



NATURE PLAY

**Nurturing Children and Strengthening
Conservation Through Connections to the Land**



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Introduction

Why are you reading this?

Take a minute to ponder that question. Not in the here and now, but rather within the larger perspective of your life. Most likely it is because you care deeply about the natural world, and feel a responsibility towards it—whether displayed through your profession, your volunteer service, or your personal recreation. Sadly, not everyone shares these concerns, so why do you? What is it in your life course that has led you to care *about* and care *for* nature?

Here's a hint: think about your favorite memories of outdoor play as a child. The chances are that those memories involve some type of unstructured (i.e., free-form) play in wild spaces, with no adult in sight. That doesn't mean you must be recalling sunny days romping through Yellowstone, or a secluded wildlife refuge, or even your community's wildest natural area. Rather, that favorite play probably happened in a nearby place that simply seemed wild to your young eyes: a little neighborhood creek, a pocket park down the street, the back forty of your family farm, or maybe just a vacant urban lot. All of these are wild on the tiny scale of a child, and they provide authentic, hands-on experiences with nature—like catching frogs and fireflies, climbing trees, exploring a rocky stream, or digging a hole to China.

We all experience many influences as we grow up, and for most of us it is nearly impossible to separate them into neat little categories. Yet sometimes certain things do stand out in our memories as powerful and transforming. For over thirty-five years, researchers in several countries have been probing adult memories and preferences to try to determine what powerful experiences set some of us on a path of life-long concern for nature, while others grow up with little or no interest in conservation.

It turns out that the single most common influence on adult conservation values comes from that unstructured, frequent childhood play in wild settings. The kind of play that saw you start a rock collection, or build a secret fort in the woods, or sometimes just lie in tall grass and watch the clouds float by. The kind of play that caused you to fall in love with nature and that guided you towards your first real sense of place.

Nature play is what we now call these childhood experiences. We can also call them endangered.

If we want future generations to carry on the work of conservation, then we need to be paying attention to what is happening to childhood. Nature play is vanishing—and with it, a singularly powerful influence on children's emerging concern for our environment. It is our hope that this publication will help you to not only understand the problem, but will give you the impetus and ideas you need to help restore the kinds of playful and influential nature experiences that were a cherished part of childhood for so many generations.

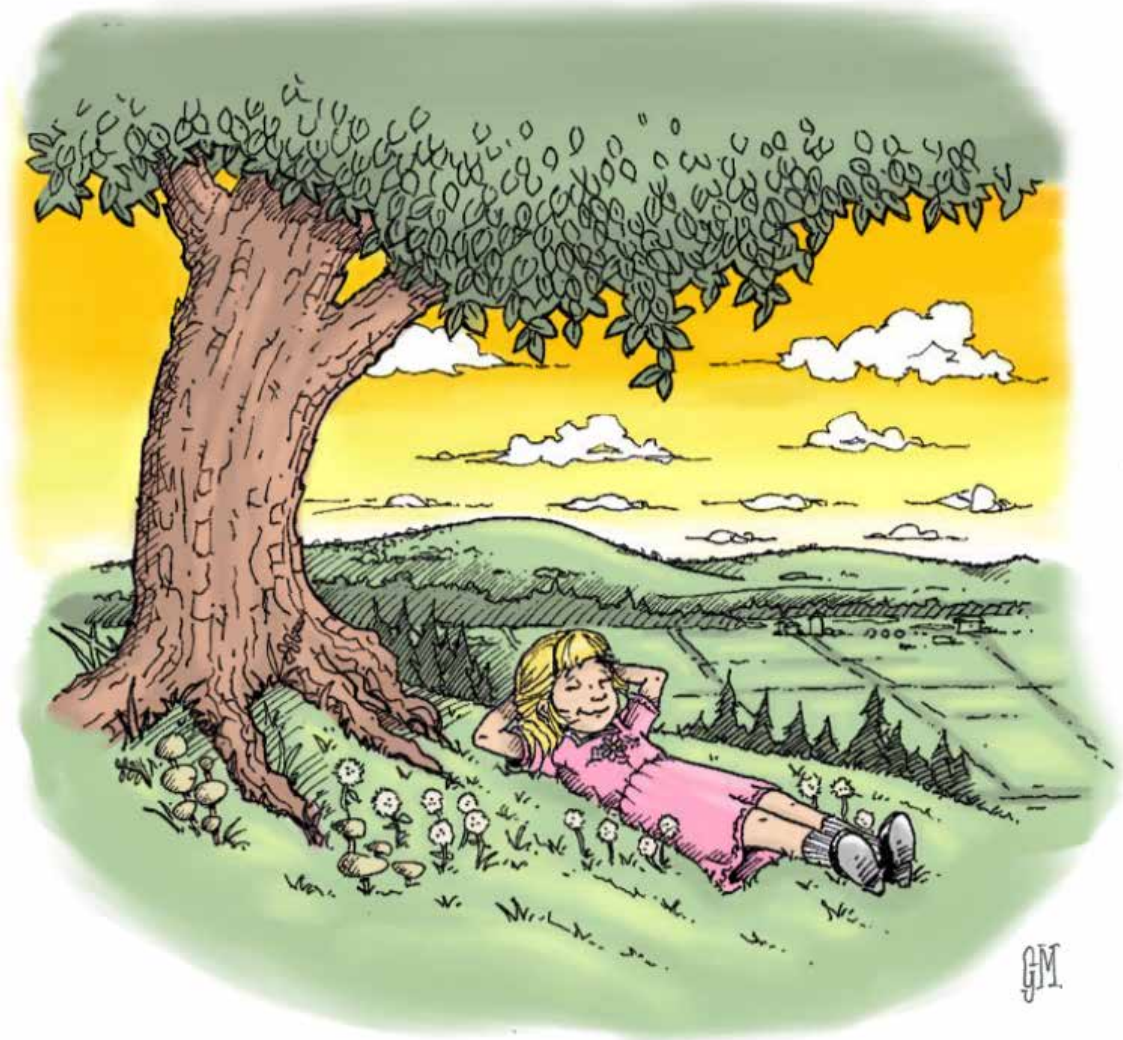
The Work of Conservation

Conservationists are trying to save the world

As presumptuous as that may sound, it is actually true. We are working to protect our planet, and with it our own species as well as countless others that are all ecologically intertwined in the web of life. Some of us work on a continental scale—for instance, protecting a tropical rainforest or Australia’s Great Barrier Reef. But most of us work on a more humble level, perhaps managing a few hundred acres of wildlife habitat or preserving a few acres of open space amidst a sea of urban/suburban development. Is one scale of work more important than another? Perhaps. But which one? Don’t be too quick with your answer.

Conservationists are an unselfish bunch. We work for a greater good—indeed, perhaps the greatest good, since ultimately all other human endeavors must rely on the healthy, sustainable environment that we strive for. We work to benefit people and populations we do not know and who may not even be born yet—taking action now, even while knowing that we may not live long enough to see the full results of our labors.

We do this because we care about nature, about humanity’s place in the world, about other species and natural features that shape us and are at least partially at our mercy. But *why* do we care? Some can give eloquent answers to that question, citing the extensive body of research on the



benefits of conservation. But this guide asserts a simpler, more fundamental answer: we do this work because at some point in our lives we fell in love with the natural world, and it is human nature to want to protect what we love. As the scientist and author Stephen Jay Gould simply put it, **“We will not fight to save what we do not love.”**

Open-ended opinion polls consistently report that a large majority of Americans support environmental initiatives like more parks and green space. This is great, and reflects an underlying cultural affection for the outdoors. But in the real world, it is ultimately *priorities* that matter.

So how does conservation measure up? When the American public responds to close-ended surveys—i.e., ones that ask them to choose their primary concerns from a large list of options—environmental issues seldom rank highly. For instance, when a 2014 poll¹ asked Americans about their top policy concerns, “protecting the environment” ranked only number 12 out of the 21 listed issues. On a positive note, this is a significantly higher ranking than it received in 2009—but conversely, it is considerably *lower* than it was in 2001. There are many polls and surveys to be found, and their results vary. But the overall trends have been fairly consistent since the first Earth Day in 1970: the environment has become less of a priority concern in the United States. Do we still like nature? Yes, absolutely! Do we consider it as one of our society’s primary issues, to be addressed with especially generous resources? No.

If we want the outstanding conservation work of recent decades to last for generations, we have our work cut out for us—and that work is at least as much about people as it is about ecological science and natural areas. In the near term, conservation organizations and their allies must avoid the potential trap of becoming comfortable clubs of like-minded, nature-loving adults, and instead should use the passion and leadership of their core supporters as leverage to connect more adults and families with nature. Weekend natural history classes, guided walks, school group visits, special events, sunrise services, bio-blitzes, *plein air* artist days, birding walks, canoe trips, poetry walks, and cross-country ski excursions are but a few of the innumerable enticements that can draw new people onto conservation properties, and into the conservation movement.

But it will not be enough to simply explain and promote the ecological value of protected land, since people may fully understand that, intellectually, without feeling any personal attachment to the issue. Instead, the goal must be to guide new supporters into personal relationships with nature. Many readers remember appreciating a special natural area from afar, but that place only became a passionate concern for them once they’d hiked its trails, paddled its waters, and soaked in its scenery.

To make conservation efforts endure, we must emotionally connect far more people to nature, at a time when many trends of our society seem to be working directly against that goal. This task takes on its greatest urgency with our children.



Children & Nature

A mere generation ago (and for many generations prior) children came home from school and then, weather halfway permitting, went outside to play. Ball play in the street. Game play on the lawn or in the apartment courtyard. Pretend play in the thicket or the clubhouse. And explorer play in the woods and meadows. Play that, as often as not, involved whatever nature was nearby: empty lots, orchards, drainage ditches, remnant wetlands, or — for lucky kids — actual forests, beaches, and lakes. Weekend days were much the same except that with more available hours, kids' geographic play range often expanded via foot, scooters, or bikes.

