



**REPORT ON OHIO'S INITIATIVE TO
RECONNECT CHILDREN WITH NATURE**
September, 2010



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- Pennsylvania Governor Edward G. Rendell's Outdoor Task Force Report



Growing up in rural Ohio, some of my greatest childhood memories were times spent outdoors. Unfortunately, children today are growing up without a strong connection to the outdoors, and spend an alarming 7 hours per day in front of video games, TVs and computers.

Spending time outside has traditionally been part of Ohio's heritage and culture. Our landscape is particularly conducive to outdoor recreation and outdoor activity is directly connected to our economy. A generation of Ohioans growing up without positive outdoor experiences will not only affect our children's well being, but will also have profound consequences on public health, state and local economies and the environment.

The effects of this can be seen nationwide, and specifically here in Ohio, as childhood obesity rates are rapidly increasing and children are suffering from long-term developmental and social impacts. Numerous studies document that children who are in touch with their natural environment are healthier, do better in school, have better social skills and self-image, and lead more fulfilled lives.

Which is why, now, more than ever, is the time to reconnect Ohio's children with nature — making them happier, healthier and smarter.

Over the past several years the State of Ohio has partnered with a grass roots organization -- the Ohio Leave No Child Inside Collaborative — which represents hundreds of individuals and organizations across Ohio—to help ensure that Ohio's children will grow up with an appreciation for the outdoors.

This partnership has been very successful and a great deal of progress has been made, including the development of the following report on Ohio's Initiative to Reconnect Children and Nature.

I look forward to seeing Ohio build upon this momentum and advance the Leave No Child Inside movement. We are proud of the success we've had in working with our many partners and we look forward to more. Through our efforts to reconnect children with nature, we can continue to improve the health and vitality of Ohio's children.

Sincerely,

A handwritten signature in blue ink that reads "Ted Strickland". The signature is written in a cursive, flowing style.

Ted Strickland
Governor

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EXECUTIVE SUMMARY

In just 50 years, childhood has changed dramatically. For a variety of reasons, today's children spend less time in nature than any generation in all of human history. This is true of all children, regardless of ethnicity, socio-economic status or whether they live in an urban or rural environment. Screen time and other sedentary activities seem to have stolen the curiosity, wonder and physical activity from modern childhood. Many of today's children are unable to access safe, natural spaces for self-directed outdoor activities such as bike riding, walking, or exploring a neighborhood playground or park. The emphasis on structured activities, fear of "stranger danger" and the fear of being sued should a child injure themselves while playing have all served to magnify the problem. Only recently have we begun to learn the cost of this sudden shift in lifestyle in the form of a host of childhood problems that continue into adulthood.

Less time spent in nature has been proven to correlate with increased negative effects to the overall well-being of our youth. Obesity has become an epidemic that puts our children at increased risk for chronic health issues that can last into adulthood. Research states that these can include diabetes, cardiovascular problems and even asthma. As a result of spending less time in the out-of-doors, physicians are also seeing increased numbers of people, including children, with vitamin D deficiency and myopia. There are good reasons to suspect that the lack of unstructured play outdoors is affecting children's mental health as well, with links to Attention-Deficit/Hyperactivity Disorder (ADHD), elevated stress levels and depression. Children are also exhibiting a shocking lack of knowledge about nature and their local environments, leading to concern about their ability to be good stewards of the environment as adults.

Most people intuitively recognize that outdoor play is good for children, and research confirms that there are many positive benefits to unstructured, outdoor play. Playtime in natural settings is vitally important to children's development and benefits them physically, intellectually, emotionally and socially. Spending time in nature also leads to the development of what Rachel Carson (1956) called "a sense of wonder" in children, inspiring curiosity and environmental stewardship later in life. Numerous studies have indicated the physical benefits of outdoor activity as well as the increase in cognitive functioning, in addition to enhanced learning performance in school. Other benefits of outdoor play include relief from the symptoms of ADHD, improved social development and behavior, stress relief, creativity and imagination including a greater ability to assess risks and potential outcomes of actions. Another benefit of play in nature is that it is fun! Given the opportunity to experience it, children love the ever-changing world of free-play nature. Unlike medication and "workouts", it is something that they enjoy and are likely to do daily.

Public awareness of this issue has inspired a growing movement to reconnect children with nature in Ohio, the U.S. and around the world. There are now more than eighty grassroots initiatives in the United States, all working to reverse this alarming trend. Although formed independently and known by different names, they share a common goal to return nature-centered play experiences to children. Nature-centered play experiences are those that instill wonder and engender curiosity; take place in outdoor settings ranging from backyards to neighborhoods to city parks to wilderness; and occur in the form of guided activities as well as unstructured nature play in children's everyday lives. The movement to Leave No Child Inside has already inspired a number of federal initiatives, including the No Child Left Inside Act, which is a key element of the pending Elementary and Secondary Education Act, the Let's Move Outside Campaign, which targets the childhood obesity epidemic and the America's Great Outdoors Initiative, which includes listening sessions being conducted in cities all over the U.S. to engage the public in developing strategies to protect our nation's natural resource and reconnect people with the outdoors.

In Ohio, five Leave No Child Inside organizations joined together to inform Ohio's communities about this issue. In April, they invited leaders from state departments, schools and non-profit organizations to discuss and develop a shared vision for reconnecting Ohio's children with nature. Conference participants acknowledged that there is already much good work underway in Ohio and that linking stakeholders together would strengthen those efforts and facilitate partnerships between organizations interested in working toward changing Ohio's sedentary, indoor lifestyle.

A first step following the April conference was to acknowledge that every child in Ohio should have the right to experience play in a safe, natural outdoor environment. This led to the creation of an Ohio Children's Outdoor Bill of Rights, which was released on September 24, 2010 by a Proclamation from Ohio Governor Ted Strickland and the mayors of many cities throughout Ohio. The Children's Outdoor Bill of Rights may be found in Appendix A and at <http://www.OhioLNCI.org>. It states that every child in Ohio shall:

- Be physically active and play outside every day to grow up healthy
- Connect with nature, with free time to explore the outdoors
- Have access to safe, natural green spaces in their community
- Discover the wonders of plants and animals, large and small, using all five senses
- Explore the diversity of Ohio's natural habitats
- Understand the patterns and cycles in nature
- Experience the joys of splashing, playing and swimming in safe, clean lakes and streams
- Be fully immersed in nature by camping overnight, free of the distraction of electronics
- Learn how to give back to nature

A Public Awareness Campaign will be launched in the fall of 2010 to inform Ohioans that children benefit from play and learning in nature. In addition to more traditional media campaigns, materials are being developed that can be easily and freely shared digitally and integrated for distribution by other organizations and stakeholders.

Although not a part of the fall Campaign, we recognize that today's busy families appreciate easy access to information and that they are often unaware of local facilities and educational resources. In talking with community groups, this information is commonly requested. If it does not already exist, it is recommended that communities work to develop a single, web-based source of information for the public to learn about local facilities and programs available at parks, nature centers, camps and other facilities. Likewise, teachers frequently request a single source of information about environmental education programs in their districts. We encourage communities to work together to increase public awareness of existing resources by offering a single source of local information.

In the months following the April 9 conference, Leave No Child Inside worked with state officials and community leaders to develop The Report on Ohio's Initiative to Reconnect Children with Nature. This Report contains research findings and proven strategies that support getting children outside to play and to learn about their natural environment. It also identifies statewide resources already in existence to move those strategies forward. Building upon solutions set forth in the National Wildlife Federation's State Policy Solutions Guidelines, the report focuses on six key areas:

1. Proclamations

Proclamations are recognized as ways to show governmental support and make the public aware of important information. The proclamation releasing the Ohio Children's Outdoor Bill of Rights and Great Outdoors Month are two examples cited.

2. Parks, Outdoor Recreation and Experiences

Ohio has a wealth of organizations which provide outdoor experiences, recreational opportunities and nature programming. The following actions would enhance the ability of these organizations to bring children quality nature-centered experiences: 1) Support the organizations that provide facilities and programs that allow children to experience the natural world; 2) Support the development of greenbelts, greenways and trails by creating a statewide trails masterplan, providing technical assistance to counties and municipalities to develop masterplans, and providing technical assistance to developers wishing to connect to public trails; 3) Increase public awareness of the facilities, programs and trails that exist in Ohio; 4) Create programs to provide schools and non-profit organizations with funds for field trips to parks and other natural areas; 5) Encourage construction of natural play areas at parks, recreation centers and nature centers, as well as at "nearby nature" locations like schools and child care centers; 6) Encourage joint use agreements between schools, parks and recreation centers; and 7) Establish and fund Conservation Corps programs that support young people doing construction and maintenance work on public lands.

3. Health

There is growing evidence of the importance of nature to children's physical and mental health. Strategies that will advance public health priorities while increasing the amount of time children spend in the natural world include: 1) Educate health care professionals about the importance of nature to healthy childhood development; 2) Encourage and support programs that provide training and materials to pediatricians on the importance of one hour of daily outdoor play; 3) Launch a public awareness campaign on the health benefits of outdoor play for children's health; 4) Encourage non-traditional partnerships to improve the health of Ohio's children; and 5) Encourage Health Impact

Assessments for new real estate developments.

