefits. Private land adjacent or near protected public land leads to increased land value, a higher tax base and ultimately many economic benefits to a community. Benefits include increased local and regional revenue from heritage tourism, steady jobs and numerous small business benefits. Park and recreation areas improve local economics, improve the quality of life, and make communities livable and desirable for businesses and homeowners.
3. Parks provide vital green space in a fast-developing American landscape, and provide vegetative buffers to construction and development, thus reducing the effects of sprawl. More importantly, parks and public lands also provide groundwater recharge areas, floodplain protection, natural sound barriers, stormwater protection from wetlands, reductions in heat island effects, and carbon uptake from abundant trees and vegetation. Parks help maintain a healthy environment.
4. Parks preserve critical wildlife habitat. As our nation develops and our rural, agricultural and forest landscape is being lost, open space and wildlife habitats are disappearing at an alarming rate. The connected network of local, regional, state and national parks across our country provide permanently protected wildlife habitat corridors for thousands of indigenous and migratory wildlife species. In addition, greenways and community parks allow natural wildlife to co-exist with people while providing enjoyment and educational opportunity for children and families.
5. Parks and recreation facilitate social interactions that are critical to maintaining community cohesion and pride. Parks provide a meeting place where community members can develop social ties, and where healthy behavior is modeled and admired. People gather to share experiences, socialize and to build community bonds in common green spaces. These public commons are often the glue that holds the community together and the means to maintaining and improving future positive social interactions.

Parks provide habitat for wildlife. Photo by USFS.

6. Leisure activities in parks improve moods, reduce stress and enhance a sense of wellness. In an increasingly complex world, more people are placing a high value on achieving the feelings of relaxation and peacefulness that contact with nature, recreation and exposure to natural open spaces bring. People go to parks to get in a better mood, to reinvigorate and to decrease the anxieties of daily life.

7. Recreational programs provide organized, structured, enjoyable activities for all ages. The diverse range of recreational programs offered by public park and recreation agencies offers all Americans the opportunity to develop the skills necessary to successfully and confidently engage in sports, dance, crafts and other social activities. Public recreation leagues and classes offer seniors, adults and children the opportunity to interact with coaches and teachers who often turn into mentors and role models. Quality recreational programs facilitate safety, good sportsmanship and community participation.

8. Community recreation services provide a refuge of safety for at-risk youth. Many parents are rightfully concerned with the dangers of unstructured "hanging-out" or unsupervised after-school activities. Community recreation programs at public park and recreation facilities provide children with a safe refuge and a place to play, which are important in reducing at-risk behavior such as drug use and gang involvement. Recreational programs led by trained leaders offer children healthy role models and give valuable life lessons to help steer youth to a future of promise and opportunity for success.

9. Therapeutic recreation is an outlet that individuals with disabilities have to be physically active, socially engaged and cognitively stimulated. A goal of all public recreation agencies is to provide access to all people. Public park and recreation agencies are the largest providers in America of high-quality, life-enhancing therapeutic recreation programs and interventions. Such programs prevent the on-set of secondary conditions due to inactivity, slow the onset of regressive conditions, and improve physical, social, emotional and cognitive functioning.

10. Public parks embody the American tradition of preserving public lands for the benefit and use of all. Since the creation of the first national park and the subsequent development and growth of state, regional and local park systems in virtually every part of our nation, Americans have had a special relationship with their parks and public lands. A love of parks is one of the defining characteristics of our national identity. Americans love their parks, historical sites, national monuments, recreation areas and public open spaces because they bring such joy and pleasure to all people. In addition, the American public has shown time after time that they are willing to care for their parks, protect them and pay for them.

Introduction

Local and regional parks and recreational facilities are the foundation of an effective outdoor recreation system for the Commonwealth. Citizens want recreational opportunities close to where they live. Although parks and recreation services in not a mandated service, providing close-to-home park and open space areas is generally considered a basic responsibility of local government. There is normally an opportunity for citizens to be involved in the process of providing these recreation services and park areas as volunteers or as members of a citizen board or commission.