Adults were not usually involved in these activities. Any rules were taken from the kids' ideas, not from a book. No trophies were given out, except perhaps by exchanging a prized rock or marble for a friend's treasures. Crude play maps were scribbled down based on the best local landmarks—like a dead tree, or the “Indian Cave,” or the school bus stop. And oftentimes the only schedule for this play was to be home in time for dinner or (do you remember?) by the time the street lights come on.

This type of unstructured, make-it-up-as-you-go play had existed since the dawn of humanity, with changes in its details but not in its essence. It had long served human children well: firing their imaginations, building their physical endurance and coordination, testing their initiative and courage, nurturing their people skills, and fostering life-long friendships with other kids and with nature.

Today, childhood has changed dramatically. Children's play is more structured and more dependent on adult control and creation, whether in soccer leagues, video games, or on manufactured playground equipment surrounded by a sea of rubber surfacing. Play is also much more indoors, with American children now spending almost eight hours each day with electronic media, encompassing roughly thirty percent of their total living and breathing time—versus one to two percent spent outside.² And according to some survey data, barely 30 minutes per week are spent in *unstructured* outdoor play!³ There is no evidence that children enjoy outdoor play any less than in generations past, only that they are doing it less.

So what happened to childhood? Since the early 1980s there has been a perfect storm of new influences affecting childhood. There is no single cause and no one villain is to blame, yet the changes are drastic.

Urbanization

Eighty percent of Americans now live in metropolitan areas⁴ where access to wild spaces appropriate for children's play is often limited. For instance, if there's a great park two blocks from a child's home, but involves a major road crossing, then the park might as well be ten miles away. Similarly, a nearby green space may be parent-ruled as off-limits if it is perceived to be in a high crime area. Meanwhile, our urban/suburban yards and apartment courtyards look more like perfectly manicured golf courses than the diverse, slightly unruly, ecologically rich landscapes that provide the best nature play.

Parental Fears

Parental fears seem to be at an all-time high: child abduction, snakes, sun, cold, rain, allergies, traffic, etc. None of these fears are unfounded, but virtually all of them are over-blown. The greatest fear is usually of crime: that children playing without adult supervision are highly vulnerable to assault, kidnapping, or worse. What most parents don't realize is that crimes against children are statistically less common now than they were a generation ago.⁵ What has changed the perception of this danger so much? The explosion of around-the-clock media. Crimes against children make compelling news, so, when something bad happens to a child, it is likely to be prominently reported for days or weeks. Rare is the parent or other caregiver who can hear those reports without thinking, “That could have been my child!”

Liability Worries

Another kind of anxiety: fear of being sued. Liability worries have become pervasive in the U.S., and consequently they sometimes squelch opportunities for children's outdoor play—even though most of those activities have been practiced for centuries with a bare minimum of harm.

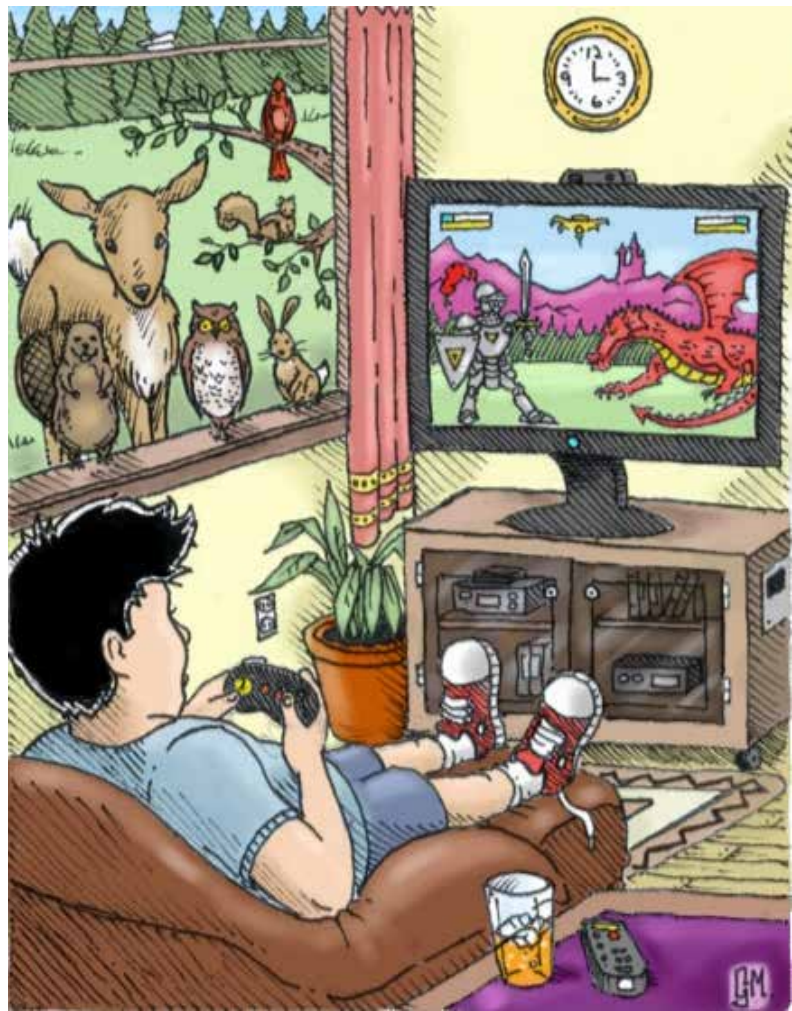


Overscheduled Childhoods

Not so many years ago, children routinely played outside after school and for the bulk of their weekends, too. Today, though, many children come home from school and then go right back into other forms of school: taekwondo classes, scouting, organized sports, music instruction, language lessons, and so on. Each of these is good for kids, but they become harmful when they are laid one atop the other until a child has virtually no time left for free play and exploration. These out-of-school lessons and activities are almost always planned, scheduled, and led by adults. Over-programming kids with these packaged activities removes the benefits of unstructured play from their lives, and thus may lessen their opportunities for creative thinking, spontaneous social interactions, quiet and contemplative play, and even the worthwhile skill of learning how to deal with boredom. All parents want to give their children the best chance to live happy, healthy, and successful lives, but parents who over-schedule their kids may be overlooking the importance of well-rounded, holistic childhoods.

Plugged-in Play

Everybody's favorite villain behind the changes in modern childhood is the plethora of electronic toys and devices that engage modern children for an average of nearly eight hours each day: television, video games, the internet, videos, and recorded music. Love 'em or hate 'em, they are a nearly inevitable part of life today. Like so many things, though, moderation is the key. Wise parents and caregivers will enforce time limits on plugged-in play, and will screen and limit what tech activities their children can engage in. Very importantly, the youngest children should simply not use them: the American Academy of Pediatrics recommends no television at all for a child's first two years.⁶ Nevertheless, twenty-nine percent of American two and three year-olds have a television *in their bedrooms*.⁷ So, the problem—and the solution—lies more with parents than with the devices. To begin restoring nature play to kids' lives, caregivers need to pull the plugs regularly and deliver the old-time directive, "Go out and play."



All of these changes have primarily arisen since 1980 and, taken together, have dramatically changed childhood. Nobody knows what the long-term consequences of these changes will be. We are essentially conducting an unintentional experiment on childhood, without even having a hypothesis about the eventual results. But many adults are worrying about the long-term effects, and are coming to see new approaches to nature-based play as a very valuable and viable alternative for children.

Why Does It Matter?

Does the loss of childhood nature play really matter? In a word: yes. It will be hard—and perhaps impossible—to fully replace the benefits of frequent, spontaneous, nature-based childhood play. Its strong, positive effects primarily derive from a natural area's diverse stimuli (engaging all of the senses), its dynamic quality (changing every day), and its wide availability in children's lives (even if sometimes only in small and degraded conditions). It is hard to find any other childhood environment that can match those combined impacts. These are most powerful during the early childhood years of birth to eight, which is when life-long values are readily formed and up to ninety percent of human brain development occurs.⁸ For countless generations this kind of play has impacted young children in two critical realms: the emergence of personal conservation values and holistic child development. Here's a brief look at both.

Nature Play & Conservation Values

For many readers of this guide, the most critical significance of nature play is its impact on the formation of life-long conservation values. Studies in multiple countries and diverse cultures have searched for the key life influences during childhood that foster an adult commitment to conservation. Naturally, many different stimuli have been found⁹, with the most common ones being rank-ordered (per the research) as:

1. Frequent unstructured time in nature during childhood (a.k.a., nature play);
2. The influence of mentors (most often parents, but can be other caregivers);
3. Participation in outdoor-oriented youth organizations (e.g., scouting);
4. Negative environmental experiences (for instance, when a child's play woods are bulldozed for new construction); and
5. Formal education.

For a given person, any one of these factors (or several others) can be what lights the spark of a life-long love of nature. But the single most common influence is frequent childhood play in nature, followed closely by the encouragement of mentors—that is, adults who share their own love of the outdoors with children.

The essence of this understanding is a simple formula: **the heart comes first, and the head follows.** The crucial first step towards embracing conservation is to fall in love with nature—which kids often do when they play in it, day after day. It is important to remember that such play can occur in any place that is wild **in a child's eyes.** Children's worlds are tiny and intimate—and the younger the child, the more this is so. While adults may commonly think of the wild as being places like national parks or wildlife refuges, to a child the wild can be a little vacant lot or simply an overgrown portion of their backyard.

Nature play can take endless forms: mucking around in the woods, catching crawdads along the creek, going on camping trips, hunting or fishing with a parent, watching birds with a grandparent, tending a little garden, or scores of other relatively unstructured outdoor experiences. But note that these informal nature experiences do not occur in a classroom or within the context of a formal course of instruction. They are leisure-time experiences, which for children are called play!