4. Education

There are many opportunities to reconnect children with nature through childcare centers and schools, where they spend much of their time. Beyond classroom instruction, school outreach programs and field trips, schoolyards are often the nearest green space in the neighborhood. Strategies for increasing the ability of children to play and learn in and about nature via childcare centers and schools include: 1) Adopt a statewide Environmental Literacy Plan; 2) Encourage outdoor learning environments such as schoolyard habitats and natural play areas at schools, pre-schools and childcare facilities wherever possible; 3) Encourage teaching and learning outdoors and in community-based settings; 4) Strengthen environmental education grant funds to support outdoor learning experiences; 5) Create a school recognition program for schools that incorporate environmental education in the curriculum, model best practices on campus and address community problems; 6) Prepare formal and non-formal educators to incorporate environmental education into their teaching throughout their career; 7) Require at least 20 minutes of daily, unstructured recess; and 8) Increase student and public awareness of green jobs as a career option.

5. Transportation And City Planning

The existence of “nearby nature” and the ability to safely access it are key elements in helping children to connect with nature in today’s increasingly urban world. The following strategies assure that all children will have opportunities to safely play and learn in nature in their own neighborhoods: 1) Encourage cities and counties to include Complete Streets which safely accommodate pedestrians and cyclists as a part of their general plans; 2) Encourage the implementation of Safe Routes to School programs; 3) Create incentives for property developments meeting the LEED for Neighborhood Development standards, which incorporate protection of green space and wildlife habitat, and promotion of physical activity; and 4) Promote the adoption of green landscaping municipal ordinances encouraging planting of native and adapted trees and plants.

6. We Are All Part Of The Solution: Get Active, Get Outside, Get Involved!

Every Ohioan can play a role, even if it is as simple as taking a child or grandchild to play at a park. The previous strategies highlight how governmental agencies, schools, non-profit organizations and even businesses, can play a part in this effort to connect children with safe, accessible natural spaces and facilitate their learning experiences. However, the true measure of success will be when everyday citizens weave the “get outside and be active” message into their daily routines.

Collectively, Ohioans can reverse many of the trends that put today’s children at risk for having a shorter life expectancy than their parents. With the Children’s Outdoor Bill of Rights supported by the proclamations of Governor Ted Strickland and Mayors throughout Ohio, we acknowledge the right of children to play, explore and learn in nature. Through the Public Awareness Campaign being launched in the fall of 2010, the Ohio Leave No Child Inside Collaboratives invite people and organizations throughout Ohio to join in making all Ohioans aware of the important role that nature plays in childhood development and the actions needed every day to positively influence the health and well-being of our children. Working collaboratively and through resources already in place - government, schools, non-profits, professional organizations and even businesses - we can implement the strategies identified in the Report on Ohio’s Initiative to Reconnect Children with Nature. These efforts, combined with those of concerned individuals who take actions as simple as passing along information or taking a child outside, will assure that every child and family in every Ohio community can experience the wonder of the natural world every day.

Together, we can make Ohio’s children happier, healthier and smarter!

Details and research citations are contained in The Report on Ohio’s Initiative to Reconnect Children with Nature available at <http://www.OhioLNCL.org>.

THE REPORT ON OHIO'S INITIATIVE TO RECONNECT CHILDREN WITH NATURE

THE DISCONNECT FROM NATURE AND ITS IMPACTS

In just 50 years, childhood has changed dramatically. In the not-so-distant past, childhood was dominated by self-directed activities outdoors, such as bike riding, walking to a stream, store or playground, and exploring the neighborhood. As we think back on our own lives growing up, favorite memories revolve around free play, summer camp, or other outdoor activities. Many recall building forts, making up games and being on the move “until the streetlights came on” and it was time to go home.

Screen time and other sedentary activities seem to have wrested the curiosity, wonder and physical activity from modern childhood. Technology and entertainment have their place and undoubtedly have made many aspects of life easier, but an important part of childhood seems to have been swept away by it, without our even noticing. And, many of today's children are unable to access safe, natural spaces in which to play. For a variety of reasons, today's children spend less time in nature than any generation in all of human history. This is true of all children, regardless of ethnicity, socio-economic status or whether they live in an urban or rural environment. Only recently have we begun to learn the cost of this sudden shift in lifestyle. Ohioans are paying dearly, in the form of a host of childhood ills that continue into adulthood.

As a result, Ohio leaders are now standing together in a deliberate effort to ensure that today's children receive the same benefits that all of the generations before them received from the simple act of being in the natural world, free to play.

FACTORS CONTRIBUTING TO THE DISCONNECT FROM NATURE

How have today's children become so removed from nature?

Demographics

The majority of today's families are two-income families or single parents. Nationally, 75% of children under the age of six are in some form of child care. Fifty-six percent of children are in child care facilities, many of which have no access to natural play spaces [1].

Ohio has many urban areas. For families living in these areas of high-density housing, finding natural areas for play within safe walking or biking distance can be a challenge. According to a recent Centers for Disease Control Report, 51.1% of youth in Ohio live in neighborhoods with parks or playground areas, community centers and sidewalks or walking paths, which is slightly above the national average of 50% [2]. That means that nearly half of our youth do not have access to them. Generally, minority



and low-income families have the least access to these spaces.

Technology

According to a recent study by the Kaiser Family Foundation, Children between the ages of 8 and 18 spend an average of 7 1/2 hours per day plugged in to electronic devices, including television, computers, MP3 players and video games [3]. At 53 hours per week, this equates to a fulltime job plus overtime.

Over-Structured Time

Today's children have very little free time

for unstructured play activities of any kind. They spend much more time using computers, studying and in structured activities like organized sports and after school programs [4][5].

Even in school, recess has been eliminated in many school districts in order to increase the amount of academic time. In Ohio, only 26.2% of students in grades 9-12 have daily physical education classes in school [2].

Stranger Danger

Abductions by strangers are extremely rare. According to a study commissioned by the U.S. Department of Justice, 115 children (ages 0-15) were abducted by strangers in the United States in 1999 [6]. In Ohio, crime in general has been on a downward trend since 1991 [7]. Yet, media attention to those that do occur has caused us to believe that “stranger danger” is a common occurrence. As a result, we have become a society afraid to allow children to venture to a park with friends or even to play outdoors in their yard unsupervised.

Fear of Litigation

Fear over lawsuits has caused individuals and organizations to limit the types of activities in which children can engage. While the children of decades past climbed trees in their neighbor’s backyards, today’s children may be prevented from running on school grounds. Ohio has a “recreational user” statute that protects owners of open, non-residential areas from liability if children or adults use their land to play, fish, hunt, etc. Public lands and parks are also largely immune from liability in recreational accidents. In theory, this should encourage free play and open use of natural spaces. In reality, many park districts, municipal parks and private landowners continue to live in fear of being sued if a child should be hurt on their land.

Collectively, these relatively recent changes have resulted in a sedentary, indoor lifestyle for most children. Richard Louv, author of *Last Child in the Woods* (2005), coined the phrase “nature-deficit disorder” to describe the lack of real contact today’s youth have with our natural world. Louv warns that “Today’s kids are aware of global threats to the environment, but at no time in our history have children been so separated from direct experiences in nature. A child today may be able to tell you what is happening in the rain forest, but not in his own backyard. Many have never experienced camping, playing in a stream, walking in a forest, catching a firefly, climbing a tree, or even looking at the stars [8].”

IMPLICATIONS OF THE DISCONNECT FROM NATURE

How does our disconnection from nature affect children? Less time spent in nature has been proven to correlate with increased negative effects to the over-all well-being of our youth. Without realizing it, we have put children at risk - in fact, they may be the first generation at risk of having a shorter life expectancy than their parents [9].

Obesity

Nationally, childhood obesity rates for children ages 6-11 have risen fourfold since 1971. Ohio ranks #12 in the country for childhood obesity, with a rate of 18.5%. Children who are overweight are at increased risk of being obese as adults. In Ohio, the obesity rate for adults increased to 29% from 28.6% last year. Two decades ago, not a single state had a rate above 20% [10].

Although health agencies currently recommend that children are deactive for at least 60 minutes per day and have no more than 2 hours per day of screen time, 37% of children ages 4-11 experience low levels of active play and 65% have high levels of screen time [11]. In Ohio, only 26.8% of students in grades 9-12 meet the Centers for Disease Control’s recommended 60 minutes a day of moderate- and/or vigorous-physical activity [2].

We know that obesity puts children at increased risk for chronic illnesses that can last into adulthood, including diabetes and cardiovascular problems.

Diabetes

Type 2 diabetes is closely related to obesity and has sky rocketed in children and adolescents. Type 2 diabetes was rarely seen in children until ten years ago. Today, children are developing diabetes earlier in life as a result of a lifestyle with little exercise and poor eating habits [12].

Asthma

Overweight children are at an increased risk for developing asthma and other respiratory problems [13]. Young children who watch television for more than 2 hours per day are almost twice as likely to develop asthma before the age of 12 than those who watch TV for only 1-2 hours per day [14].

Vitamin D Deficiency

Although as little as 10-15 minutes of sunlight exposure twice a week is needed to produce the necessary amount of Vitamin D, 70% of children in the US have insufficient Vitamin D levels. Vitamin D is needed for the body to absorb calcium, which builds strong bones. Vitamin D deficiencies put children at increased risk for osteoporosis and can cause rickets [15]. Vitamin D deficiency is also associated with cardiovascular risk factors like high blood pressure and high cholesterol [16].