The benefits of parks and recreation have been documented through various studies, including a national study conducted by Drs. Geoffrey Godbey and Alan Graefe. Their report, *The Benefits of Local Recreation & Parks Services: A Nationwide Study of the Perceptions of the American Public*, is available from the National Recreation and Park Association (NRPA). The major conclusions of this report are: recreation and park services are used by the vast majority of the public, use continues across the life-cycle, a commu-

Youth basketball. Photo by Chesterfield County Parks and Recreation.

nity benefits from local recreation and park services, the majority of respondents believe that recreation and park services are worth as much or more than they are currently paying in taxes, and recreation and parks services provide benefits to users and non-users. This is in harmony with the findings of the 2006 *Virginia Outdoors Survey* (*VOS*) in which nearly 92 percent of Virginians said outdoor recreational opportunities were important to them.

Findings

- There is a troubling trend in rural Virginia to disband local parks and recreation departments and instead provide public funding to private organizations to provide recreation services.
- In the Commonwealth of Virginia, parks and recreation is not a mandated service and no operational funding is provided to local governments to provide those services. The South Carolina Rural Recreation Project is a model program with the goal of aiding localities in the establishment of full- or part-time parks and recreation departments in rural areas of South Carolina.
- In the Commonwealth of Virginia Auditor of Public Account's *Comparative Report of Local Government Expenditures* (year ended June 30, 2005), it was reported that $728 million was spent by local governments on parks, recreation and cultural activities in fiscal year 2005. This compares to $691 million spent in fiscal year 2004 and $432million spent in fiscal year 1996.
- In the Commonwealth of Virginia Auditor of Public Account's *Comparative Report of Local Government Expenditures* (year ended June 30, 2005), it was reported that cities spent $76.45 per capita on parks and recreation, while counties spent $43.75, towns spent $85.51, and statewide spending was $55.31 per capita on parks and recreation for fiscal year 2005.
- NRPA held a forum in 2006 and established a national agenda for urban parks and recreation in America that included promoting health and wellness, stimulating community and economic development, protecting the urban environment, and educating, enriching and protecting America's youth.
- Americans use city or local community parks more than any other outdoor recreational areas.
- Seventy-five percent of all people use local parks and recreational services, and more than 40 percent visit local parks more than 10 times per year.
- Recent studies have indicated that people want more parks and recreation areas near large cities with more facilities for both organized sports and for unstructured free-play.
- According to the 2006 *VOS*, 92 percent of Virginians consider outdoor recreation important or very important. This emphasizes that there is a significant demand for recreation resources and programs in Virginia.
- Based on NRPA standards, a locality should provide a minimum of 10 acres of parkland per 1,000 citizens. The acreage should be divided between neighborhood, community, district and regional parks.
- Local parks and recreation departments are in need of additional funding sources.
- An interest in friends groups and park foundations is on the rise in Virginia.
- Each year, an estimated 200,000 children ages 14 and under are treated in hospital emergency rooms for playground related injuries. The United States Consumer Product Safety Commission estimates that 70 percent of injuries on public playground equipment resulted from falls, especially falls to the surface beneath the equipment.