With this emotional attachment in place, the child is primed for learning more about nature and for taking care of it—since most people want to understand and care for the things they love.

Over 100 years ago the American naturalist John Burroughs said it perfectly:

**Learning without love will not stick.
But if love comes first, learning is sure to follow.**



Nature Play & Children's Holistic Development

Nature play's impact on child development is compelling. For many parents, educators, and community leaders, this impact may be viewed as far more important than nature play's shaping of conservation values. Consequently, conservationists who want to restore nature play should be familiar and conversant with holistic child development (i.e., development of the whole child).

Holistic development refers to children growing up with strong and effective stimulation of all the developmental domains: cognitive (intellectual), creative, physical, social/emotional, and spiritual. All of these are supported and boosted by frequent play in natural settings.

Cognitive

Young children's minds are stimulated by nearly everything around them, so the more diverse and engaging their surroundings, the more the mind learns and grows. Just consider some of the cognitive actions that children routinely experience in a wild play space: observation, concentration, exploration, collecting, sorting, experimenting, and building. These are not perceived as "learning," of course; to the children they are just play! Yet they powerfully stimulate the mind and lay the core foundations for academic learning. Further, since much nature play is social, children routinely share what they are finding and doing with their buddies, and hence build their vocabulary and communication skills as they play.

Creative

There is no more perfect place for children to explore and develop their own creativity than in nature. For example, sand and mud play invite all manner of artistic projects, and can be wonderfully augmented by all the "loose parts" found in nature—i.e., items that can be combined and re-combined into endless forms of play: sticks, rocks, seeds, cones, cattails, leaves, drift wood, tall grass, bamboo, etc. How many children have never built a rag-tag outdoor fort, a tiny den made of sticks and boughs, or a fairy house constructed of moss, pebbles, and bark? Those are wonderfully creative activities that actually use rudimentary engineering and architectural skills. Natural areas also provide endless settings and stimulation for making up stories and pretend play. Further, nature makes a great subject for painting and drawing, whether with crayons, pencils, watercolors, or simply colored chalk on a sidewalk.

Physical

Is it coincidence that we are experiencing an obesity crisis in children at the same time that active, unstructured, outdoor childhood play is vanishing? Think of the sheer physicality of nature play: running, jumping, digging, climbing, hiking, balancing, tumbling, skipping, carrying heavy loads, and even just negotiating uneven surfaces (which improves balance and coordination more than does playing on perfectly flat ground).¹⁰ Importantly, these habits learned in childhood have lasting value: research has found that the greatest influence on active adulthoods is active childhoods.¹¹

Social and Emotional

These developmental components are commonly seen by elementary teachers as the true key to kindergarten readiness. They include individual abilities such as curiosity, a love of learning and discovery, the ability to follow simple instructions, personal initiative, and nurturing a sense of self. Equally important are the experiences fostered through *shared* nature play: taking turns, learning to respect others' opinions, making up rules, working together for a shared goal, sharing discoveries, and practicing negotiation skills—which is educational lingo for learning to disagree in a civil and productive way. These are all important components of self-regulation, which is a vital prerequisite for future success—whether in a classroom or a workplace. Children can acquire these social and emotional abilities in a myriad of settings, but few of them can provide as much stimulation and ever-changing diversity as nature does.

Spiritual

This refers to a child's emerging view of their amazing world. Time in nature—especially quiet, calm times spent patiently observing, daydreaming, and reflecting—can stimulate a child's sense of beauty, appreciation, wonder, and awe. When out in nature, young children begin exploring their own place in the larger world, and start to understand that they are but one small piece of an amazing existence that extends far beyond their own bodies. As they grow slightly older, they may also begin to build empathy for other living things by tending a little garden or caring for pets—including temporary visitors such as tadpoles, lizards, and caterpillars. These experiences lay the groundwork for a lifetime of spiritual awareness.

Children Need Nature, and Nature Needs Children

Given these two major impact realms of children's nature-based play—conservation values and holistic development—the central mantra that should underlay our efforts to re-connect children with nature is a simple one:

Children need nature, and nature needs children.

That is, children need the stimulation, adventure, and wonder of nature to foster their healthy, holistic development. And nature needs children to fall in love with it, and thus start down the path towards becoming the future stewards of the natural world.

Throughout human history, nearly all children had ample opportunity to build those emotional bonds with the outdoors through spontaneous play in a wild area, whether large or small. Not all of them fell in love with nature, of course; not all children ever will. But the opportunity was routinely there. Only in the past few decades has that changed; now, children's access to frequent, unstructured nature play has become much less common. This is an ominous transformation. The single greatest influence on conservation values, nature play, is disappearing from childhood. Consequently, the conservation movement is facing a slow-motion crisis: the maturation of future generations who may be less likely to share our interest and commitment to protecting the natural world.

Understanding Nature Play

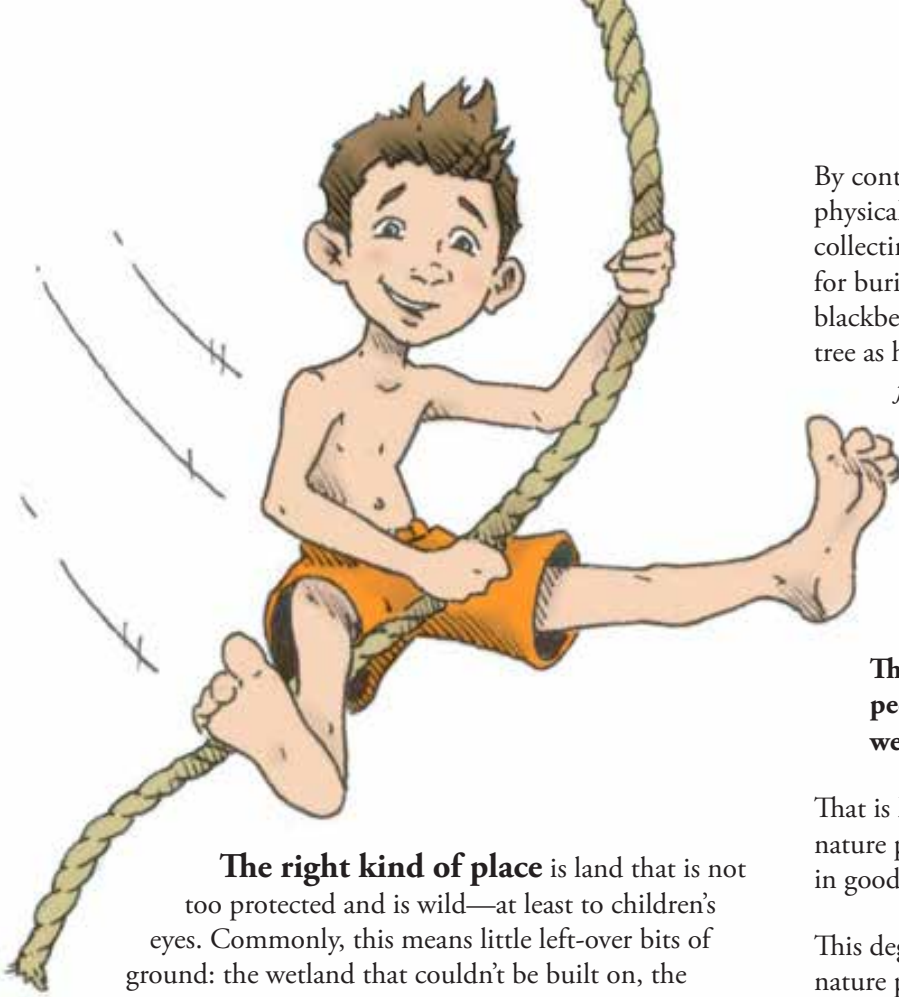
With an understanding of how the emotional foundations of stewardship are built in childhood, conservationists now face an interesting conundrum: we need to identify *structured* ways to recreate frequent, *unstructured* nature play for children.

Throughout history this form of play happened automatically during childhood. Even a single generation ago, the assertion that we might need to get our children back outside playing in untamed spaces would probably have been met with derision: kids always did that! But with such spontaneous nature play now disappearing, we need to find structured alternatives that can be replicated and spread across the country and throughout diverse demographic groups. Yet if these initiatives become too structured, that will negate some of the immense value of having early nature experiences be *unstructured*—guided by children's own desires and explorations, not by ready-made lessons or directive adults. So it's a fine line to walk—sort of like aiming for planned spontaneity.

To succeed at this intentional restoration of nature play, we need to understand what components should go into it, and what approaches will make it most likely to forge lasting child/nature bonds. This guide proposes three crucial dimensions of impactful nature play:

- The right kind of place.
- The right kind of play.
- The right kind of re-play.





The right kind of place is land that is not too protected and is wild—at least to children’s eyes. Commonly, this means little left-over bits of ground: the wetland that couldn’t be built on, the detention pond that’s grown wild, empty house lots, little suburban creeks, or unused patches of farmland.

Author/naturalist Robert Michael Pyle calls this “rough ground”.¹² Land that adults don’t care too much about, where kids are free to dig holes, build tree houses, catch small wildlife, create hideaways, and just poke around the woods with sticks. These places don’t need to be even remotely close to pristine, but they do need to have elemental nature to play with and discover: things like rocks, dirt, trees, bugs, flowers, mud, and water. The size of the tract is relatively unimportant; the freedom to play is vital.

The right kind of play is *child-centered* play: outdoor activities that children themselves initiate, guide, change, or abandon. The very best nature play will come from the child, not from an adult. There don’t need to be any measurable objectives, and rules should be kept to the minimum needed for basic safety. It is vital, though, that the play be with nature and its elements, not simply in nature! Authentic nature play is not just any form of play that happens outdoors. Playing ping pong in your backyard is not nature play. Throwing a Frisbee in a park is not nature play. Banging on a musical instrument in a schoolyard is not nature play. Those are fine activities for children to enjoy, and they have legitimate developmental value—but they are only using nature as a stage setting, rather than directly engaging kids with it.