Myopia

According to a 2009 study published in the Archives of Ophthalmology, the number of people ages 12-54 with myopia (commonly known as near-sightedness) has increased by 65%, from 25% to 41.65%, in the past thirty years. Surprisingly, the findings were that this is not the result of an increase in the amount of “near work”, but is related to the amount of time spent outdoors as a child. The study showed that the positive impact of time spent outdoors was independent of exercise – in other words, children who exercised indoors did not show the same positive benefits. Researchers suspect that outdoor light may affect the way the eye grows and studies are now underway to determine that [17] [18].

Attention-Deficit/Hyperactivity Disorder (ADHD)

Attention-Deficit/Hyperactivity Disorder (ADHD) affects approximately 9% of children ages 4-17 years old [19]. It is a serious problem that can impair academic performance and cause behavioral problems that affect socialization [20]. According to the Centers for Disease Control, there were 4.5 million children diagnosed with ADHD as of 2006 and 2.5 million children are on medication to treat it. In the years between 1997 and 2006, the number of children diagnosed increased by 3% per year [20]. Although the cause of ADHD is unknown, there are many studies which show that nature can provide relief from the symptoms of ADHD, as described later in this report.

Stress

Pressure to excel in school, and even in activities that should be fun, like sports, can leave children feeling anxious and stressed. A survey by the American College Health Association reported that 61% of college students had feelings of hopelessness, 45% were depressed to the point that they had trouble functioning, and 9% had considered suicide [21]. A 2007 Clinical Report by the American Academy of Pediatrics states that “many parents seem to feel as though they are running on a treadmill to keep up, yet dare not slow their pace for fear their children will fall behind. In addition, some worry they will not be acting as proper parents if they do not participate in this hurried lifestyle. Although most highly scheduled children are thriving, some are reacting to the associated pressures with anxiety and other signs of increased stress [22].

Lack of Knowledge about Local Environments and Direct Experiences in Nature

Although there is more information available about our environment than ever before, today's children show very little understanding of their own surroundings. In fact, one study showed that children were able to identify Pokémon characters more readily than local plants and animals [23]. In a new, landmark study, it was found that the American public of all ages and all demographics reported that they believe that direct experiences in nature are important for children's healthy development.

Alarming, however, the younger the adult participating in the survey, the less likely that person was to see those benefits. From that, we may draw the conclusion that as the youth of today grow farther from direct experiences in nature, the less likely they are to value them [24].



THE BENEFITS OF NATURE AND PLAY

Nature is important to children’s development—physically, intellectually, emotionally and socially. Additionally, children who experience nature develop an appreciation for it that leads to environmental stewardship later in life [25]. Spending time in nature also leads to the development of what Rachel Carson (1956) called “a sense of wonder” in children. Although difficult to define, most people would agree that there is something unique about the inspiration that we receive from nature - whether it is gazing at a spectacular sunset or admiring a rainbow after a storm, who of us has not experienced a sense of

awe at the beauty of the natural world? A three year study by Linda Ramey confirms the benefits of outdoor play for children and makes important connections between previous generations’ playtime (“we were always outside”) and today’s children’s indoor screen time. She also maintains that children develop key personality traits and important social skills - independence, image of self, interdependence and imagination - with unstructured play in nature [26].

Play is so important to a child’s development that the United Nations High Commission for Human Rights recognizes it as a right of every child [27]. Although the resolution recognizing play as a right was passed in response to child labor practices, exploitation and violence, it is just as applicable to the privileged children of today who are being raised in overly structured environments.

“Nature-centered play experiences for children are those that instill wonder and engender curiosity; take place in outdoor settings ranging from backyards to neighborhoods to city parks to wilderness; and occur in the form of guided activities as well as unstructured nature play in children’s everyday lives.”

- **The Children & Nature Network**

Physical Benefits

Research confirms that children who spend time outside tend to be more active, which reduces the likelihood that they will be overweight [28].

Play in natural environments also improves their motor abilities, especially in balance and coordination [29]. In a 2006 policy statement reaffirmed in 2010, the American Academy of Pediatrics calls for “unorganized outdoor free play” as a strategy to fight obesity.

Remarkably, a recent study also showed that exposure to the natural environment may help to protect children against developing asthma in early childhood. This New York City study showed that 4-5 year-old children in areas where there was high tree density suffered from a lower rate of asthma [30]. And, as noted above, studies also reveal that the incidence of myopia is reduced in children who spend time outdoors.

Other studies have shown that green environments are good for human health in general. In fact, a study of 41 million people in England analyzed the causes of death in that population (366,348 deaths)

over a four year period and learned that the gap in death rates between the rich and the poor was cut in half in areas with higher access to green space [31].

“It has been suggested that efforts to reduce obesity might be more effective if they promoted ‘play’ as opposed to ‘physical activity’ or ‘exercise’.”

- Kenneth Ginsburg, MD, MS Ed, FAAP in testimony on behalf of the American Academy of Pediatrics, May 24, 2006.

Cognitive Functioning

Research shows that interaction with nature increases children’s ability to focus, and therefore enhances their cognitive ability [32].

“Play allows children to use their creativity while developing their imagination, dexterity, and physical, cognitive and emotional strength. Play is important to healthy brain development. It is through play that children at a very early age engage and interact with the world around them. Play allows children to create and explore a world they can master, conquering their fears while practicing adult roles, sometimes in conjunction with other children or adult caregivers. As they master their world, play helps children develop new competencies that lead to enhanced confidence and the resiliency they will need to face future challenges” [22].

School Performance and Learning

Until recently, generations of children have entered elementary school armed with valuable experiential learning. For example, if you grew up playing in the out-of-doors, you probably knew what a lever was before you knew what it was called because you pried up rocks with a stick in the backyard. Several long-term studies sponsored by many state departments of education document that students in environment-based instructional programs score as well or better in reading, math, language and spelling [33][34][35].

Real field trips provide better learning experiences than “virtual field trips.” Actual experiences create excitement; inspire curiosity and a sense of awe and wonder, as well as a desire to explore [36].

Stress Relief

Today’s hurried lifestyle can be stressful for both adults and children. An American Academy of Pediatrics Clinical Report states that “Highly scheduled children have less time for free, child-driven, creative play which offers benefits that may be protective against the effects of pressure and stress” and advises that “Pediatricians can educate families regarding the protective assets and increased resilience developed through free play and some unscheduled time and can discuss that, although very well intentioned, arranging the finest opportunities for their children may not be the parents’ best opportunity for influence and that shuttling their children between numerous activities may not be the best quality time” [22]. Interaction with the natural world can help children with stress. One study shows that even a view of nature helped to reduce stress among highly stressed children [37].

Relief from the Symptoms of Attention Deficit Hyperactivity Disorder (ADHD)

Some children with ADHD experience relief from their symptoms when they spend time in nature. Research shows after a walk in a park, children diagnosed with ADHD were able to concentrate better and experienced the same level of relief as two common types of ADHD medication. These effects were not observed after walks in downtown or residential areas [38].

Social Development and Behavior

“One of the most needed skill sets for success in today’s world is the ability to work with other people – constructively, cooperatively and successfully. When children play together in the outdoors, especially together in natural settings where they need to invent games and have real problems to solve, it cultivates their teamwork, cooperation and social skills. They learn to mediate, take turns, make

decisions and tackle challenges together” [39].

Risk Assessment

“Children who have the opportunity to play outdoors, alone and with others, learn their limits and gain confidence through experience. One of the keys is the opportunity for unstructured play – play where children decide what to explore and what to do – on their own terms and by their own choices about what is interesting, fun, intriguing and more. Part of what builds independence, confidence and self-esteem in children and youth is the ability to make choices and to learn from the results. Learning to take risks and to manage them is one of the foundations for learning independence” [39].

Environmental Stewardship

In this time of global concern about the environment, it is important that we foster stewardship in the leaders of the future. Research shows there is a connection between childhood nature experiences and adult behavior and attitudes [40]. By fostering a love of natural places, in childhood, it is more likely that they will want to protect those places as adults [41]. By encouraging environmental stewardship, we also increase the likelihood that children will be inspired to develop the skills and knowledge that are needed to support a 21st century, green economy. Ohio is committed to providing a skilled, educated workforce to help our state’s business community grow and prosper [42].

THE MOVEMENT TO RECONNECT CHILDREN WITH NATURE

In the overall span of time, the lifestyle of children has changed almost overnight. Most of the factors that have led to the reduced amount of time that children spend in nature have occurred only within the last thirty years. We are just now becoming aware of the implications of this change. While David Sobel and other researchers previously pointed out the need for children to spend more time outdoors, Richard Louv’s 2005 best-selling book *Last Child in the Woods: Saving Our Children from Nature Deficit Disorder* raised public awareness of the emerging body of research confirming the harmful effects “of nature-deficit disorder” and the corresponding benefits that children reap from time spent in nature. This has inspired people around the world, resulting in an international movement to reconnect children with nature. Work is underway in Australia, Canada, Great Britain, and other countries – including Bhutan!



NATIONAL MOVEMENT

In the United States, there are now more than eighty grassroots initiatives with different names and organizational structures, but all having a common goal: to reconnect children with nature. It is a movement that brings together unlikely partners - Republicans and Democrats, developers and environmentalists – all want the children of the future to have the opportunity to experience the wonders of nature that they enjoyed growing up. Developed in

response to the movement, the Children & Nature Network website www.childrenandnature.org provides research, information, a map of local initiatives across the country and the tools to support those campaigns.