Recommendations

- Because of social, health, environmental and economic benefits, each locality in Virginia should establish or maintain a publicly funded parks and recreation department. The department should oversee recreation programs, as well as the acquisition of parks and open space and the development of trails, athletic courts and fields, picnic areas, water access points and other recreation facilities.
- Virginia should support and provide incentives for local governments to maintain a parks and recreation department.
- In regions where regional parks are not prevalent, multi-jurisdictional management under a regional park authority should be considered. Start-up funding and technical support to encourage this regional approach to outdoor recreation and conservation should be explored by local and regional governments in concert with the Department of Conservation and Recreation (DCR).
- DCR, the Virginia Recreation and Park Society (VRPS) and Virginia universities should partner to enhance recreation and park services in rural Virginia. Using the South Carolina Rural Recreation Project as a model, Virginia should encourage and assist rural localities in providing recreation services to its citizens and help them establish a parks and recreation department.
- Local government departments should do a better job of coordinating planning efforts as it relates to recreation, parks and open space. Preparing and adopting an open space and recreation plan is a key element of the local planning process. Planning for green infrastructure and recreational programs are important to overall quality of life in a community. These plans should be incorporated into the locality's comprehensive plan and be consistent with the 2007 *Virginia Outdoors Plan* (2007 *VOP*).
- Localities should appoint a parks and recreation commission to provide citizen leadership with regard to parks and recreation issues and concerns. Commissions have been effective in many localities to enhance park areas and recreation programs. This is most important in localities where a parks and recreation department does not exist.
- Commitments to the maintenance, management and development of local parks and recreational systems are necessary. Localities should explore alternative methods of funding, such as set-aside ordinances, fees and charges, and public-private partnerships. The establishment of a "friends group," which could possibly evolve into a "park foundation," should be considered for local parks and recreation departments. This citizens group could be a source of volunteers, as well as a source for community support and other resources.
- Local parks and recreation departments should initiate a structured volunteer program that recruits, trains and retains volunteers and recognizes their contributions to parks, programs and the overall quality of life in communities.
- All localities should develop and implement hiking and bicycling plans that connect parks, schools and neighborhoods. Encouraging biking and walking within the community can enhance community health and spirit.
- Parks and programs need to be accessible to special populations, including senior adults and persons with disabilities.
- Consideration by localities of the benefit of a school-park cooperative agreement could enhance use of school and park facilities. School systems and local parks and recreation departments should cooperate in the design of new or renovated facilities. In order to increase local access, localities should consider cooperative management for the recreational use of private, corporate, state or federally owned lands.
- All public playgrounds, including school and park playgrounds, should meet or exceed the guidelines established by the United States Consumer Product Safety Commission (USCPSC) and published in the USCPSC Handbook for Public Playground Safety. All equipment should have a cushioned surface under and around it.

Local parks and recreation departments

Twenty-seven of the ninety-six Virginia counties do not have full time parks and recreation departments, meaning they do not employ a full-time parks and recreation director. These counties include: Alleghany, Brunswick, Buchanan, Charlotte, Craig, Cumberland, Dickenson, Greensville, Highland, King and Queen, Lancaster, Lunenburg, Mathews, Mecklenburg, Northumberland, Nottoway, Powhatan, Prince Edward, Rappahannock, Richmond, Russell, Smyth, Southampton, Sussex, Washington, Westmoreland and Wise (see map IX-10).

Sixty-nine Virginia counties have full-time parks and recreation departments, as do 21 incorporated towns and all cities, except Emporia. These departments serve a vast majority of citizens across the state. The

Map IX-10 Full-Time Parks and Recreation Departments

8.5” x 11”
B&W Map to come

largest void in service is in the northern neck, southside and southwestern regions of the state. While new parks and recreation departments are formed occasionally across the state, it is a troubling trend that localities are dropping their parks and recreation departments and turning their programs over to private organizations such as the YMCA. A substantial reduction in public parks and recreation departments has been realized since the 2002 VOP was published. While private organizations may provide recreation programming in the short term, they are not charged with planning for the long term recreation, park and open space needs of a community.

Funding for parks and recreation

Spending on parks and recreation varies a great deal from locality to locality. Many localities do provide some funding for parks and recreation, but may not have taken the step of establishing a full-time department. Some towns help fund larger county departments or may assist private groups or nonprofits in providing specific programs. The Commonwealth of Virginia Auditor of Public Accounts provides information on parks and recreation spending by each locality in its *Comparative Report of Local Government Revenues and Expenditures*.

Recreation budgets are often limited when compared to other local services. Park land acquisition and development often depends upon state and federal funding and private donations. Local parks and recreation departments are in need of alternative funding sources. Interest in parks and recreation friends groups and park foundations is on the rise in Virginia. While a friends group is a less formal citizen group, a park foundation is a legal mechanism created by dedicated people to benefit the parks and recreation system. Citizens can form a foundation by creating a nonprofit corporation and applying for nonprofit status with the appropriate state office and the Internal Revenue Service. Park foundations are normally established due to the need for alternative funding, rising costs of land acquisition, the public's developing sense of stewardship toward land and cultural resources, and the public's willingness to give to charitable causes. Park foundations in Virginia raise money to build athletic fields, plant trees, purchase benches and other park amenities, provide scholarships to disadvantaged youth and provide funding for special events.

Groundwork Trusts

With pilot funding from the EPA Brownfields Program and technical assistance from the National Park Service Rivers and Trails program, Groundwork Trusts work to improve neighborhoods through reclaiming land for uses like parks and gardens, building community support for conservation and getting schools and youth involved in the process.