By contrast, real nature play involves direct, multi-sensory, physical interaction with nature: catching tiny critters, collecting leaves and rocks, lying in tall grass, digging for buried treasure, splashing in a creek, snacking on ripe blackberries, hiding amidst the shrubs, and climbing a tree as high as you dare. *It’s about playing with nature, not just in nature!*

Finally, **the right kind of re-play** refers to the need to get children playing in nature frequently. In her seminal research into the origins of personal conservation values, Louise Chawla found,

The special places that stood out in memory, where people formed a first bond with the natural world, were always part of the regular rhythm of life...¹³

That is how most older Americans remember enjoying nature play: playing outdoors day after day, week after week, in good weather or bad.

This degree of frequency may be the hardest component of nature play to restore since, for children, frequency requires proximity. If kids have to be hauled around in the family car in order to enjoy nature play, then it’s not likely to happen often enough to fully impact their growth, development, and love of nature. Thus, annual family vacations to spectacular places like Yellowstone or Yosemite are not enough—though they are certainly wonderful adventures to give children. Instead, it is vital that we find ways to bring nature play back into family yards, local green spaces, and schoolyards—places where children already visit regularly, or that they can easily reach on foot or by bicycle, in order to play and re-play. Thus, nearby nature is a vital part of restoring frequent nature play.

Earlier, the question was posed about whether one scale of ecological work may be more important than another. Clearly, we want to protect and restore nature wherever we can, in whatever size we can. But the little, unassuming patches of nature that are readily accessible to children take on very special value as the places where stewardship is so often born.

Moving Forward

With more and more environmental education programs offered across the country, aren't we assured that the next generation will grow up with a commitment to conservation?

Not necessarily. With the recent loss of nature play as a routine part of childhood, the crucial emotional foundation for environmental learning becomes shaky or non-existent. Cognitive learning can still occur, of course. In fact, never before in history has it been so easy for a child to learn about nature and ecology—not just in school, but at home as well. The world's knowledge base is now literally at children's fingertips, including amazing nature videography that can be accessed via the web at any hour of any day. But conservation is ultimately about human behaviors, and worldwide research has consistently found that our behaviors are driven more by emotions than by knowledge.

Accordingly, the bounty of nature information will not matter if a child simply does not care about the natural world. Today's reality is this:

Nature facts have never been so available to children; nature connections have never been so rare.

Fifty years ago, insufficient citizen understanding of ecology may have been the limiting factor in fostering conservation, but today the limiting factor is no longer knowledge. What's missing now is the deep, widespread, and lasting bond to nature that wild childhoods used to nurture.

Modern school-based environmental education programs are usually unable to foster these emotional bonds to nature since frequent, unstructured play in wild areas is a nearly impossible fit with current approaches to K-12 public education in the U.S. (and in many other countries, as well). It's not that content-based environmental learning isn't still important. In fact, as the world's environmental

problems grow increasingly complex, it becomes even more essential to raise citizens who have a good grasp of the intricacies of ecology. But structured environmental education is a poor substitute for the traditional early-life experiences of just plain falling in love with the beauty, interest, and sheer fun of nature.

Envision a ladder to a “culture of conservation”—a society in which people regularly take informed actions to conserve our natural resources for the benefit of present and future generations. The top rungs represent the knowledge needed to inform good decisions; the lowest rungs represent the critical early steps of emotional bonding with nature. These first rungs are now largely missing—and it's very hard to guide a child up that ladder without them!

Any efforts we make to restore nature play need to emphasize (or at least include) the very youngest children—the ones just ready to begin climbing that ladder—and provide age-appropriate outdoor activities for them. For many years the environmental education profession paid scant attention to children below the age of kindergarten, but today it understands how truly significant those early years are. In fact, there is no time of life when developmental and educational efforts are more effective and long lasting.

Conservation leaders should ramp up their efforts to provide engaging nature experiences for this youngest audience—and that means informal, play-based opportunities that are built around the children's own interests and discoveries. Cognitive, content-based activities are still appropriate for older children, but during the early childhood years kids need opportunities to get out and explore nature at their own pace, without predetermined activities or objectives.



Nature play is not a divisive concept; it seems as though nearly everyone supports the idea of fostering more children's play in natural settings. The challenge is *how*. How do we restore frequent, unstructured nature play to children's lives?

No single strategy will suffice. Many factors led to the loss of nature play; it will take many approaches to restore it. Organizations have a growing menu of actions to draw from in working to restore nature play.

Rethink Your Norms

Childhood's paradigm has changed; shouldn't our child-oriented conservation strategies and practices change accordingly?

Overcome Inertia

Many people have an inherent hesitation about change and heading off in new directions. For most conservation organizations, nature play wasn't even on the radar screen until the 2005 release of Richard Louv's book, *Last Child in the Woods: Saving Our Children from Nature Deficit Disorder*. Today, it can still be difficult to fold nature play into the operations of organizations who have never particularly embraced children as an audience—much less children climbing trees, catching bugs, and digging holes on conserved properties. Organizations need to be gently guided into new approaches and given the powerful evidence of why change is needed. That is one core purpose of this guide.

Relax the Rules

The easiest initial support for nature play may be to simply make it less "criminal." Many conservationists have witnessed the ecological damage caused by the reckless use of natural resources, and the default reaction has been to routinely impose visitor use rules for their protected properties:

- Stay on the Trail
- No Food or Beverages
- No Running
- No Camping
- No Climbing
- Footprints
- Do Not Touch
- Do Not Pick or Collect Anything
- No Trespassing
- Do Not Harass the Wildlife
- Take Only Pictures, Leave Only Footprints
- Closed at Dusk

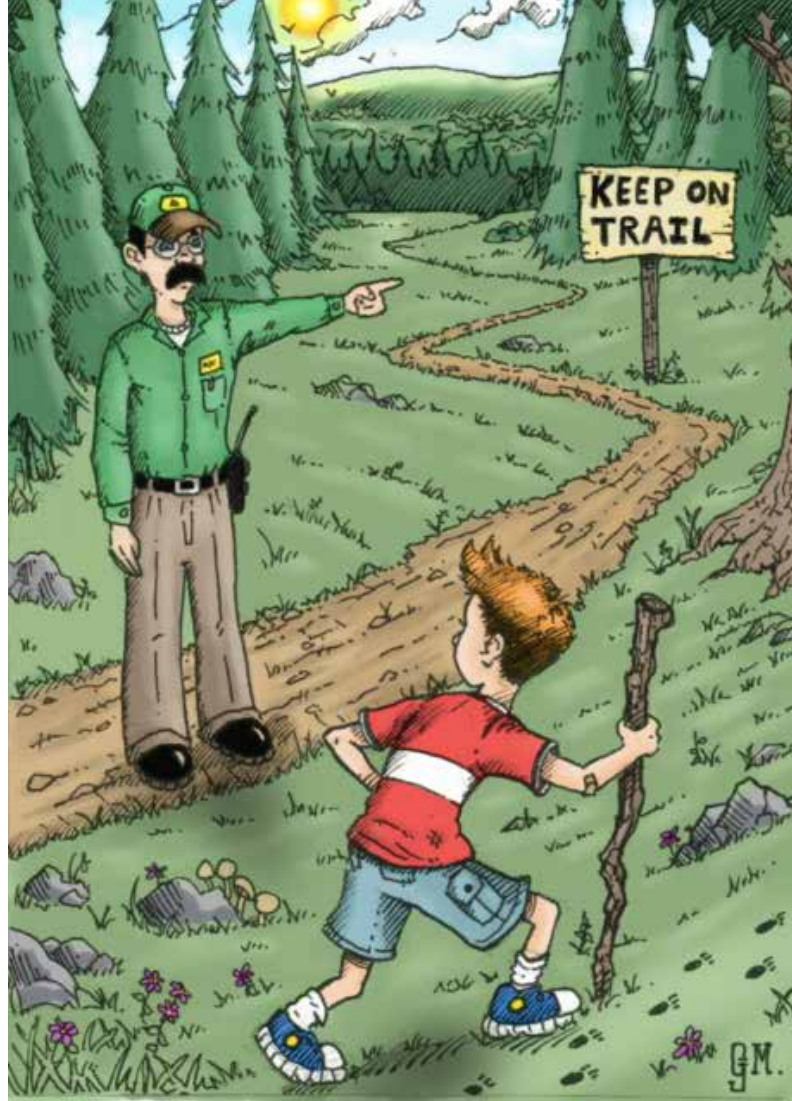


But as we learn about the power of nature play, the worry is that these rules may do more harm than good if they have the unintentional effect of turning children away from nature. The influential childhood nature experiences that adult conservationists commonly recall often involved collecting insects, climbing trees, exploring away from marked trails, and other joys that are now illicit activities in many American nature reserves. Are we prohibiting the very kinds of activities that helped each of us to fall in love with nature when we were young?

Since most conservationists are motivated by a love of the land, and many conservation organizations were founded to preserve a particular natural area, it is understandable that their first-and-foremost concern is to protect the resource. It's the environmental equivalent of the familiar dictate in medical ethics: "First, do no harm." There is no doubt about the good intents behind these powerful commitments to protecting the resource—but now that we better understand the childhood origins of conservation values, there should be concerns about these rules' unintentional impacts.

Children need wild places to play in, to explore, to manipulate, and to fall in love with. While they are doing so, they will damage the resource. They will chase away wildlife, pull leaves off branches, dig holes, step on ants, muddy streams, throw rocks in ponds, whack sticks against tree trunks, collect feathers, pull the wings off beetles, erode steep creek banks, nail boards onto trees, and who knows what else. Yet if 1,000 children do this at a natural area for 100 years, they will almost certainly cause less ecological harm than a single bulldozer will do in 60 minutes as it clears a nearby site. In fact, they will probably do less ecological harm than was done creating the driveway, parking lot or trail for public access to the natural area.