The movement to get outdoors has influenced many federal initiatives, including:

No Child Left Inside Act

This Act, which promises to release \$500 million in federal dollars over the next five years to enhance environmental education programs and to support outdoor learning opportunities in those states with environmental literacy plans in place, passed the U.S. House of Representatives in 2007 with bipartisan support. The Act is now one of the key pieces of legislation included in the reauthorization of the Elementary and Secondary Education Act. Details can be found at <http://edlabor.house.gov/no-child-left-inside-act/index.shtml>.

Let's Move Outside!

Concern about childhood obesity inspired First Lady Michelle Obama to launch her "Let's Move" campaign, one component of which is "Let's Move Outside." According to the First Lady, "Our overall goal for 'Let's Move Outside' is to really get our kids active so that they make it a habit of moving around and seeing the activity they need not as a chore, but as a fun way to explore our country and to do some things they haven't done."

America's Great Outdoors Initiative

Across the United States, the Department of the Interior is holding public listening sessions to engage the public in a discussion about how we can protect our natural resources and reconnect people to the outdoors. Announcing the sessions, President Obama stated "When we see America's land, we understand what an incredible bounty that we have been given, and it's our obligation to make sure that the next generation enjoys that same bounty." The discussion points are:

- Challenges - What obstacles exist to achieving your goals for conservation, recreation, or reconnecting people to the outdoors?
- What Works - Please share your thoughts and ideas on effective strategies for conservation, recreation and reconnecting people to the outdoors.
- Federal Government Role - How can the federal government be a more effective partner in helping to achieve conservation, recreation or reconnecting people to the outdoors?
- Tools - What additional tools and resources would help your efforts be even more successful?

At the request of Ken Salazar, Secretary of the Interior, these listening sessions also include Youth Listening Sessions.

"The movement to connect all people with nature is one that is as core to American values as freedom and democracy. The listening sessions exemplify what our generation stands for and the administration is taking value of our voices. When youth get outdoors they become better, smarter, healthier, and proud citizens of these American lands."

-Juan Martinez

Natural Leaders (Youth engagement program of the Children & Nature Network)

U.S. Department of Agriculture's Farm to School Program

The USDA is increasing its efforts to educate students about where their food comes from through the agency's Farm to School educational program. USDA Deputy Secretary Kathleen Merrigan says the program is "bringing it all together at that young age, so kids understand that food really doesn't come from a grocery store." Part of the program uses school gardens and garden-based learning to educate students because "we do see this profound disconnect between American consumers and the people who are growing and raising their food," says Merrigan.

THE MOVEMENT IN OHIO

As addressed above, Ohio faces many of the same challenges as other American states with regard to the indoor, sedentary lifestyles of our children. While Ohio has great and diverse natural resources that are well-distributed, beautiful, and affordable to access, our state's children can increasingly be found indoors. Fortunately, Ohio has an above-average capacity of its citizen activists and organizations willing to address this issue head-on.

The inspiration to return children to the healthy, joyful outdoor lifestyle enjoyed by previous generations led people and organizations across Ohio to come together in an effort to Leave No Child Inside. Greater Cincinnati founded the first such collaborative in the country in 2006, followed by Central Ohio in 2007. More recently, collaboratives have formed in Northeast Ohio and Northwest Ohio, and Miami Valley. All five of these groups are working to educate their communities about the value of nature to healthy childhood development, hosting public events and providing speakers for community programs. Websites for the regional initiatives can be found at <http://www.OhioLNCI.org>.

WORKING TOGETHER TO RECONNECT OHIO'S CHILDREN WITH NATURE



In 2009, these five groups joined together to form the Ohio Leave No Child Inside Collaboratives. Through education and community engagement, the Ohio Leave No Child Inside Collaboratives promote children's outdoor play, learning and life-long connection with nature. Their vision is for every child and family in every Ohio community to experience the wonder of the natural world every day.

On the 9th of April, 2010, leaders from the Ohio Leave No Child Inside Collaboratives, the Governor's Office, state departments, agencies and non-

profit organizations related to health, education, child services, nature exploration and urban planning gathered in Delaware, Ohio to discuss and develop a shared vision for the state. Recognizing that there is already much work already underway in Ohio, participants agreed that linking leaders in all stakeholder sectors would serve to strengthen those efforts and would facilitate partnerships to develop creative solutions to any needs that exist. Details of that meeting can be found at <http://www.ohiolnci.org/wp-content/uploads/2010/08/Leave-No-Child-Inside-April-9-2010-Summit-Report.pdf>.

Pursuant to an idea put forth at the April 9th meeting, a writing team brought together the research findings and best thinking of experts on the topic to create the Ohio Children's Outdoor Bill of Rights. Following review by the Ohio Department of Natural Resources, Governor Ted Strickland, joined by mayors of cities across Ohio, signed proclamations restating the Ohio Children's Outdoor Bill of Rights. These documents are posted on the Ohio Leave No Child Inside website (<http://www.OhioLNCI.org>).

Participants in the meeting acknowledged that if we are to be successful in returning Ohio's children to the healthy, outdoor lifestyle enjoyed by the generations before them, it will take many people working together - families, mentors, schools, organizations and governmental agencies. It was suggested that the group put together recommendations for achieving this vision. Over the past four months, participants in the April 9th meeting, joined by other State officials and community leaders, collected data about work that is already underway in

Ohio. This report outlines strategies to reconnect children with nature, working within the framework of existing organizations and initiatives already underway. The strategies consist of two main elements: a) The Public Awareness Campaign and b) Engaging State Leaders, Departments, Agencies, Organizations and Individuals in Reconnecting Children with Nature.

THE PUBLIC AWARENESS CAMPAIGN

After reviewing the statistics and the research, we recognize that Ohio's children would benefit from playing and learning in nature. As Howard Frumkin, MD, former Director of the National Environmental Health Service of the Centers for Disease Control said, "We may not know everything, but we know enough to act". Parents, teachers, childcare providers and others who influence how children spend their time need to understand the direct benefits that result for youngsters when unstructured play and exploration in nature is incorporated into daily routines. And, they need to know how they can access the facilities and resources that are so abundant in Ohio. Parks, camps, nature centers, environmental educators and community groups like scouts and YMCAs have historically worked to get children outside and to educate them about the natural world. Increasing public awareness of these facilities and programs will make it easier for people and organizations to take advantage of those facilities and services.

Traditional media and educational campaigns can be expensive. Fortunately, today's electronic world has its benefits and one of them is that it is possible to reach many people at very little cost. The Public Awareness Campaign will provide organizations throughout the state with:

- Freely downloadable posters, brochures and flyers;
- Templates for consistent, targeted messages that can be included in newsletters, websites and other communications from a wide range of departments, agencies, schools, non-profits and professional organizations throughout the state. A team of experts is currently working on templates for messages targeting parents, health care professionals, educators and more;
- Digital videos that can be shared on websites;
- Other resources on the <http://www.OhioLNCI.org> website, which is a central clearinghouse for information about the children & nature movement in Ohio.

The Ohio Leave No Child Inside Collaboratives will continue their efforts to educate parents, teachers, health professionals and others at community meetings and other venues throughout the state.

As we move forward, we suggest that organizations with common areas of interest consider pooling their public awareness, media and advertising budget resources. Agencies involved in this may include: departments and agencies within the state, children's hospitals, health related organizations and nature-based organizations.