Location of local and regional parks

Although specific local park sites are not identified in the 2007 *VOP*, they are included in DCR's facility inventory. The 2007 *VOP* does identify several considerations for localities planning the development of a park and recreation system. These areas include stream valleys, landfills, flood plains and abandoned railroad right-of-way corridors. Because development is usually restricted, stream valleys often are excellent opportunities for trails. Utility corridors and abandoned railroad right-of-ways also should be considered for trail development. These linear corridors provide opportunities for communities to work together to provide greenways. Greenways can enhance the resource base by linking cultural, historical, recreational and natural areas into a unified open space system.

Each locality should develop strategies to meet the parks, recreation and open space needs in their community. The NRPA has guidelines for assessing the local resources and obtaining community input needed to establish a vibrant system of parks and open space.

Soccer is a popular team sport across the state. Photo by James City County Parks and Recreation.

Standards for Providing Community Parks

National Recreation and Park Association (NRPA) standards suggest a locality should provide a minimum of 10 acres of parkland per 1,000 citizens. State standards advise that localities should distribute park acreage into a system of neighborhood parks, community parks and district parks. These parks, developed to complement existing private and public facilities, make for an effective system of meeting local recreation demand. Additionally, localities should work together to provide additional open space and recreational resources in the form of regional parks. The following describe state standards for appropriate park size and location.

Neighborhood parks should be provided at a ratio of three acres of parkland per thousand citizens, and not more than 15 minutes or one to two miles walking distance of those it is intended to serve. These parks may include playground equipment, game courts and play fields. Smaller parks may also best meet the needs of a specific population.

Community parks are designed to serve two or more neighborhoods and generally provide facilities requiring more space than can be accommodated in a neighborhood park. Facilities may include lighted game fields and court complexes, a swimming pool, a picnic area, and walking and jogging trails. Community parks should be within a 15-minute drive of the client population.

District parks are larger parks designed with a ratio of four acres per thousand citizens or a minimum of 50 acres. These should be a 15- to 20-minute drive from the target population. These parks should also be accessible by public transportation, pedestrians and bicyclists.

Regional parks are generally managed by several localities have a recommended service radius of 25 miles and a minimum size of 100 acres.

(Source: National Recreation and Parks Association)

Planning for parks and open space

Planning for a locality's green infrastructure and recreational programs is important to overall quality of life in a community. Open space and recreation plans should be incorporated into the overall comprehensive plans for localities. It is very important to include a walking and bicycling trail component. Having an adopted bicycle-pedestrian trail plan is essential if the Virginia Department of Transportation (VDOT) is to include these components when improving or building roads.

Just as the 2007 *VOP* looks to the future of parks and open space for the Commonwealth, each locality should develop its own blueprint for future park spaces and recreation programs. The process of developing a local parks, recreation and open space plan may enlighten citizens to the need for proper planning, as well as to mobilize resources to enhance the quality of life in a community. With proper planning, a clear path can be established to develop a strong public parks and recreation system.

The best parks and recreation departments are those where the citizens feel a sense of ownership and are involved in the park system. Communicating the individual, community, economic and environmental benefits of a system of parks and recreation is critical to maintaining and building community support.

Citizen involvement

Citizen involvement is a key component to the development of a comprehensive parks and recreation program for a community. Parks and recreation commissions may be established to serve in either an advisory or policy-making capacity. Commissions offer localities a unique resource to help determine the direction that parks and recreation should take in the future and provide the leadership necessary for achieving this vision. Board and commission members should be provided with orientation and ongoing training to support their board activity. Boards can provide the parks and recreation department with strong ties to the local business community, which can result in private funding of recreation programs and facilities, as well as opportunities for beneficial partnerships.

Partnerships and cooperative agreements

Due to the heavy use of athletic facilities, it is vital that schools and parks develop cooperative agreements for facility use. While many parks and recreation departments already work cooperatively with school systems to provide community-level programs, more localities need to implement the school-park concept. The school-park concept promotes schools and surrounding land and facilities as community recreation centers during non-school hours. Close cooperation between school and recreation personnel is needed throughout facility planning, development and renova-

tion to ensure a balance of recreational and educational features. An operating agreement between the school board and the governing body should encourage full use of all available resources.