The point here is one of perspective. Children's nature play rarely does a substantial degree of ecological damage. Obviously, there are places where such play should be prohibited, like in a patch of endangered orchids or in a formal rose garden at the local horticultural center. But in most locations nature play will cause only minimal harm in any true ecological sense.



Remember, children need places to play like this! If we prohibit this kind of play in the name of protecting the resource, then perhaps all we've done is protect it *for our lifetime*—since fewer of our children will come to share our commitment to protecting natural areas if they don't have wild places to play in during their early years.

So carefully consider how restrictive your property usage rules need to be. Don't rule out nature play where its ecological impacts will be minor. A few natural sites have approached this with a simple zoning system: a small amount of land is designated for active play and educational use; the bulk of the site is open for visitor access under typical protective rules; and perhaps a special portion is completely off-limits due to the presence of sensitive species or landforms. Thoughtful trail design, effective signage, and good visitor maps can help support this zoning approach.

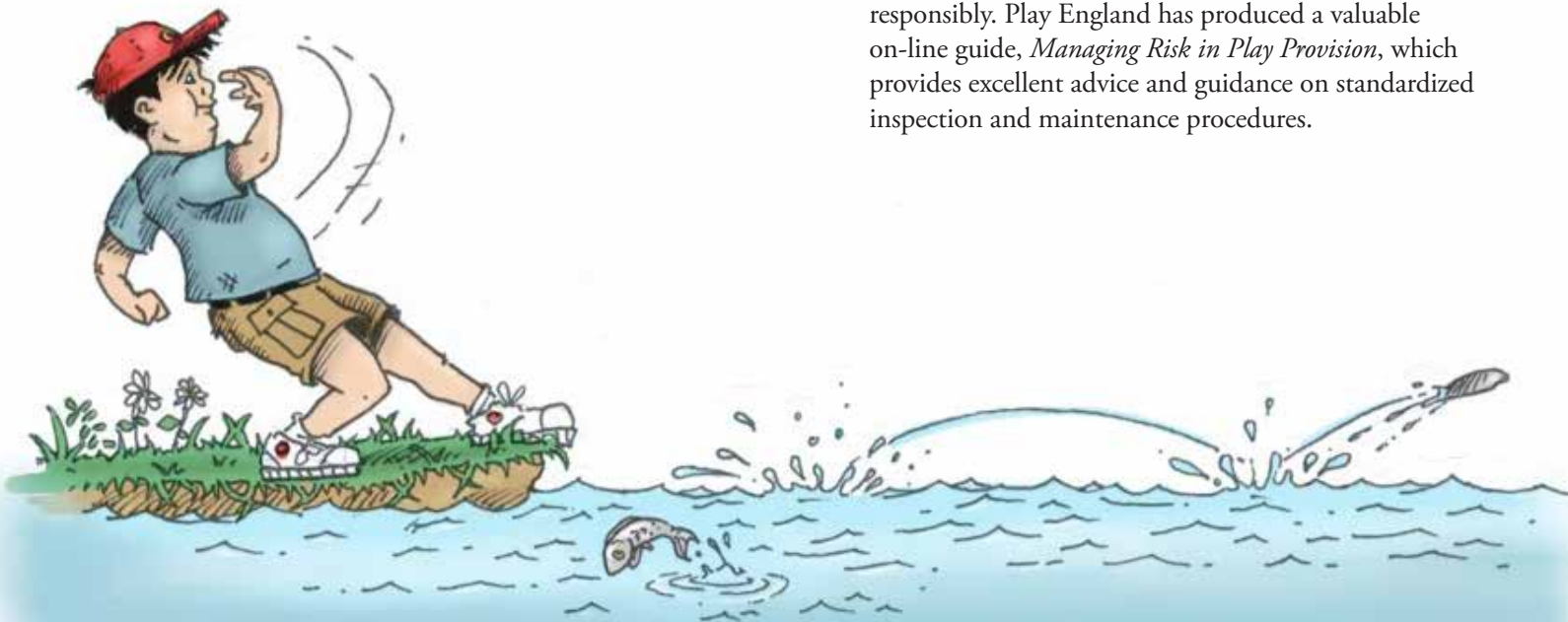
Put Risk in Perspective

Risk of Injury

Nature play entails risk, but it is sensible to place those risks in the context of other dangers that children routinely face. For instance, every six minutes an American child is treated for injuries caused on stairs yet we hear no hue and cry about banning stairs or suing the architects and builders who create these ultra-dangerous devices.¹⁴ Similarly, what is the single greatest cause of accidental children's death? Congratulate yourself if you know that it is automobile accidents. Yet when is the last time you heard of a parent not enrolling their child in sports because of the danger of driving to the athletic field? Or not going out for ice cream because the car ride presents a risk of injury?

Spearheaded by the National Wildlife Federation, an effort is currently underway to create "Guidelines for Nature Play and Learning." The draft Guidelines (completion expected in 2014) include this conclusion:

From a risk management perspective a nature play area is no different from other lightly modified natural areas such as trails, ponds, or playing fields. A thoughtful risk assessment and management protocol will make it possible to provide children stimulating and challenging play settings while making sure they are not exposed to unacceptable risk of harm.



Risk of Liability

Our litigious society is an unfortunate reality, but it needn't be a barrier to nature play. Rather, it is more like a speed bump to be negotiated with care. Realistically, if your organization owns property, then children (and adults) can already get hurt on your land—even if they are obeying rules. Slippery trails, falling tree limbs, venomous animals, and open water are just a few of the hazards that can cause injuries equal to or greater than any that are apt to result from nature play.

There is no certain way to prevent an occasional lawsuit based on a nature play injury, since people can sue regardless of how silly the claim or how careless their own actions. But to date, hundreds of U.S. organizations—big (such as the Morton Arboretum (IL), the Missouri Botanical Garden, and the Cincinnati Nature Center) and small (such as the Audubon Society of Western Pennsylvania)—have concluded that the minor potential dangers of nature play are outweighed by its beneficial child development impacts and its role in nurturing life-long conservation values. (Many of these groups have also found that their nature playscapes attract lots of new visitors and accordingly generate new memberships and donors.) As with other aspects of an organization's operations, risk management is key to limiting liability:

- An organization that provides nature play should implement a regular inspection regimen to reveal and resolve any dangerous hazards or unacceptable risks in the play area, and these inspections should be formally recorded and retained in the unlikely event that they are needed to confirm that the organization has acted responsibly. Play England has produced a valuable on-line guide, *Managing Risk in Play Provision*, which provides excellent advice and guidance on standardized inspection and maintenance procedures.

- If an inspection identifies a potentially dangerous condition—especially one that is not clearly visible—the organization should take reasonable steps to guard against injury even if that means closing the play area temporarily.
- The organization should carry adequate insurance. If the organization is inviting other organizations to its facilities, it should also consider indemnity agreements. (See the guide *Indemnity Agreements and Liability Insurance: Protection from Claims Brought by Third Parties*, available at ConservationTools.org.)
- The organization should review its state’s recreational use statute to determine what, if any, actions it can take to be afforded liability protection under the statute. (See, for example, the guide *Pennsylvania’s Recreational Use of Land and Water Act: Statutory Protection for Property Owners Who Open Their Land to the Public*, available at ConservationTools.org.)

Ultimately, each organization must determine its own priorities and values regarding nature play, but you are encouraged to do this with careful consideration rather than with simplistic, reflexive thinking that overly emphasizes the small and unremarkable risks inherent in nature play. You should educate yourself, your colleagues, parents, and teachers about nature play’s minor risks and major benefits and then follow a sensible approach to facilitating these valuable experiences rather than allowing a poorly informed rejection of them.

For more discussion of liabilities and risks in nature play, see the appendix “Nature Play and Liability: Further Discussion.”

Plan for Future Stewards

Every group that is truly concerned with having long-term, sustainable, and positive impacts on the environment should review and assess how their work is helping to prepare the next generation of ecological stewards. They should reflect on how well they are addressing the long-term future of ecological conservation. They should consider revising their strategic plans, action plans, and

annual budgets in order to establish a clear commitment to fostering the next generation of conservationists. If an organization lacks the staff, volunteers, or expertise to develop and lead their own children’s initiatives, then it should consider partnerships with local nature centers, outdoor clubs, and governmental agencies that regularly work with youth.



Create New & Better Spaces for Nature Play

The best spaces for nature play have already been created, by Mother Nature herself! What's more, throughout history kids have been able to find those places without any help from signs, guides, or pre-planned play dates. But with the changes in childhood, these past avenues may no longer be enough. The spaces may not always be in convenient and accessible locations. They may not offer enough perceived safety for today's concerned parents. And they may not be able to take the beating that will be delivered by a concentrated, invited audience. So in the 21st century it is often necessary to define, design, and/or create the kind of nature play destinations that used to be readily available and well known to almost all the children in any given neighborhood.

What have become known as *nature playscapes* now come in all forms, sizes, and degrees of complexity. Some can be very elaborate and expensive—especially in high-use parks and botanical gardens where the features must be able survive the enthusiastic play of tens of thousands of children each year. Some of the more expansive and ambitious installations have cost millions of dollars, such as the nature play areas at Morton Arboretum and the Brookfield Zoo (both outside of Chicago), Wegerzyn Gardens in Dayton (OH), the Missouri Botanical Garden (St. Louis), and the Tamarack Nature Center in White Bear Lake, Minnesota. However, other outstanding nature playscapes have required only a few thousand dollars, combined with volunteer labor and an understanding that kids don't need fancy settings in order to engage in long, fun sessions of nature play. This section will favor these simpler inexpensive approaches, and will provide both tangible ideas and deeper understandings about what can make an excellent place for nature play.

