



Summary

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“Go outside and play.” Most of us remember hearing those four little words throughout our childhood. It is not possible for us to imagine childhood without powerful memories of climbing trees, exploring the neighborhood, or just watching the clouds.

Yet recent research shows that children are spending half as much time outside as they did 20 years ago. Today’s kids spend six and a half hours a day “plugged into” electronic media. In his 2005 book, *Last Child in the Woods*, Richard Louv described this American trend. He gave this alarming problem a powerful name. Today’s kids suffer from a “nature deficit.”

There are many contributors to nature deficit. Often parents’ fear of strangers keeps kids indoors. Some parents worry about bug bites, bee stings, and poison ivy. Many children simply do not have an “outside” to play in because of the lack of playgrounds, parks, and open space. Others cannot get to a safe outside area because of busy roads and intersections. Liability concerns have limited traditional outdoor play activities like climbing trees and building forts. Video games and other electronics lure kids inside. In some communities, kids are so overscheduled that they just do not have time to play unless it is through an organized sport.

National Wildlife Federation (NWF) is committed to connecting children to nature. Children should have access to and time for play in nature. A right for unstructured play. A right to create and explore. A right to experience the sense of wonder of being outside.

“If a child is to keep alive his inborn sense of wonder, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in.”

—Rachel Carson,
Author of *Silent Spring*



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Youth spend an average of six hours daily connected to electronic devices.

What is at Stake?

The Health of Our Children

Nature deficit has had profound impacts on our children's mental and physical health. Over the past 20 years, time spent playing outdoors has been cut in half, but the childhood obesity rate has more than doubled and the adolescent obesity rate has tripled. Doctors warn that, for the first time in American history, life expectancy may actually decrease because of the health impacts of the current childhood obesity epidemic.

Research has linked childhood obesity to a lack of play time outdoors. Although physical activity through organized sports can help address childhood obesity, the medical community recognizes that unstructured free time outdoors has unique health benefits to children. Children who play outside are more active and more physically fit than those who don't. Time in nature improves a child's academic performance, concentration, balance, coordination, and self-esteem. Recent studies indicate that playing outside

even reduces the severity of symptoms of Attention Deficit/Hyperactivity Disorder (ADHD), which affects millions of American children.

The Economy

The economic impacts of nature deficit are significant. The costs of the childhood obesity epidemic to our public health systems could reach \$100 billion annually. Hunting and fishing licenses sales have stagnated, resulting in severe cuts to state resource agencies' budgets. A decline in outdoor retail sales, a \$730 billion a year industry sector, may soon follow.

Know the FACTS

Research Shows:

Environmental Education:

- Good for overall student performance
- Great at motivating students
- Critical thinking skills consistently improve
- Math skills consistently improve
- Life science skills consistently improve
- Standardized test performance improves
- Supports and improves other science learning
- Supports language-arts development
- Under-resourced students show increased improvement over peers



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Sources: (Bartosh 2004); (Athman & Monroe 2004).

The Future of American Conservation

From the redwood forests to the Gulf Stream waters, exploring the diverse landscapes of America has shaped who we are as Americans. Children who spend time in nature are more likely to have pro-environmental attitudes as adults. Time spent in nature with an adult important to the child often shapes a child's long-term environmental ethic. If this nature deficit continues unabated, we may face a dearth of environmental



leaders, professionals, and advocates as we try to conquer future environmental challenges such as global warming. We may also lose a unique aspect of our national culture and identity.

“We talk a lot about our children’s future, but not that much about children. It’s time for big conservation organizations to actively engage children and work to protect them, to energize them, and to cultivate their creativity in protecting our world.”

—Richard Louv,
Author of *Last Child in the Woods*

Solutions to Reversing Nature Deficit and Connecting Children to Nature

Reversing nature deficit and connecting children to nature will take concerted policy action on the local, state, and federal levels. Since its inception in 1936, National Wildlife Federation (NWF) has worked to develop public policies that protect the environment and increase outdoor recreation opportunities for children. As part of our campaign to connect children to nature, we will:

Connect Kids to Nature through Environmental Education

NWF will advocate for better funding and access to environmental education; hands-on environmental

education can connect children to the natural world. In addition to providing this important connection, there are many academic benefits to environmental education, including higher test scores in math, reading, and language arts. Studies show that integrated environmental education programs also increase children’s critical thinking skills, self-confidence, and academic motivation. Environmental education can also serve as an educational equalizer across race, ethnicity, and socioeconomic levels.