Park and recreation departments should initiate contact with agencies and organizations (i.e., colleges, universities, military bases, armories, churches) to determine the feasibility of creating partnerships with institutions to make recreational facilities and programs more accessible to local citizens. Further, local governments can and should enter into agreements to access or manage private facilities, where possible, for the public's use and enjoyment.

Park safety and accessibility

Individuals of varying abilities desire access to recreation programs and facilities. Attention must be given to assure that programs and facilities are accessible to people with disabilities. By making programs accessible to people with disabilities, access to programs improves for everyone.

Safety is an important consideration for managers of park and recreation facilities. Of particular concern is the safety of playground areas. The United States Consumer Product Safety Commission and the American Society for Testing Materials provide guidelines on the design and installation of playground equipment. NRPS conducts the National Playground Safety Institute, which is the playground safety inspector course and exam. Individuals that take the course and pass the exam become Certified Playground Safety Inspectors.

Swimming pools also present particular safety challenges. Pool personnel must receive appropriate training in supervising participants, as well as lifesaving and first aid techniques. Staff must also be trained in the overall operation of the pool complex, including handling chemicals and recognizing potential health and safety hazards. NRPA is one of the leading organizations in providing training to pool operators. The American Red Cross is recognized as a leader in training lifeguards and swimming instructors.

While the safety of facilities is important, it also important that staff and volunteers be trained to supervise and teach children. Coaches should be provided with training on teaching athletic skills, as well as sportsmanship, first aid and safety. Appropriate sportsmanship standards should be set and enforced for coach, participant, parent and fan behavior. Staff and volunteers working with children should pass a criminal background check.

Safety is important at local swimming facilities. Photo by Richmond Parks, Recreation and Community Facilities.

Health and wellness benefits of outdoor recreation

Increasing Concerns About Children Losing Touch With Nature

Prompted by the galvanizing book *The Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder*, by Richard Louv, NRPA members are asking how public parks and recreation can meaningfully participate in the response to concerns about children becoming increasingly disconnected from nature. The Conservation Fund (TCF), a national land conservation organization, is working to convene a "National Forum on Children and Nature."

NRPA hopes to bring hundreds of local and regional park and recreation agencies into this national advocacy effort. It has begun pilot programs such as "Let's Go Fishing," in cooperation with the Recreational Boating and Fishing Foundation, and the soon-to-be launched "Teens Outside" adventure recreation program, in partnership with the Outdoor Industries Foundation.

Parks provide places for people to play and programmed recreational activities that encourage physical activity. The lack of parks and recreation close to home, hectic schedules, high-fat foods, automobile-oriented development and expanding forms of electronic leisure contribute to obesity, which results in significant health-care costs. The increase in the diagnosis and treatment of some forms of mental illness is a parallel trend that may be related to the lack of time spent in outdoor play.

Perhaps more time spent indoors results in lowered tolerance for the risks associated with unstructured play outdoors and in nature. In trying to protect children from predators, disease and exposure, parents often discourage unstructured play outdoors. Parents often do not compare these risks with the risks of chronic disease and lost opportunities for creative play that may result from too much time indoors.

People in our society today spend the majority of their time indoors, be it in an automobile, an office, a workplace or home. Even if they use the parks as we wish they would, the amount of time out-of-doors is minuscule compared to the amount of time spent indoors. The benefits of outdoor activity and exercise far outweigh the risks.

—Martha W. Moon, RN, PhD, MPH, VCU School of Nursing

Crosswalk in the City of Lynchburg. Photo by VDOT.

The decision to invest in open space, outdoor recreation and public play space improves the physical, social and psychological well-being of all citizens. Table IX-4 summarizes how parks and nature contribute to human health.

Research shows that when people have access to parks, they exercise more. In a study published by the Centers for Disease Control, creation of enhanced access to places for physical activity led to a 25.6 percent increase in the percentage of people exercising on three or more days per week. A group of studies reviewed in the American Journal of Preventive Medicine showed that "creation of or enhanced access to places for physical activity combined with informational outreach" produced a 48.4 percent increase in frequency of physical activity. The same group of studies showed that access to a place to exercise results in a 5.1 percent median increase in aerobic capacity, along with a reduction in body fat, weight loss, improvements in flexibility and an increase in perceived energy.