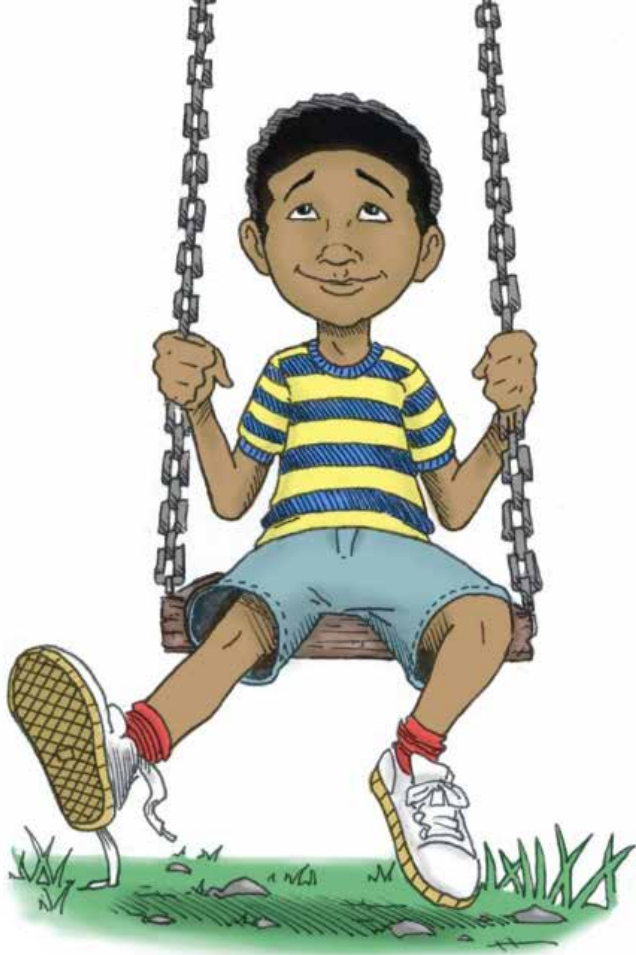
Nature playscapes may not be appropriate for all conservation organizations in all locations, but they have quickly become a popular and effective approach to restoring nature play, and we can expect to see more and more of them in the years ahead.

Simple Can be Great

It's hard to overstate how well even a seemingly minimal nature playscape can engage children in play, if they are allowed to. In fact, as long as there is safe access, nearly any open space can support children's nature play, even a vacant lot or a patch of degraded woods. Kids have an amazing ability to find fun things to do within areas that might seem mundane or boring to adults.

Some conservation groups have created defined spaces for unstructured nature play by simply marking out portions of their existing land—commonly done through signage or fencing. It can even be done by the use of temporary barriers such as snow fences, which can be moved every year or two in order to spread out the wear and tear on the land. Note that the play area doesn't necessarily need to be *confined*—i.e., enclosed with an impenetrable fence. In a larger space, this degree of security may be helpful for parents who are concerned with losing track of their young children. But in a small space where supervisory lines of sight are good, or an area intended for older kids' play, it can be enough to just *define* a nature play space with a permeable perimeter feature, like a rail fence. This simple delineation seems to help parents and children alike to understand that the space is different: an area intended for play and the minor damage it brings.

At places like Sugar Grove Nature Center (Bloomington-Normal, IL) and Hills and Dales Park (Dayton, OH), limited and inexpensive augmentations to existing natural sites have spurred local kids into years of abundant and enthusiastic nature play. Staff at Hills and Dales first created a trail into the woods from an adjacent equipment-based playground. Then they installed a simple interpretive sign to encourage parents to allow nature play, added narrow paths winding through the wooded knoll, cleared space around a large boulder to create an iconic spot for gathering, provided sticks for fort building, and encouraged play in a shallow drainage creek by cutting down a section of the steep sides.



Sugar Grove designated a beautiful natural glen as their nature playscape, with an existing shallow stream providing the highlight. But the nature center also enriched the space with logs and log sections for balancing, a “dig to China” dirt pit with supplied small shovels, a “dinosaur dig” pit with buried deer bones, an elevated observation platform, a simple log play house, narrow trails, and a hammock tucked into a quiet corner. Volunteers and small donations supported most of the new features.

Another small and inexpensive nature play space is the Anarchy Zone at the Ithaca (NY) Children’s Garden. This space incorporates both natural features and abundant “loose parts” similar to the European model of adventure playgrounds, where children can use wood, metal, tools, and other resources to create their own structures.

Although these kinds of nature play likely sound idyllic to most readers of this guide, a reality check is necessary: today, many kids have learned to think of play as pre-planned, orchestrated, adult-designed activities that provide instant thrills and near-constant adrenalin rushes—often courtesy of technology. These children may only rarely have faced situations where they actually had to think up their own play—and even more rarely in an

outdoor setting. The result is that some kids need a little time outdoors before they can begin to really enjoy it, and that time may be filled up with vocal complaints like “I’m bored” and “There’s nothing to do out here.” Wise parents and conservationists will respond to those complaints with firm patience—secure in the knowledge that, when left outdoors in a diverse and safe natural setting, children will soon enough turn to their own imaginations and begin discovering outdoor wonders and creating inventive play without a bit of adult instruction.

Making Nature Playscapes Better

Once kids do engage their imaginations, any outdoor space can become a delightful playground. Unquestionably, though, nature play is best supported by landscapes that are rich in diversity—that is they contain a wide variety of plants, animals, and settings to engage children’s interest. Nature playscapes need not contain ecologically significant biodiversity (though that certainly is nice); they just need to provide lots of natural discoveries and treasures—which can be as simple as ant hills, milkweed seed pods, earthworms, and an occasional garter snake. Similarly, non-living play features do not need to be heroic in scale. For instance, 100 square feet of dirt, piled three or four feet high, can engage children for hours. Similarly, a few logs or large boulders will provide day after day of active, challenging play.

Regardless of size or complexity, every natural playspace should, first and foremost, take advantage of what features and resources are already available at the site. Depending on geography, the microhabitats in a natural playscape might include a meadow, a small deciduous woodland, a grove of evergreen trees, a shrub thicket, a berry patch, a shallow stream or pond, a compact wetland or rain garden, a vegetable garden, a butterfly garden, a “sand-scape,” or just a very large pile of dirt.

There can be no single ideal or universal design for nature playscapes, since each should reflect the local natural history, the sponsoring organization’s mission, available funds and the site’s extant natural features. Consequently, a cookie cutter approach to nature playscapes is definitely not appropriate.

Nevertheless, there are some relatively simple play features that are commonly added to existing habitats, including (but not limited to) the following:

Butterfly gardens

Collections of native perennial flowers, annual flowers, and herbs attract and feed the larva and adult forms of butterflies and other pollinators. Because the North American population of Monarch butterflies is struggling, it is especially valuable to plant varieties of milkweed—the only plants Monarch caterpillars feed on. Butterfly garden plantings can be enhanced by small mud puddles, flat basking rocks (in sun), butterfly houses for shelter, and even “insect hotels” that provide insect habitat in the form of multiple small tubes, piles of small rocks, wood shavings, and anything else that creates lots of small, protected nooks and crannies.

Climbing logs and hollow logs

Individual logs or even large, multi-trunk sections of dead trees can be secured on the ground for climbing and balancing, while hollow logs are great for crawling and hiding in. Leave the bark on, because half of the fun of logs is seeing what you can find while peeling off chunks of it. If you need logs, check with local tree services after a major wind or ice storm.

Shallow water features

Perhaps no natural element is as enticing for children’s play as water. The best and safest option is a very shallow stream with small rocks that kids can use to build dams and chutes. Not only do real streams provide this engineering play, but they host fascinating insects, insect larva, amphibians, and fish. Landscape architects can create a pretty good imitation of such a stream, if one isn’t naturally available—but at substantial cost. A suitable, small-scale alternative can be created with a shallow sloping trench, covered with a pond liner and cobblestones, that is fed by a hose from a faucet that is on a timer or is spring-loaded to run for only a little while before it must be re-activated. A farm-style hand pump can also be used, drawing water from a buried but refillable cistern. This type of simple play stream can drain into a rain garden, which will add more plants and mini-beasts to the mix.

Digging pits and dirt mounds

Dirt play, going either up or down! These places can keep children occupied for hours. Provide small but sturdy shovels and spades, buckets, colanders, measuring cups, and an assortment of plastic containers. Of course, a digging pit is even more fun if water can be added, but be sure to have a hose handy for washing off muddy children. (Parents can be partially mollified by a ready supply of recycled plastic bags for protecting their car seats from wet and muddy bottoms.)

Large landscapes of sand

Similar to dirt play, but also excellent for artistic creations when water is available. The water doesn’t need to be too near, though: kids love moving water around whether via buckets, pieces of plastic gutter, or hollow bamboo poles. Avoid tiny commercial sand boxes; instead, these areas need to be large enough to hold several active children. Again, supply appropriate tools. As for concern about cat feces: this is likely another overstated worry, but a daily morning “poop patrol” with a rake can become a simple routine, if desired. Alternatively, a sand landscape can be easily covered at night by fruit tree netting, which animals don’t like to get tangled in.

Narrow paths cut through tall grass, shrub thickets, or dense woods

Children like the adventurous feel of tight, twisting paths amidst high vegetation—and all the better if there’s a hidden yet delightful destination at the end of the path, like a hammock chair or a small stick den.

Tree stumps for balancing

Set variable-height, vertical stumps in a line or circle, so kids are challenged to step from one to another. If any of the stumps are taller than 24 inches, provide an appropriate depth of fall surface (e.g., mulch), per the Consumer Product Safety Commission’s (CPSC) *Playground Safety Handbook*. Note when installing such vertical hopper logs: at least one-third of their total length should be buried and firmly tamped down in order to ensure stability.

Tree houses or forts

Simple structures can serve as pretend play settings. If elevated above 24 inches, they should have safety railings and/or appropriate fall surfaces. Don’t make these structures elaborate; let children’s imaginations fill in the details. A plain vanilla playhouse might be a settler’s cabin one day, a train caboose the next, or an ocean-going research vessel after that!