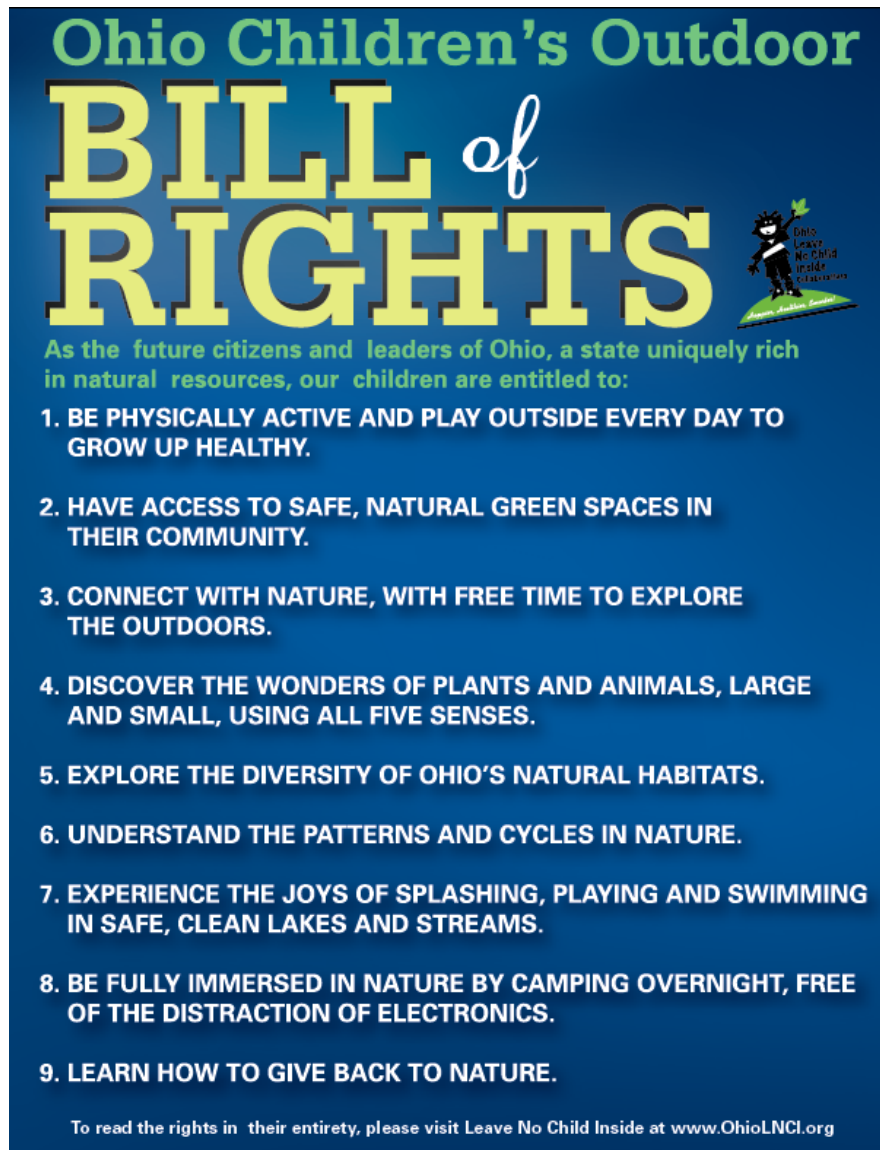


Working together, we can build an effective long-term public awareness campaign that will reach throughout Ohio with the goal of encouraging a permanent lifestyle change for Ohio's children and families.

ENGAGING STATE LEADERS, DEPARTMENTS, AGENCIES, ORGANIZATIONS AND INDIVIDUALS IN RECONNECTING CHILDREN WITH NATURE

Since the movement to reconnect children and nature began over four years ago, leaders across the country have been creating strategies to return children to a more balanced and healthy lifestyle. One of the hallmarks of the movement is the willingness to share information and learn from others. In developing this section of the report, we are honored to build upon the work that has been done in other states, notably Colorado, Maryland and Pennsylvania, by The National Wildlife Federation in their thoughtful State Policy Solutions Guidelines, and by the Children and Nature Network, which serves as a valuable resource for everyone interested in this topic.

Ohio is not only joining the ranks of other states that are concerned about the issue; it is taking a leadership role the movement toward a healthy, outdoor lifestyle for children. In this section, we list strategies for reconnecting Ohio's children with the natural world, recognizing that we are living in a time of limited financial resources. A strong focus is placed on collaboration in order to leverage the resources that are already in place - encouraging



Ohio Children's Outdoor
BILL of RIGHTS

As the future citizens and leaders of Ohio, a state uniquely rich in natural resources, our children are entitled to:

1. BE PHYSICALLY ACTIVE AND PLAY OUTSIDE EVERY DAY TO GROW UP HEALTHY.
2. HAVE ACCESS TO SAFE, NATURAL GREEN SPACES IN THEIR COMMUNITY.
3. CONNECT WITH NATURE, WITH FREE TIME TO EXPLORE THE OUTDOORS.
4. DISCOVER THE WONDERS OF PLANTS AND ANIMALS, LARGE AND SMALL, USING ALL FIVE SENSES.
5. EXPLORE THE DIVERSITY OF OHIO'S NATURAL HABITATS.
6. UNDERSTAND THE PATTERNS AND CYCLES IN NATURE.
7. EXPERIENCE THE JOYS OF SPLASHING, PLAYING AND SWIMMING IN SAFE, CLEAN LAKES AND STREAMS.
8. BE FULLY IMMERSSED IN NATURE BY CAMPING OVERNIGHT, FREE OF THE DISTRACTION OF ELECTRONICS.
9. LEARN HOW TO GIVE BACK TO NATURE.

To read the rights in their entirety, please visit Leave No Child Inside at www.OhioLNCI.org

new and creative ways to pool financial and human resources, including joint use agreements. Although this is a statewide report and incorporates information about state departments, regional and local non-profit organizations, schools and even businesses are key to reaching many children and families. Many of the strategies in this report are applicable to both governmental and non-governmental organizations.

PROCLAMATIONS - Proclamations by the Governor, Mayors and other local officials serve to draw attention to the issue and make the public aware of its importance.

Great Outdoors Month

Governor Ted Strickland has proclaimed the month of June Great Outdoors Month in 2008, 2009 and 2010. This proclamation also encourages Ohioans to participate in the Ohio Department of Natural Resources' Explore the Outdoors Program, which encourages families to participate in self-directed activities at parks throughout the State.

Ohio Children's Outdoor Bill Of Rights

In September, 2010, Governor Ted Strickland, joined by mayors from

cities across Ohio, signed a proclamation releasing the Ohio Children's Outdoor Bill of Rights, recognizing the importance of all children having the ability to play and learn in safe, natural spaces. These documents are available at <http://www.OhioLNCI.org>.

PARKS, OUTDOOR RECREATION AND EXPERIENCES – Ohio has a rich history of providing outdoor experiences, recreational opportunities and nature education. State and local parks, nature centers and recreation centers provide close-to-home opportunities for children to experience nature. Traditional nature camps allow children to be immersed in the natural world for extended periods of time. Zoos and museums share with visitors a more intimate knowledge of nature and inspire further investigation. And, each year, youth organizations like Camp Fire, Boy Scouts and Girl Scouts, along with non-profit organizations like the YMCA, give hundreds of thousands of Ohio's children the opportunity to experience the wonders of nature. Whether a few minutes in a half-acre of wildflowers or a week-long camping experience in thousands of

acres of unbroken forest, outdoor experiences are vital to children’s development. The following actions can enhance the ability of these organizations to bring children quality nature experiences:

Strategy #1: Support the organizations that already provide facilities and programs that allow children to experience the natural world.

Statewide, Ohio’s diverse and popular state parks system is in jeopardy. The budget for general operating funds for the Ohio State Parks has been cut by more than \$17.5 million since 2000 despite rising costs for salaries, equipment and fuel. All organizations, from municipal parks and recreation centers to scout camps are experiencing budget cuts that put their continued existence at risk. Ohio’s leaders and citizens need to be aware of the value of these organizations. Too often, these facilities and programs are targeted for budget cuts as low priority services. To the contrary, they play a crucial role in public health, in the education of our children and the ability of our communities to attract new residents.

Developing strategic alliances between nature facilities and programs, schools and health care providers can also help to assure the sustainability of natural resources and outdoor experiences. Such alliances would leverage limited dollars to do “triple duty” - getting children active in a healthy, outdoor environment, educating them through nature experiences, and at the same time supporting our parks, camps, recreation facilities and other natural spaces.

The Land and Water Conservation Fund (LWCF) is a federal landscape protection grant program that has protected natural resources and developed parks and trails in all 88 Ohio counties since it was enacted in 1965. The LWCF is authorized at \$900 million annually, but the program has never reached that level because Congress has moved money from the LWCF into other non-related programs or to reduce the deficit. There is legislation moving through the House and Senate that would provide full and dedicated funding for the LWCF upon final passage of the bill. A fully funded LWCF would mean more outdoor resources for children and families in Ohio.

Explore the Outdoors

Explore the Outdoors is statewide program designed to reunite children with nature. The program, administered by the Ohio Department of Natural Resources, provides Ohio parents, educators and youth leaders with an easy guide to lead Ohio’s young people into the outdoors. The Explore the Outdoors youth activity guide, which is distributed to more than 700,000 Ohio public school children each year, recommends a variety of outdoor activities, including spot a bird, splash in a stream or camp under the stars, which can be completed at parks, wildlife areas, preserves and forests throughout Ohio. Families may also complete some of the activities at area events, local parks, and green spaces or even at home.

Wild Outdoor Women

In Alliance, Ohio, Stark Parks recognized that many women, especially single moms, do not feel comfortable taking their kids on outdoor adventures. The Wild Outdoor Women Retreat is designed to offer a relaxed and enjoyable atmosphere for women to experience nature through outdoor activities, including kayaking, canoeing, birding, biking, archery, fishing, campfire building and cooking, survival skills, and more. The event is designed and instructed by women to create a non-threatening and social atmosphere. The desired outcome is to create a bond between the participants and nature, so that these women will feel confident to continue the activities and lead family members into the outdoors.

Project WILD

Project WILD is a supplementary education program for young people, emphasizing awareness, appreciation, and understanding of wildlife and natural resources. Through this program, students in kindergarten through twelfth grade learn basic concepts about wild animals, their needs and importance, and their relationships to people and the environment. The Project WILD curriculum has been correlated to Ohio's PreK-12 academic content standards in Science and Social Studies. Project WILD activity guides are available to educators free of charge.

Strategy #2: Support the development of greenbelts, greenways and trails by encouraging the creation of a statewide trails master plan, providing technical assistance to counties and municipalities to develop master plans and providing technical assistance to developers wishing to connect public trails.

In addition to having natural areas for children and families to visit, easy access to these sites is essential. Their value is enhanced when they are connected to each other by greenways and trails. Having a statewide trails master plan assists developers, counties and municipalities in making urban planning decisions that would increase the connectivity of these spaces.