Promote Outdoor Play through our Public Health Systems

NWF will encourage federal and state public health leaders to educate parents and caregivers about the importance of play in tackling childhood obesity and improving children’s mental health. The medical community recognizes that outdoor play time is critical to children’s physical, mental, emotional, and social well-being. Well-child visits reflect an important opportunity to

educate parents that down time outside can result in healthier, happier kids. We will ask healthcare professionals to also consider recommending outdoor play for overstressed kids and for children diagnosed with ADHD.

Increase Opportunities for Outdoor Recreation through Better Design and Access

The use of natural landscapes in playground design leads to more active and more creative play. In many communities, children do not have access to safe outdoor play areas. Connecting city parks through greenways and other green spaces can provide natural areas for children to play and increase wildlife habitat. NWF will target cities in our nation’s migratory bird flyways to establish these green links that also serve as wildlife corridors. By working with designers, city planners, and local elected officials, NWF will work to increase wildlife habitat and ensure that children have access to green, kid-friendly areas in their communities for unstructured play outside.



Physical activity, like bike riding, decreases health concerns such as diabetes.

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Encourage Parents to Build in Regular Time for Outdoor Play through GreenHour®, a National Educational Campaign

Parents and policymakers can make a difference to get children to experience all the benefits of free time in nature. NWF's national media and educational campaign, GreenHour®, helps parents with simple suggestions on how to play outside. To give parents and caregivers the information, tools, and inspiration to get their kids outside, NWF has created an online resource, www.GreenHour.org. NWF and its affiliated state organizations will also form new "No Child Left Inside™" coalitions and work with existing groups of health professionals, educators, day care providers, after-school care providers, business leaders, anglers, hunters, environmental leaders, and elected officials to take collective action to connect children with nature.

What You Can Do Take Action Close to Home

On a personal level, solutions to connect children to nature are pretty simple. Research shows that childhood experiences in nature with an adult family member or mentor help to shape a long-term connection with nature. Spend time with your kids outdoors. Consider the following actions:

- **Experience Green Hour®.** NWF recommends that parents give their kids a "Green Hour" every day, a time for unstructured play and interaction with the natural world. This can take place in a garden, a backyard, the park down the street, or any place that provides safe and



Enjoying nature as a family has long-reaching effects in children.

accessible green spaces where children can learn and play. Visit GreenHour.org for ideas on how to connect children to nature.

- **Garden for wildlife with children.** NWF has established a gardening for wildlife program that is a perfect way to share your love of the outdoors with children and foster a future connection to nature. Not only does it give kids a chance to get their hands dirty, the program also helps create an understanding of how the things people plant impact the environment; for example, how replacing grass lawns with native wildflowers, shrubs, and trees provides a nurturing refuge for wildlife.
- **Encourage your local school to participate in NWF's Schoolyard Habitats® Program,** an integrated environmental education program where kids plant wildlife-friendly vegetation on school grounds. It gets kids outside, educates them about the natural world, and has been shown to improve their scores on standardized tests.
- **Volunteer in a local park, school, day care center, after-school care facility, or nature center.** Work in a community garden, participate in a trash clean up, perform trail maintenance, or support park safety efforts.
- **Play with a child outdoors.** Research shows that spending time outdoors with children can help shape their long-term environmental ethic. Free play in nature also increases physical fitness and reduces anxiety. Go fishing. Take a hike. Or just go for a walk and look at the clouds.

Take Action in Your Community

The consequences of nature deficit are felt most keenly at the local level. Engage your local government, neighborhood associations, and other community-based organizations to:

- **Get the word out.** Educate health professionals, teachers, day care providers, after-school care providers, city planners, business leaders, and environmental professionals, and urge them to



incorporate nature deficit solutions into their everyday practices.

- **Work with local planning commissions and homeowners' associations to create zoning policies and incentives** to encourage more kid-friendly green spaces for creative play and designate special areas where children can participate in traditional outdoor activities such as climbing trees and fort-building, which have been limited because of liability concerns.
- **Support opportunities and funding for local environmental education**, including asking local school board members to provide information on current environmental education efforts, plans to update programs, and ways to increase funding for programs that help teachers link students to the outdoors.
- **Team up with local law enforcement** to ensure that parents are adequately informed about the safety of public parks and play areas and to increase opportunities for kids to play safely outside.
- **Create a local “No Child Left Inside™” Day or participate in other community awareness events**, such as NWF’s Great American Backyard Campout™, NWF’s Wildlife Watch Day, National Get Outdoors Day, and International Migratory Bird Day®.
- **Reach out to after-school programs** to see how you can help them create opportunities for more free play time outside for kids. Research shows that the vast majority of children are enrolled in some kind of after-school program. Provide incentives and

opportunities for field trips to local nature centers, supply tools for an after-school facility garden project, or give materials for a community-based environmental education program.