Sticks, branches, bamboo poles, and cattails for building forts

It’s even better to have children design and build their own structures. You can assist by providing a supply of basic construction materials. For younger children, it can be helpful to create a simple skeleton structure that they can then add to with sticks and boughs that they find.

Vine teepees or sunflower houses

You can easily create these “plant houses” for play. Grow thick vines on a simple teepee structure made of branches or long garden stakes, with a gap left as an entrance. Or grow various-height sunflowers in a six- or eight-foot square, again with a gap on one side to serve as the door.

Shrub thickets

Dense shrubs can provide lots of intimate playspaces—as simple as kids crawling beneath the arching branches of forsythias planted against a fence, or as tempting as a secret clearing cut into the middle of a large sumac thicket.

A selection of tools

Provide small shovels, pails, magnifiers, containers, insect nets, inexpensive binoculars, art materials, etc. Keep these near the play space, or assemble daypacks of nature-exploring tools and toys that kids or parents can check out from your office.

Berry patches and fruit trees

Picking their own fruit treats is a rare experience for many urban children.

Quiet spaces

Peaceful, reflective nature play is just as valuable as more active play. Provide low hammocks, bench swings, comfy chairs, or small patches of grass—all tucked away in quiet, sheltered nooks where children can read, have a quiet chat with their best friends, or simply watch the clouds or birds.

Homes for all

Welcome other species with bird houses, toad houses, insect hotels, rock piles, and brush piles—all of which are likely to draw colorful and interesting species into children’s close view. You might even place a couple of “discovery boards” in quiet corners: newspaper-sized pieces of scrap plywood. These will soon attract a variety of animals to the cool, dark underside, such as pill bugs, daddy longlegs, centipedes, ants, or even the occasional mouse—all just waiting for a brave child to lift the board and take a peek.

Leaves

For the ultimate in simple nature play features, how about a giant pile of leaves? If you have deciduous trees in your playspace, then all you have to do is rake up the autumn leaves, and let the kids have at ‘em. The leaves won’t last long, but they never did—and many of us still remember the fun of leaf play.



It is certainly worthwhile to add these built and designed features to a natural playspace, as they will add much play value. However, in order to ensure children's direct engagement with *authentic* nature, such **manmade or designed pieces should always and only augment the microhabitats and other natural features of the playspace, not overwhelm, replace, or conflict with them.**

Universal Access

There is no perfect answer to the challenge of creating a nature play area that can be used by children of all abilities, but it is important to consider their needs and provide what options are realistically possible.

Most disabilities involving cognitive, social, or emotional functions can be addressed by adult helpers, who will almost always accompany the child to a natural playscape. However, children with physical limitations can be more challenging to provide for. The creation of an accessible, hard-surface path to the playspace should be the first goal. Within the playspace itself, you should extend the barrier-free path (if at all possible) to a representative sample of features. For instance, the upper level of a two-story play structure is probably not a realistic destination for the disabled, but a ground-level enclosure can provide a comparable play experience if an accessible path reaches it. (See the guide *Universal Access Trails and Shared Use Paths* available at ConservationTools.org.)

When considering how to open your nature playscape to children of all abilities, it can be very helpful to talk through needs and options with one or more local groups who advocate for those with special needs; they are usually happy to help and are typically realistic about the inherent challenges in outdoor spaces. Although it is not usually practical to provide full and equal access to all forms of nature play features, you should always make a good-faith effort to create a natural playspace that is as inclusive as possible.

Quality Control

There are no universal guidelines or benchmarks for what constitutes good or not-so-good nature play areas; the field is very much a work in progress. Further, what is perceived as appropriate or quality attributes for a nature playscape can vary greatly depending on the objectives and resources of the

sponsoring organization; e.g., a play area operated as part of a preschool and used heavily all day long will necessarily have different design considerations than a play area that is expected to see much lighter use at a land trust's natural area; an organization concerned primarily with a child's holistic development will have different design priorities than one more focused on connecting the child to nature. It is possible to design a wonderful outdoor playspace that supports children's holistic development, yet provides little engagement with nature. However, almost any area that supplies rich, authentic nature play will support both nature connection and developmental objectives.

The National Wildlife Federation's *Guidelines for Nature Play and Learning*, when completed, may provide some useful, albeit not definitive, direction. The Nature Explore project of the National Arbor Day Foundation has a certification process for their proprietary "Nature Explore Classrooms," though some may view these as more of a developmental approach than a nature-connection strategy.

Each organization needs to decide what approach and scale of nature play is right for its purposes, based on land resources, visitation, available funding, and general philosophy of nature experiences. Organizations that want to create a nature playscape may want to experiment, beginning with low-cost, minimal-structure approaches that can be easily modified as their appeal and effectiveness is tested and observed. That is, start simple and expand as needed, rather than making a large initial investment.

Visiting other sites' natural play areas is a key step in the initial design process, along with talking to colleagues who are already experienced. Lots of fellow professionals will gladly share what they've learned about nature play, through both successes and flops.

And remember that nearly all adult conservationists can suggest great settings and activities for nature play, merely by recalling their own favorite types of outdoor childhood play.



Maintenance of Nature Playscapes

Any area designated and augmented for nature play will require maintenance and may affect other organizational operations. The diversity of nature play sites, sizes, and approaches makes it imperative for each sponsoring organization to develop its own specific plans and practices. Nevertheless, there are some broad suggestions that are applicable for nearly all nature playscapes:



- First and foremost, ensure the safety of the children using the area. A regular schedule of structured inspections should be established—occurring at least weekly for heavily used sites. These inspections should check all natural features for any damage that could result in harm (e.g., cracked limbs, path obstructions). Any presence or indication of dangerous plants or animals should be noted and addressed (e.g., a new hornets' nest, encroaching poison ivy, or a venomous snake). Any manufactured play materials should be checked for their condition and fittings, such as on climbing nets or ladders. As noted earlier, true hazards (of any form) should be removed or resolved immediately, while potentially beneficial risks should be re-evaluated for their visibility and appropriateness. Each safety inspection should be recorded on a written form and filed with the preceding reports. A valuable supplement to the reporting process is to briefly note the developmental benefits of each play feature, and especially for any accepted risks.
- If fall surfaces are installed with any features, the depth of the surface material should be checked regularly and replenished as needed. Most natural playscapes will use mulch or manufactured wood fiber for fall surfaces since these have the most natural appearance. Unfortunately, they are also the fall surface materials that are most prone to becoming compacted or scattered. Refer to the CPSC's Public Playground Safety Handbook for fall surface guidelines.
- Paths should be checked for erosion, cracks and heaves, and drainage problems; all should be addressed promptly, lest they worsen.

- Water features should be checked for proper supply and drainage, and for any visible presence of contamination. If a recirculating water feature uses a biological filter, it should be maintained according to the manufacturer's recommendations.
- “Loose parts” may periodically need to be replaced and/or gathered up and returned to a central supply point, such as sticks and boughs for building projects, pine cones and seed pods, water containers, art supplies, etc.
- Sand and dirt playspaces should be checked for any animal contamination or sharp objects, and cleaned as needed. Large dirt and sand areas should be periodically replenished by either reclaiming scattered dirt or sand, or (more practically) by adding new material. Note that in a fenced area, this replenishment process may require a gate and access path suitable for use by heavy equipment.
- Plants should be trimmed periodically to maintain trail clearances, avoid eye-level protrusions, and/or to keep intentional niches and hiding spaces sufficiently open and visible.
- Benches, chairs, hammocks, and all other sitting/resting spaces should be checked for any damaged or weak points.
- Trash receptacles should be emptied regularly; covers are helpful. Recycling bins should also be provided, especially near any areas intended as rest-and-watch spaces for parents or other caregivers; these should be emptied as needed.

In very simple nature playscapes, the necessary maintenance may be very minimal. However, more extensive maintenance efforts will be necessary for elaborate playspaces that are heavily constructed and serve a large number of visitors. Each organization should carefully consider and catalog all recurring and occasional maintenance needs as they are designing and creating their nature playscape and should ensure that sufficient staff and volunteer hours will be available for these tasks. A valuable and in-depth resource for maintenance planning is Play England's *Nature Play: Maintenance Guide*.

Other Impacts on Operations

Other areas of operation may be impacted by the addition of a nature playscape, though again these impacts will vary depending upon the scale and complexity of the site. An organization that creates a place for nature play should provide staff and volunteer training about the value of nature play and how it relates to the organization's conservation mission; all organizational representatives should become capable of providing at least a brief but accurate explanation of the initiative. In addition, it is valuable to provide parents, teachers, and other visiting adults with similar information—either through on-site signage, printed handouts, website descriptions, or—ideally—all three.

A nature playscape may provide new programming opportunities. For instance, weekend children's programs and summer day camps may want to schedule time for unstructured play in the site. Also, the sponsoring organization may want to periodically offer a special event that incorporates the play area, such as a nature art day with supplies and instructors or a celebration of International Mud Day.

Finally, the organization may want to create a staff or volunteer corps of play leaders or play naturalists who will help facilitate nature play while simultaneously adding a valuable layer of supervision and security. (See “Develop Play Leaders and Play Naturalists” in the Adult Roles and Responsibilities section of this guide.)

Nature Playscape Resources

The full design and development of natural play spaces is beyond the scope of this guide, but any interested person can easily find ample resources to help in the task.

Designers

Driven by widespread interest and demand, the design and creation of natural play areas has become a small profession, with numerous landscape designers and related firms focusing on it as a particular area of expertise. Some conservation groups may want to employ these professional designers to ensure they get the kind of nature play space that will fit their circumstances and provide great experiences for their young visitors and students. Another approach is to use a local landscape designer combined

with guiding expertise from one of the national groups involved with nature play. Find design firms and other experts by searching on “nature play” in the Experts area of ConservationTools.org.