Clean Ohio Trails Fund

The Clean Ohio Trails Fund, administered by the Ohio Department of Natural Resources, provides grants for community projects that complete regional trail systems and links to the statewide trails plan, link population centers with outdoor recreation areas and facilities, preserve natural corridors and link urban areas to support commuter access and provide economic benefits. The investments help facilitate travel, enhance recreational opportunities and provide safe, scenic areas where Ohioans can hike, bike or run and build healthy lifestyles. To date, the Clean Ohio Trails Fund has dedicated more than \$39 million to provide thousands of Ohioans with better access to recreational opportunities through the creation of more than 263 miles of trails and the acquisition of 94 acres of abandoned railroad and greenway corridors.

SCORP

The Ohio Department of Natural Resources in cooperation with regional, state and federal partners publishes the Ohio Statewide Comprehensive Outdoor Recreation Plan (SCORP). The SCORP serves as a master plan for the state trails system and is a guide to outdoor recreation land acquisition, facility and development, programming and management in the state of Ohio for a five-year planning period. The primary goal of the SCORP is to provide a contemporary assessment of outdoor recreation in Ohio and to recommend ways in which public, private and independent agencies might strive to meet identified needs within the constraints of the state's social, economic and natural resources. The SCORP is the most comprehensive source of data on regional and statewide outdoor recreation in Ohio, and can serve as a valuable tool for decision making for a variety of providers.

Strategy # 3: Increase public awareness of the facilities, programs and trails that exist in Ohio.

In talking with people in communities throughout the state, one of the most common requests is a "one stop shop" for information about the location of trails and natural spaces, as well as information about nature programs. Busy families want easy access to information about what is happening on any given day of the week and need detailed information to plan family outings. Collaboration among parks, recreation centers, nature centers, camps and others is needed to develop community-wide websites with this information. Ideally, that data could be linked to a statewide website. Collaboration with businesses in related areas like recreational equipment might ease the financial burden on state and local agencies in the creation of such a website. Currently, bicycle trail maps are available at www.dot.state.oh.us/bike by clicking on "Ohio Bikeways."

Strategy #4: Create programs to provide schools and nonprofit organizations with funds for field trips to parks and other natural areas.

As stated earlier in the report, “real field trips are better than virtual field trips”. In Ohio, an Environmental Literacy Plan is being developed to address how to increase students’ ability to have these experiences. Passage of the No Child Left Inside Act that is part of the Elementary and Secondary Education Act would provide funding for these activities.

Strategy #5: Encourage construction of natural play areas at parks, recreation centers and nature centers, as well as “nearby nature” locations like schools and child care centers.

The National Wildlife Federation and the Natural Learning Initiative are developing national guidelines for natural play areas at child care and early childhood learning centers. These guidelines will provide useful information about how public spaces can be designed for use by many children so that children in the most urban of environments can experience the sense of creativity and discovery inherent in unstructured free-play.

AT PARKS AND RECREATION CENTERS

Parks and recreation agencies in Ohio are embracing the concept of natural play areas. Park managers are designating remote sites as natural play areas where children climb trees, crawl through hollow logs, romp in the dirt and explore wet areas instead of using the manufactured equipment featured in traditional playgrounds. Says John O’Meara, Executive Director of Metro Parks, “Natural Play Areas in the Metro Parks are designed to encourage children to discover nature while encouraging creativity. The freedom to explore the fields and streams will increase the likelihood of “WOW” moments that inspire the next generation of stewards of Ohio’s precious natural resources.”

COUNTRY’S LARGEST NATURAL PLAYScape DEMONSTRATION SITE

Across Ohio, schools and childcare centers are looking at how they might naturalize their school grounds. Creating public spaces for children to experience free play requires some thought. It is one thing for a child to dig in the family backyard, but quite another to have twenty children sharing a public space! In Cincinnati, the University of Cincinnati and the Cincinnati Nature Center have partnered to create what will be the country’s largest natural playscape. It will serve as a demonstration model for those wishing to create such spaces.

WILD SCHOOL SITES - ASSISTANCE AND FUNDING AVAILABLE

Statewide, WILD School Sites are considered an extension of Project WILD and can involve any school property used by students, teachers, and the school community as a place to learn about and benefit from wildlife and the environment. The sites function within the premise that every school, regardless of size and location, can provide outdoor educational opportunities that can and should be part of any integrated education program. The Ohio Division of Wildlife provides four basic forms of assistance to schools and organizations that are interested in having an outdoor classroom, including planning of sites, grant assistance, workshops and certification.

Strategy #6: Encourage joint use agreements between schools, parks and recreation centers.

Schools, child care centers and after-school agencies are natural partners. Connecting teachers and students to their local parks and other natural spaces has multiple benefits. Applying classroom environmental concepts in a natural setting enhances the educational experience. Children who experience natural places will be the environmental stewards of tomorrow, and encouraging children to experience the outdoors will ensure that children are exercising their bodies and their minds. Ohio’s local parks and recreation agencies can strengthen the relationship with their community schools to leverage public resources and provide enhanced education and health benefits to Ohio’s youth.

The No Child Left Inside Act (NCLI), would expand environmental education curriculum in schools. NCLI encourages partnerships between schools and park agencies to provide students with field-based education opportunities. Passage of NCLI will give students and teachers an opportunity to increase their understanding of the natural world.

Strategy #7: Establish and fund Conservation Corps programs that support young people in doing construction and maintenance work on public lands.

This is another example of using funds to do “triple duty”. Youth need jobs, particularly during the summer months when they are out of school. Conservation Corps programs provide them with an income, get them active in a healthy environment, and help maintain public land.

RECOVERY CONSERVATION CORPS

In 2009, the Recovery Conservation Corps (RCC) was created through funding from the American Recovery and Reinvestment Act to provide employment opportunities with public benefit for young Ohioans ages 16 to 24. The Ohio Department of Natural Resources partnered with the Department of Job and Family Services as well as local and regional non-profit service agencies that focus on teens and young adults to match the RCC labor force with appropriate public projects. A total of 358 RCC workers were employed in 59 state parks, natural areas, state forests and wildlife areas. Examples of projects undertaken by the RCC crews included painting, general maintenance and improvements of facilities, trail improvements and removal of invasive species.



ADVENTURE CENTRAL

Adventure Central, a partnership Ohio State Extension, 4-H and Five Rivers MetroParks in Dayton, offers a teen Job Experience and Training (JET) program. Since 2002, twenty urban minority teens each summer work eight weeks in various areas of Five Rivers MetroParks. The goal is to build 21st century skills and to introduce the teens to careers in parks, with the intent of creating future park leaders.

HEALTH - There is growing evidence of the physical and mental health benefits of contact with nature, as outlined earlier in this report. Spending time in nature is free, requires no special equipment, is something that nearly everyone can do and offers not only the opportunity for increased physical activity, but also stress relief and experiential learning. That makes it a perfect fit for initiatives aimed at improving

public health. These strategies will advance public health priorities while increasing the amount of time children spend in the natural world.

Strategy #1: Educate health care professionals about the importance of nature to healthy childhood development.

Health care providers, from pediatricians to school nurses and health insurers, have greater influence than any other group in informing the public about health issues. In fact, findings from the American Medical Association and the American College of Sports Medicine are that two-thirds of patients indicated that they would be more likely to exercise if told to do so by a physician. (<http://www.exerciseismedicine.org/>).

Nationally, health care professionals are being educated on this topic through keynote speeches to professional associations, including the American Academy of Pediatrics and the National Association of School Nurses. The Children & Nature Network recently published a compilation of annotated research summaries specifically addressing health in their “Health Benefits to Children from Contact with the Outdoors and Nature”, which is available at <http://www.childrenandnature.org/downloads/C&NNHealthBenefits.pdf>, making it easier for busy health professionals to learn about emerging research. And recently, the topic of health has been added to the America’s Great Outdoors listening sessions, where health professionals are being invited to share in a conversation about “turning the tide” in human health and the health of our planet.

Here in Ohio, the Ohio Leave No Child Inside Collaboratives has begun work on a matrix of the organizations in Ohio which are working toward healthier children. The Collaboratives are developing a plan to make these organizations aware of research and resources on this topic. Some of these resources for health care professionals are already available on the <http://www.ohiolnci.org> website.

Did your child **play outside** today??




Outdoor **play** helps **keep kids well!**



Name: _____

Play **outside** at least **1 hour** per day!



Signed: *Your Doctor*

Resources:
www.NationwideChildrens.org
www.metroparks.net
<http://parks.columbus.gov/homepage.aspx>

Strategy #2: Encourage and support programs which provide training and materials to pediatricians on the importance of one hour of daily outdoor play.

NEEF Health Professionals Initiative

The National Environmental Education Foundation (NEEF), which has a long history of working with health professionals, has a Health Care Provider Initiative on Children & Nature. In addition to educating health care providers, this program offers “train the trainer” workshops where pediatricians learn to train others in their community, using resources like a Children’s Health and Nature Fact Sheet and nature prescription pads (www.neefusa.org/health/children_nature.htm). Educating the health care community about the existence of these and other materials will be an important element of the Public Awareness Campaign, with an expansion of resources available on the <http://www.ohiolnci.org> website.

Walk With a Doc

The doctors of Nationwide Children’s Hospital can often be found in Columbus area parks on Saturday mornings, walking with a group of families as part of the “Walk With a Doc” program. The mission of this national program is to encourage healthy physical activity in people of all ages, and reverse the consequences of a sedentary lifestyle in order to improve the health and well-being of the country.

“Outdoor activity is a major missing link in the health and wellness of our patients. During visits, we are asking parents to get children outside to play. Walk with a Doc allows us to get out in nature and get personally involved in keeping families well.”