When people have nowhere to walk, they gain weight. Obesity is more likely in unwalkable neighborhoods, but goes down when measures of walkability go up. Dense housing, well-connected streets and mixed land uses reduce the probability that residents will be obese. (Trust for Public Land)

Table IX-4. Parks Contribute to Health and Wellness

Health Component	Contribution of Parks
Physical	Parks provide a variety of settings and infrastructure for various levels of formal and informal sport and recreation for all skill levels and abilities, such as picnicking, walking, dog training, running, cycling, ball games, sailing, surfing, photography, birdwatching, rock climbing and camping.
Mental	Parks make nature available for restoration from mental fatigue, provide solitude and quiet, artistic inspiration and expression, and educational development, such as natural and cultural history.
Spiritual	Parks preserve the natural environment for contemplation, reflection and inspiration, and invoke a sense of place.
Social	Parks provide settings for people to enhance their social networks and personal relationships.
Environmental	Parks preserve ecosystems and biodiversity, provide clean air and water, maintain ecosystem function, and foster human involvement in the natural environment.

(Adapted from Parks Victoria, Australia. Healthy Parks Healthy People: The Health Benefits of Contact with Nature in a Park Context, November 2002.)

Positive effects of green space on health

The relationship between vegetative cover and air and water quality has been well established. Many studies also demonstrate that attractive natural settings, landscapes, open space and forests contribute to mental health. Recognizing this relationship, health practitioners use horticultural therapy in community-based programs, geriatrics programs, prisons, developmental disabilities programs and special education. In *The Benefits of Parks: Why America needs more City Parks and Open Space*, the Trust for Public Land showed that people report fewer health complaints and have better mental health in a greener environment (living near city parks, agricultural areas or forests). A review of 10 years of medical records in a Pennsylvania hospital showed that patients with tree views had shorter hospitalizations, less need for painkillers, and fewer negative comments compared with patients with brick-wall views.

> *Those who do not find time for exercise will have to find time for illness.* —*Old Proverb*

> As a group, women over age 65 are among the least physically active in the nation, contributing to increased risk of osteoporosis, arthritis, heart disease and other ailments. It appears, from a mounting body of evidence, that environmental factors like access to parks and trails might be associated with physical activity behavior. Walking and physical activity levels increased significantly when participants reported being able to walk to at least two destinations. Also, women who lived within walking distance of a biking or walking trail walked significantly more than those who did not. (King et al.)

Outdoor recreation policy related to health and wellness

At least 18 state legislatures across the country have recently considered bills designed to increase access to walking and bicycling, and many local governments are considering initiatives linking bicycling, walking, community design and health. The mental and physi-

cal health-care costs associated with the lack of physical activity and the loss of time spent outdoors have a negative fiscal impact on Virginia communities. The economic consequences of obesity call for policy interventions that promote physical activity and outdoor recreation. The 2007 *VOP* recommends establishing or maintaining publicly funded parks and recreation departments and providing financial support and incentives to local government for this purpose. Other policy initiatives should promote active living through appropriate community design, as well as target the increase of physical activity in schools.

Resources for getting active

Active Living by Design
www.activelivingbydesign.org

Active Living Network
www.activeliving.org

America on the Move
www.americaonthemove.org

Choose to Move
www.choosetomove.org

Department of Health and Human Services, Centers for Disease Control and Prevention, Physical Activity for Everyone
www.cdc.gov/nccdphp/dnpa/physical

Get Kids in Action
www.getkidsinaction.org

Hearts N' Parks
www.nhlbi.nih.gov/health/prof/heart/obesity/hrt_n_pk

References

King, W.C., J.S. Brach, S. Belle, R. Killingsworth, M. Fenton and A. M. Kriska. 2003. The Relationship Between Convenience of Destinations and Walking Levels in Older Women *American Journal of Health Promotion* , 18(1): 74-82.

Parks Victoria, Australia. 2002. *Healthy Parks Healthy People: The Health Benefits of Contact with Nature in a Park Context.* Parks Victoria.

Sherer, Paul M. 2006. *The Benefits of Parks: Why America needs more City Parks and Open Space*, Trust for Public Land.

Bibliography for Health and wellness benefits of outdoor recreation

Bennett, L. W., Cardone, S. and Jarczyk, J. 1997. Effects of a Therapeutic Camping Program on Addiction Recovery. *Journal of Substance Abuse Treatment*, 15, 469-474.