Take Action in Your State

State governments are responsible for the majority of public policies that can make our children’s lives healthy, happy, and more active. State governments should consider integrated policy reforms that include connecting children to nature throughout the state health, social service, natural resources, and education systems. There are a number of meaningful actions your governor and state legislature should take:

- **Host a “No Child Left Inside™” forum** to discuss ways to connect children to nature with health care professionals, business leaders, nonprofit organizations, educators, after-school providers, urban planners, hunters and anglers, conservation groups, and state and local officials to create access to safe outdoor play areas and educate parents on the benefits of unstructured free play.
- **Institute mandatory state standards for minimum exercise in school** that focus on outdoor activities for children.
- **Pass state environmental education legislation** to promote place-based and outdoor environmental education and increase funding for updating environmental education programs.

- **Require public health and social service agencies to educate parents** about the benefits of outdoor play to children’s health to fight obesity and make kids’ lives better.
- **Encourage day care and pre-kindergarten certification programs** to include education on the benefits of time outside for children.
- **Provide more funding for existing state programs** that promote recess, access to parks, camp experiences, and other ways to get kids outdoors.
- **Declare a Children’s Outdoor Bill of Rights** to ensure children have the right to experience all the benefits of unstructured free time in nature.

Know the **FACTS**

Summer Vacation:
A New Experience
for an Indoor
Generation

Research shows that school children are actually gaining weight during summer vacation now. Communities should respond by:

- Connecting kids to water safety classes and increase opportunities for swim lessons.
- Sponsoring more day camps at local parks.
- Working with local libraries to encourage kids to read about the outdoors, then go outside.

Source: (Von Hippel 2007).

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6 Take Action at the National Level

The federal government has an important role in creating opportunities for children to play outdoors. Several federal policy actions can make a difference in connecting children with nature, and your federal officials should work to:

- **Pass proposed federal legislation, such as the “No Child Left Inside™” amendment** to the “No Child Left Behind” Act, to get environmental education back in the classroom and give incentives to states to create environmental literacy plans.
- **Reauthorize the National Environmental Education Act** to update environmental education standards and increase critical funding for environmental education.



Children who have a significant experience with nature by age 11 are more likely to value nature as an adult.

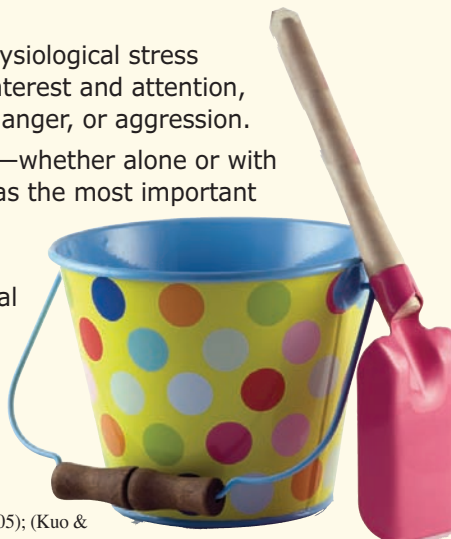
- **Form a Twenty-first Century Presidential Commission on the Great Outdoors** to make outdoor time part of children’s daily experiences, and more fully explore the impacts of nature deficit on public health.
- **Increase the federal recreation budget** and review current federal agency programs and assess how they can connect children to nature.
- **Use existing federal public health programs to educate parents** on the importance of outdoor play to children’s health.
- **Call upon the Surgeon General and Secretary of Health and Human Services to ask parents to make a commitment** to children’s health by encouraging their children to experience daily free play time outside.

Know the FACTS

Research Shows:

- Kids are spending less time outdoors than they did 20 years ago.
- Play outdoors can increase creativity, reduce stress, and lead to increased physical fitness.
- Viewing nature can reduce physiological stress response, increase levels of interest and attention, and decrease feelings of fear, anger, or aggression.
- Early-life outdoor experiences—whether alone or with others—have been identified as the most important factor in developing an environmental ethic.
- Short-term exposure to natural areas through brief walks and even looking at images of nature has been found to have positive effects on mood, reducing feelings of anger and anxiety.

Sources: (Juster et al 2004); (Burdette & Whitaker 2005); (Kuo & Sullivan 2001).



Conclusion

Together, we can connect our children to nature and ensure that the next generation has the opportunity, the space, and the encouragement to “Go Outside and Play.”