- **Wendy Anderson-Willis, MD, FAAP**
Nationwide Children’s Hospital, Columbus, Ohio

Strategy #3: Launch a public awareness campaign on the benefits of outdoor play for children’s health.

As mentioned throughout this report, the Ohio Leave No Child Inside Collaboratives is launching a Public Awareness Campaign this fall. The campaign will provide consistent messaging and resources to organizations which impact the lives of children throughout Ohio, including organizations in the health field.

Strategy #4: Encourage non-traditional partnerships to improve the health of Ohio’s Children.

In recent years, many Ohio health initiatives have recognized the need to involve the entire community in the effort to improve children’s health. Examples include the development of the Ohio Physical Activity Plan and the establishment of a multi-disciplinary council to administer the new Healthy Choices for Healthy Children Act (Senate Bill 210), aimed at reducing childhood obesity. Working through the organizations already in place is the first step toward integrating outdoor play into Ohio’s existing health programs.

At the local level, the Ohio Leave No Child Inside Collaboratives are “radically inclusive” in inviting the participation of all individuals and organizations interested in improving the health of our children through outdoor play and learning. The movement to Leave No Child has a unique ability to encourage non-traditional partnerships because it touches so many areas of a child’s life – not just health, but education, social development, appreciation for the environment and even the design of the neighborhoods in which they live.

Strategy #5: Provide model ordinances and technical support for counties and municipalities to encourage Health Impact Assessments of new real estate developments.

The previous strategies are designed to encourage healthy behavior. However, we cannot overlook the need to provide easily accessible, healthy, natural spaces for people and children in our communities. As our world

becomes increasingly urban, we need to think harder about how we design our neighborhoods. Health Impact Assessments are tools to evaluate the impact that a development is likely to have on public health. They provide recommendations to increase positive health outcomes by encouraging the inclusion of trails, bicycle lanes, and other design features which promote physical activity. They also address social equity issues and offer suggestions to mitigate adverse health effects. The Centers for Disease Control encourages use of such assessments (CDC Healthy Places Website <http://www.cdc.gov/healthyplaces>). Legislation has been introduced in three states and in Congress to encourage their use.

EDUCATION – Schools, where children spend a significant amount of their time, have a tremendous opportunity to reconnect children with nature. Contact with nature has proven educational and developmental benefits. Historically, schools have planned field trips and arranged for school outreach programs, and schoolyards are often the nearest green spaces in neighborhood. Increasingly across Ohio, schools are being used as Community Learning Centers, making their facilities accessible to the community beyond the school day, seven days a week. This makes them even more valuable as “nearby nature” locations. With 55% of children under the age of six in child care centers, pre-schools and child care centers also play an important role in the effort to reconnect children with nature.

Strategy #1: Adopt a statewide Environmental Literacy Plan.



An Environmental Literacy Plan (ELP) for Ohio is currently under development with input from an Advisory Group representing the Ohio Department of Education, the Ohio Environmental Protection Agency, the Ohio Department of Natural Resources, the Environmental Education Council of Ohio, the Ohio Parks and Recreation Association and the Ohio Leave No Child Inside Collaboratives. The ELP contains recommendations for regular outdoor learning experiences for students pre-kindergarten through grade 12. The Advisory Group is

using a strategic process to develop a plan that also includes goals and actions related to outdoor family recreation and education opportunities, as well as a focus on environmental careers. Once implemented, the Environmental Literacy Plan will allow Ohio to take swift advantage of federal funds available under the No Child Left Inside legislation, one of the key elements of the pending Elementary and Secondary Education Act.

Strategy #2: Encourage outdoor learning environments such as schoolyard habitats and natural play areas at schools, pre-schools and child care facilities wherever possible.

Ohio is the most progressive state in the country when it comes to green schools. There are 956 registered LEED Certified Schools in the United States, with 255 of them (25%) in Ohio. Texas comes in a distant second with 59. However, naturalizing areas on school grounds has been largely overlooked until recently. Likewise, the U.S. Green Building Council does not address this in its current LEED for Schools standards, but it is under review as addressed in the Transportation and Urban Planning section of this report.

Vegetative roofs make it possible for all newly constructed school buildings to have natural areas that may be used for school gardens and play areas when proper safety measures are in place. And, throughout the state, individual schools are creating school gardens and other natural areas using whatever space they have. This is often being done with volunteer help and in collaboration with non-profit organizations.

However, even if Ohio would adopt a facilities master plan requiring natural spaces for newly constructed schools, many existing schools, especially those in urban areas, have no space available. In those situations, it may be possible to enter into joint use agreements with nearby parks, recreation centers, community gardens or other appropriate organizations. Ohio's Safe Routes to School Program can be of assistance in assuring that students can safely access those locations.

Relative to pre-schools and child care centers, facilities range from private homes, traditional schools, churches and office buildings. Many of the Ohio's Child Care Resource and Referral Agency's (OCCRA) member agencies like Action for Children and 4C for Children have offered programs encouraging directors and teachers to assess available natural spaces and have provided training for both unstructured and structured activities in nature. Pre-schools and child care centers can utilize many of the same strategies identified for K-12 schools. Currently, the Ohio Department of Job and Family Services is making revisions to the child care licensing requirements. These requirements are the basis for monitoring the state's child care facilities, which currently have over 455,000 spaces for children. Writing teams have been formed to develop new requirements and are discussing the role of nature play and learning, given the confines of many child care facilities.

Strategy #3: Encourage teaching and learning in outdoors and community-based settings.

The Environmental Literacy Plan contains objectives to assure that students can

- Access and assess information;
- Identify, research, analyze and address environmental challenges;
- Understand key environmental literacy concepts in science courses.

While these objectives could be accomplished inside the classroom, the learning experience would be much more powerful when done in a real-world, community based setting. Outdoor settings also increase the potential for physical activity, thereby improving student health. Community-based experiences increase the potential for additional mentoring, as well as recognition of and appreciation for helpful community services which are available without commensurate increases in cost for schools, since much of the programming is funded by the community organizations providing the services and not through public funds or tuition.

COMMUNITY LEARNING CENTERS

Leading the way in utilizing schools as Community Learning Centers is Cincinnati Public Schools, which is gaining national recognition for its work. The goal of Community Learning Centers is to support student achievement, revitalize neighborhoods and maximize the community's return on their financial investment. In 2009, CPS introduced an innovative program called Fifth Quarter, aimed at preventing the loss of learning that takes place during the summer months in the district's most at-risk schools. This voluntary program, conducted for the month of June, provided students with academics in the morning and the ability to participate in a wide range of community-based enrichment activities in the afternoon. Leave No Child Inside - Greater Cincinnati, working with the Greater Cincinnati Environmental Educators and the Environmental Education Council of Ohio, coordinated not only traditional school outreach programs and field trips for the schools, but also facilitated the formation of nature partnerships, the creation of school gardens, and alliances with near-by nature facilities. Long-term, the hope is to encourage utilization of those near-by nature locations for a wide range of school day and after-school programs, including arts programs and physical education activities.

In the case of pre-school and early childhood settings, it may be necessary to educate parents about the importance of unstructured outdoor play to a child's cognitive development. According to Kenneth Ginsburg, MD, MSEd, FAAP,

speaking on behalf of the American Academy of Pediatrics, “Parents receive message from a variety of sources stating that good parents actively build every skill and aptitude their child might need from the earliest ages, and that play may, in fact, be a waste of time.”

Strategy #4: Strengthen environmental education grant funds to support outdoor learning experiences.

The Ohio EPA administers the Ohio Environmental Education Fund (OEEF), which provides grants for projects such as outdoor learning areas at schools, educational programs in parks and nature centers and water quality monitoring supplies and training for students, teachers and citizen volunteers. The OEEF awards grants ranging from \$500 to \$50,000.

FROM WEAPONS TO WETLANDS

For more than 15 years, members from Ohio EPA’s Dayton office have worked with elementary through high school students to plant wetland vegetation, as well as monitor how man-made wetlands are helping reclaim at the Fernald Preserve, a former nuclear production facility.

Strategy #5: Create a school recognition program for schools that incorporate environmental education in the curriculum, model best practices on the campus, and address community problems.

Having a school recognition program would not only serve to congratulate exemplary schools, but it would make parents and the community aware of those schools which are successfully integrating nature-based education and opportunities to experience nature into the school day, after-school programs and school-based community activities. The Environmental Literacy Plan currently under development in Ohio recommends incorporating field- and career-based programs that contribute to healthy lifestyles through environmental stewardship, outdoor recreation and sound nutrition into the curriculum. Establishing a recognition program would recognize those schools which successfully implement the recommendations. Projects which are selected for grants from the Ohio Environmental Education Fund (OEEF) administered by the Ohio EPA could serve as exemplary models.

Nationally, there is work underway to create a “Green Ribbon Schools” award, using the existing Blue Ribbon Schools, which recognizes outstanding academic achievement, as a model. It would be an expansion of the Green Ribbon Schools (GRS) program developed by the Texas Children in Nature Coalition to promote healthy living for students, parents, teachers and communities. Green Ribbon Schools promote:

- Nutrition, Fitness and Health
- Environmentally-Friendly Campuses
- Outdoor Physical Activity and Nature Play
- Nature Education

Strategy #6: Prepare formal and non-formal educators to incorporate environmental education into their teaching throughout their career.