Cordell, K. H. and Teasley, J. 1998. Recreational Trips to Wilderness: Results From the USA National Survey on Recreation and Environment. *International Journal of Wilderness*, 4, 23-27.

Crisp, S. and Aunger, N. 1998. Wilderness-Adventure Therapy in Adolescent Psychiatry: A Case Study of a 15-year-old Girl with Psychological and Social Problems. *Australian Journal of Outdoor Education*, 2, 17-25.

Crisp, S. and O'Donnell, M. 1998. Wilderness-Adventure Therapy in Adolescent Mental Health. *Australian Journal of Outdoor Education*, 3, 47-57.

Cumes, D. 1998. Nature as Medicine: The Healing Power of Wilderness. *Alternative Therapies*, 4, 79-86.

Furnass, B. 1979. Health Values. In: *The Value of National Parks to the Community*: Values and Ways of Improving the Contribution of Australian National Parks to the Community (Ed. by Messer, J. & Mosley, J. G.), pp. 60-69. University of Sydney: Australian Conservation Foundation.

Hartig, T., Mang, M. and Evans, G. W. 1991. Restorative Effects Experiences. *Environment & Behavior*, 23, 3-26.

Kaplan, R. and Kaplan, S. 1989. *The Experience of Nature: A Psychological Perspective*. Cambridge, New York: Cambridge University Press.

Kaplan, S. 1992. The Restorative Environment: Nature and Human Experience. In: *Role of Horticulture in Human Well-being and Social Development: A National Symposium* (Ed. by Relf, D.), pp. 134-142. Arlington, Virginia: Timber Press.

Kaplan, S. 1995. The Restorative Benefits of Nature: Toward and Integrative Framework. *Journal of Environmental Psychology*, 15, 169-182.

Kuo, F. E. 2001. Coping With Poverty: Impacts of Environment and Attention in the Inner City. *Environment & Behavior*, 33, 5-34.

Kuo, F. E. and Sullivan, W. C. 2001. Environment and Crime in the Inner City: Does Vegetation Reduce Crime? *Environment & Behavior*, 33, 343-367.

Leather, P., Pyrgas, M., Beale, D. and Lawrence, C. 1998. Windows in the Workplace. *Environment & Behavior*, 30, 739-763.

Lewis, C. A. 1996. *Green Nature/Human Nature: The Meaning of Plants in our Lives*. Urbana, Chicago: University of Illinois Press.

Martin, P. 1996. New Perspectives of Self, Nature and Others. *Australian Journal of Outdoor Education*, 1, 3-9.

Parsons, R., Tassinary, L. G., Ulrich, R. S., Hebl, M. R. and Grossman-Alexander, M. 1998. The View From the Road: Implications for Stress Recovery and Immunization. *Journal of Environmental Psychology*, 18, 113-140.

Rohde, C. L. E. and Kendle, A. D. 1994. Report to English Nature - Human Well-being, Natural Landscapes and Wildlife in Urban Areas: A Review. Bath: University of Reading, Department of Horticulture and Landscape and the Research Institute for the Care of the Elderly.

Russell, K. C., Hendee, J. C. and Phillips-Miller, D. 1999. How Wilderness Therapy Works: An Examination of the Wilderness Therapy Process to Treat Adolescents with Behavioural Problems and Addictions. In: *Wilderness Science in a Time of Change* (Ed. by Cole, D. N. & McCool, S. F.). Odgen, UT: Department of Agriculture, Forest Service, Rocky Mountain Research Station.

Taylor, A. F., Kuo, F. E. and Sullivan, W. C. 2001. Coping With ADD: The Surprising Connection to Green Play Settings. *Environment & Behavior*, 33, 54-77.

Tennessen, C. M. and Cimprich, B. 1995. Views to Nature: Effects on Attention. *Journal of Environmental Psychology*, 15, 77-85.

Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A. and Zelson, M. 1991. Stress Recovery During Exposure to Natural and Urban Environments. *Journal of Environmental Psychology*, 11, 231-248.

Wells, N. M. 2000. At Home With Nature: Effects of “Greenness” on Children’s Cognitive Functioning. *Environment & Behavior*, 32, 775-795.

Red wind Golf Course in Virginia Beach. Photo by City of Virginia Beach Parks and Recreation.