The Environmental Literacy Plan under development in Ohio recommends pre-service training and on-going

“Overwhelmingly, principals reported that recess has a strong positive impact on academic achievement. Students listened better and were more focused after recess. And principals widely agreed that recess positively impacts social development and well-being.”

**- Robert Wood Johnson Foundation
Report on “The State of Play” 2010
(<http://www.rwjf.org/vulnerablepopulations/product.jsp?id=55249>)**

professional development for both formal and non-formal educators. The Plan includes strategies to encourage partnerships with experienced providers of environmental education programs that will translate environmental concepts into outdoor experiences. It also addresses the need to build confidence in teachers and addresses working with diverse audiences.

Strategy #7: Require at least 20 minutes of daily unstructured recess.

Recent attempts to require recess in schools via the Healthy Choices for Healthy Children legislation passed this year in Ohio met with failure. Groups representing teachers and school boards were successful in removing that provision from the bill, citing the need for more academic time. Because the focus of the bill was on childhood obesity, educators also felt that schools should not be responsible for solving social problems.

The first step in successfully implementing this strategy is to show that recess is helpful to academic performance. There are studies indicating that recess improves classroom behavior. Another study indicates that there is a positive connection between physical activity, concentration and memory. More research is needed on this topic, but most adults who participate in day-long meetings would agree that a break for physical activity increases the ability to concentrate. The Environmental Literacy Plan will include strategies to promote recess and physical education.

Strategy #8: Increase student and public awareness of green jobs as a career option.

The Ohio Environmental Literacy Plan includes a strategy to support environmental career awareness by developing a mentoring program that links environmental professionals with students and by assuring that service learning requirements and opportunities include environmental components.

TRANSPORTATION AND CITY PLANNING - Urban planning decisions have a tremendous impact on a child's opportunity for contact with the natural world, determining whether a park is located within walking distance from home, whether a stream is left as a wildlife corridor or pushed underground in a culvert, and whether it is possible to walk or bike safely to school and neighborhood destinations. These strategies would improve access to the natural world.

Complete Streets in Action

The Ohio Department of Transportation has partnered with the Mid Ohio Regional Planning Commission (MORPC) to develop and adopt a Complete Streets Policy. Using a grant from the Ohio Department of Health, MORPC is currently developing a Complete Streets toolkit. This toolkit will contain model policies, engineering, education, and enforcement strategies, as well as a tool library with equipment that can be borrowed by its members for various projects. This is an example of how two state departments can partner with a municipality on a program which benefit all three organizations, improve the health of the community and make nature more accessible to children.



Strategy #1: Encourage cities and counties to include Complete Streets which safely accommodate pedestrians and cyclists as a part of their general plans.

Complete Streets are roadways designed to safely and comfortably accommodate all users, including, but not limited to motorists, cyclists, pedestrians, transit and school bus riders. "All users" includes people of all ages and abilities. These programs serve not only to encourage physical activity by making it safer to walk and bicycle in the community, but they also increase safe access to

nearby nature locations, schools, community centers and even travel to other homes in the neighborhood.

The Ohio Department of Transportation has created a new Multi-Modal Division. One goal of this new division is to improve the quality of life for residents by improving accessibility to active forms of transportation such as bicycling and walking. ODOT has partnered with several Metropolitan Planning Organizations across the state to develop their Complete Streets policies and is currently working on a statewide Complete Streets policy, implementation plan and relevant training.



Strategy #2: Encourage the implementation of Safe Routes to School programs.

Safe Routes to School is a program to improve safety and encourage more children, including children with disabilities, to safely walk and bicycle to school.

Since December of 2007, the Ohio Department of Transportation has awarded \$21 million in Safe Routes to School Funds. Over 150 communities in Ohio will benefit from these funds aimed at making it safer for students in grades k-8 to get to school using active transportation. Projects funded range from school crossing improvements to bicycle education programs. Not only does this program increase students' activity level to help stem the childhood obesity epidemic, but it also helps reduce school transportation costs - a great example of solving multiple problems with our funding dollars. For details about Safe Routes to School, visit: www.dot.state.oh.us/saferoutes

And, this successful program is slated for improvement. In order to be eligible for SRTS funding, communities must first develop a school travel plan. Currently ODOT helps communities by funding a portion of these plans for up to four schools. They are in the process of developing guidelines that can be used to develop a school travel plan for an entire school district. Ohio will be the first state to develop a procedure that can be replicated in every large school district around the state. Also, over the next two years, ODOT is launching a major comprehensive educational initiative for Safe Routes to School and Share the Road campaigns.

Strategy #3: Create incentives for property developments meeting the LEED for Neighborhood Development standards, which incorporate protection of green space and wildlife habitat, and promotion of physical activity.

The U.S. Green Building Council has developed the LEED for Neighborhood Development standards in order to encourage healthier neighborhoods - healthier for the environment and healthier for people. In order to encourage these kinds of developments, many municipalities will allow tax abatements for projects meeting the LEED standards. For example, the City of Cincinnati adopted a measure providing an automatic 100% real property tax exemption of the assessed property value for newly constructed or rehabilitated commercial or residential properties that earn a minimum of LEED Certified.

Members of Ohio's regional U.S. Green Building Council are currently reviewing the standards for LEED-ND and LEED for Schools, discussing ways to increase green space and children's access to it in the urban environment. Examples of items under discussion are school gardens and natural play spaces, including the possible use of vegetative roofs for those purposes. As our population grows and Ohio becomes more urban, it is essential to take into consideration the needs of our children so they will have safe natural places in which to play and learn. USGBC members are also continuing to build relationships with cities and counties, educating them on LEED-ND

and the types of incentives being implemented across the country, like fast track permitting and permitting fee reimbursement.

Strategy #4: Promote the adoption of green landscaping municipal ordinances encouraging planting of native and adapted trees and plants.

The Ohio Department of Transportation's Division of Highway Operations is currently reviewing all of the Department's practices and guidelines to develop an integrated and comprehensive vegetation management plan for ODOT's right-of-ways to ensure that ODOT is a responsible landowner and neighbor, promotes energy and environmental benefits and biodiversity, and maximizes the economic return to the citizens of Ohio.

Because ODOT's natural resource mitigation areas are preserved in perpetuity, they could serve as islands or "nodes" of wildlife habitat, or as corridors to connect with adjacent natural areas. Long term, they could serve to develop statewide green infrastructure. All new ODOT culverts are designed to maintain stream continuity on both sides of the roadway. ODOT currently plants hardy, salt-tolerant trees, native grasses and wildflowers where possible, and uses "green herbicides" where possible. These practices promote plant and animal life and biodiversity, as well as the energy and environmental benefits of vegetation.

INDIVIDUAL EFFORTS - MAKING A DIFFERENCE - The preceding sections outline strategies to encourage and support a change in lifestyle for Ohio's children through the work of organizations. However, perhaps the measure of the greatest success in the movement to Leave No Child Inside is its ability to inspire individuals to take action. People of all ages, races, socio-economic status and political persuasions have been inspired to action by their desire for future generations to reap the benefits of playing and learning in nature. Some of these individuals are the founders of the more than eighty grassroots initiatives that exist in the United States as of the writing of this report. Others are taking more simple steps, like spending "outdoor time" with a grandchild each week.

Although we cannot over-emphasize the importance of incorporating the children and nature message into the work of our government agencies, schools, non-profit organizations and even the businesses that influence the lives of children, the greatest impact will come from everyday citizens weaving this message into their daily routines. The Ohio Leave No Child Inside Collaboratives website, <http://www.ohiolnci.org/> has a space for the citizens of Ohio to talk about what they are doing to reconnect the children around them with nature. We encourage YOU to join them. Don't wait - you can make a difference!

NATURE CLUBS FOR FAMILIES

In Roanoke, Virginia, Chip and Ashley Donahue were inspired by the children and nature message to take their children hiking at a nearby park. As they were hiking, their young son asked why they were the only family out there having so much fun! Chip and Ashley decided to invite friends to join them. Out of that grew Kids in the Valley Adventuring (KIVA), with a website connecting families to each week's hiking "adventure". Within a few months, 170 families were participating. But, Chip and Ashley didn't stop there - subsequently they shared their strategy and helped the Children and Nature Network develop the Nature Clubs for Families Tool Kit, which is available to all at <http://www.childrenandnature.org/movement/naturalfamilies/clubs>.

CONCLUSION

It is clear that the health and well-being of Ohio's children, like that of children across the nation, is at serious risk. It is also clear that most children today are disconnected from the experiences in the natural world that so effectively built healthy bodies, encouraged creativity and a sense of wonder, relieved stress, facilitated learning and developed important social skills in of the generations of children before them.

These two facts are of almost universal concern. People from all walks of life are coming together with the common goal of restoring to our children, and to the children of the future, what should be the right of all children – the right to play and learn in nature. Ohio recognizes this in adopting the Ohio Children’s Outdoor Bill of Rights.

Collectively, we recognize that it will take some work to reverse what has become a sedentary, indoor lifestyle for the children of today. We believe that the Public Awareness Campaign will inspire even more people to take action. This report sets forth strategies that can begin today – through the structures already in place in Ohio. From parents and grandparents to state agencies, all can help reconnect Ohio’s children with nature. We recognize the need, we have the desire, and we are ready to begin. We hope that YOU will join us in the movement to Leave No Child Inside!

Together, we can make Ohio’s children happier, healthier and smarter!



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