Local Help

Relevant information and guidance may also be available from local resources:

- Community nature centers, natural history museums, zoos, botanic gardens, and arboretums may have ideas and content expertise.
- Your state Extension Service may provide advice and sometimes hands-on assistance, especially through their Master Gardeners and Master Naturalists programs.
- Local park districts, natural resource districts, and county conservation districts may provide ideas, physical help in the form of labor and equipment, or even financial support.
- For young children, your local chapter of the National Association for the Education of Young Children may have appropriate ideas and resources.
- Garden centers and nurseries can supply plants, boulders, benches, and expertise—and some will donate materials or labor to attractive community projects like nature playscapes.
- Landscape architecture/design programs at local universities and colleges often require their students to design and implement projects for their portfolios; ask for their help.
- Local civic groups like Kiwanis or Rotary clubs can be excellent sources of funding and/or volunteer labor.

A plethora of additional information, ideas, and photographs can be found through even a brief search of the internet (use the key words nature play or nature playground).

Books and Websites

Find useful books and websites by searching on “nature play” in the Library of ConservationTools.org.

Fostering Other Nature Play Spaces

Once conservation organizations have increased their understanding of nature play and gained experience with the operation of their own natural playscapes, they might consider ways in which they could nurture the creation of other nature play areas in their communities. It would be ideal for *every* child to have a natural playscape within walking or biking distance of their home.

A conservation group might work towards this ideal by helping local parks, schools, and early childhood centers to create their own nature playscapes, even if on a small scale. Schools often appreciate the rich experiences offered by nature play, but don't believe they have enough expertise to create them—especially in matters such as plant selection

and landscape design, where conservation groups often excel. Collaborations are often very attractive to local foundations or donors.

Another strategy is for conservation organizations to sponsor and/or present workshops on the design and creation of spaces for nature play. This can be done with their own staff and volunteers, if they have enough expertise. However, even a conservation group with no experience in natural play design can sponsor such workshops by contracting with national experts, and using enrollment fees to offset the costs. Groups such as Nature Explore and Green Hearts Institute for Nature in Childhood (Green Hearts for short) are among the sources that can provide nature play workshops or training sessions. Depending on the community and the host's desires, these sessions may be offered for the general public or they may be tailored towards specific audiences, such as school administrators, landscape designers, or parents.



INFORM & GUIDE

A crucial step in restoring nature play is to foster understanding of what it is and its value. Once they understand nature play, adults can be trained to facilitate its spread—as parents, volunteers, or professionals.

Inform Stakeholders

The value of nature-based play is not hard to grasp, yet for many adults it seems to lie just below their conscious awareness—ready to be spurred into full appreciation with only a bit of discussion and the prompting of a few memories of childhood. But even adults who appreciate nature play often don't understand its importance to both conservation and child development. The research is persuasive, but it has not yet been widely shared.

So foster this important understanding through multiple approaches: publications, social media sites, book clubs, speakers, staff training, etc. Expose your members and other supporters to the research and the literature behind the formative effects of nature play, and help them to view it as a legitimate and valuable part of any conservation organization's work. Publicize authors whose works embrace the essence of nature play, like Robert Michael Pyle, Richard Louv, David Sobel, and Rachel Carson, among others.

Seek out expert articles and research reports that can be shared, from sources such as the Children and Nature Network, the National Wildlife Federation's "Be Out There" campaign, the Natural Learning Initiative at North



Carolina State University, the National Park and Recreation Association, and natural resource agencies at the local, state, and national levels. Also consider using Green Hearts' booklet, *A Parent's Guide to Nature Play*. Armed with this information, promote the value of nature play to local columnists and bloggers, and add a prominent category about nature play to your own website.

Teach Your Parents Well

Parents are still the primary gatekeepers for what their children do or don't do outside of school time. If they value nature-based play, then their kids are virtually assured of getting opportunities to play outside in natural areas. Conversely, parents who fear wild play or underestimate its value are likely to discourage such play or even outright forbid it. This creates the potential for a downward spiral as young parents who lack fond memories of nature play are not likely to be proactive (or even tolerant) in bringing those experiences to their own children.

Thus, it is especially important to boost parental understanding of nature play. Again, all forms of literature (print and electronic) can be used to thoughtfully spread the word to parents among your membership base, and perhaps to other local groups such as PTAs, civic groups, children's museums, Boys & Girls Clubs and scouting organizations. Also, there are a growing number of professionals who can offer parent workshops on nature play: what it is, why it is so valuable, and how parents can nurture it for their children right in their own yards, just down the block, or at their children's schools. Three well-known providers of such training are Earthplay, Nature Explore, and Green Hearts. Some local environmental education centers are also able to lead workshops on nature play.

Parent-and-child and grandparent-and-grandchild activities, led by experienced naturalist/educators, can lessen fears and increase appreciation of nature's benefits. Most American grandparents still fondly recall "wild" play and explorations during their childhood. Play leaders/play naturalists can model appropriate nature play for families, while simultaneously assuring a protective, nearby adult presence (see "Develop Play Leaders and Play Naturalists" later in this section). Festival-type events can gather many different nature activities and organizations at one time and place, increasing the family appeal and offering multiple pathways towards more nature play for the children.

Tips for Nurturing Nature Play

Without question, the most vital step in fostering more nature play is simply to open the door and get children back outside! However, there are a number of tips that can guide parents, educators, conservationists, and other adults who want to be a little more proactive about restoring nature-based play:

Travel down memory lane

Apply the "test of remembered childhoods." Use your own good memories of nature play to guide the experiences you'd like today's children to enjoy.

Preach it

Be an advocate for nature play. Talk it up with friends, teachers, PTAs, co-workers—anyone who might join in efforts to restore nature play.

Plan on no plan

Limit structured activity plans. Get the kids to a rich natural area and let them decide what to do, where to explore, and how to play.

Embrace flex time

Stay off the clock as much as possible; let kids' discoveries and engagement determine the schedule. Watch their play, not your watch.

Be a lifeguard, not a teacher

Let nature be the children's play partner, not you. Intervene only if danger seems imminent or if you're asked to help.

All kids come in wash and dry

Dirt don't hurt, and don't sweat the wet! So what if it's messy? Hose 'em down at the end, and they'll be no worse for the wear.

There is no such thing as bad weather, only bad clothing

Let kids play outside in all safe weather conditions—there are great memories to be made.

No naturalist needed

You don't have to be a nature expert. If a child finds something interesting, use books or the internet to guide the learning process.

Wash, rinse, repeat

Frequent nature play is what best builds kids' lasting bonds with the natural world. Try to get them outside playing, time and time again

Develop Play Leaders & Play Naturalists

In Europe there is a profession known as play leaders or play work: adults who are specifically trained and experienced in helping children play and learn in outdoor settings. European play leaders may do anything from supplying building and play materials to refereeing an argument or even helping kids build a little campfire to toast marshmallows. The essence of the work is to spur children's own play initiatives and creativity, providing a little nudge and support as needed while also adding the security of a nearby adult supervisor.

European play leaders are trained and knowledgeable in a broad range of outdoor activities for children, as well as in child development, group processes, safety management, and first aid. In some Scandinavian countries they are called pedagogues for their knowledge and practice of appropriate pedagogy for children's learning, especially in non-academic realms such as social skills and cultural abilities.

Play leaders are still very rare in the United States, though training sessions have been sponsored by several organizations in recent years, including the Natural Learning Initiative at North Carolina State University and the Alliance for Childhood. However, a few nature centers and park districts have begun using the technique, especially exemplified by Five Rivers MetroParks in Dayton, Ohio. There, play leaders focus their guidance and nudges on nature-based play and are thus referred to as play naturalists. Both staff members and volunteers have been trained to serve in this role. They casually meet families at local parks (without pre-scheduled activities) and encourage the kids to explore and enjoy nature in ways that the families might initially think were forbidden, such as walking up creeks, digging holes, building stick forts, or catching insects. Any land-holding conservation organization could take a similar approach.

The role of play naturalists seems appropriate for trained volunteers in conservation organizations. They do not need to have a great amount of content expertise, like a teacher-naturalist might be expected to have. Instead, they need a love for nature coupled with a basic grasp of age-appropriate activities, play safety, and methods to encourage children's nature play without actually dictating what the kids do. This can perfectly embody the mentor role that research has found to be so significant in the formation of life-long conservation values: caring adults who share their own love of nature with young children.



STRUCTURED ACTIVITIES & PROGRAMS FOR NATURE BONDING

Research points to frequent, unstructured nature play as the most powerful form of nature bonding, yet there are many other opportunities to do so with more structured approaches. This discussion will not significantly consider school programs and field trips, since they are usually based on academic goals with little tolerance or time for children's self-guided play and nature exploration. Outside of school hours, though, many organizations are employing a variety of approaches to nature play that effectively embody this guide's earlier message about finding structured ways to restore unstructured play.

Family Nature Clubs

Among the diverse new approaches to connecting children with nature are family nature clubs. These are loosely structured, self-organizing groups of families that meet periodically in natural spaces where they let their children enjoy unstructured play for an hour or a day, under the general supervision of the parents or caregivers. Most family nature clubs have been founded and coordinated by passionate volunteers, typically using a simple website to share upcoming destinations and dates. However, some nature centers and park districts also sponsor them, using regular staff members or contract staff to lead the effort. For example, the Minneapolis Parks and Recreation Board sponsors the "Come Out and Play: Family Nature Club," which is free and requires no pre-registration; families can just drop in at the designated places and dates, as their schedules allow. Most family nature clubs host play gatherings at least monthly, and sometimes weekly. At their core, family nature clubs are essentially play dates in nature.

Family nature clubs are a good example of nature play as "planned spontaneity." They meet on a scheduled day and time, and at a particular location. However, once there the children's play is largely self-directed, and they are allowed to explore, climb, run, and dig (where allowed) to their hearts' content—so long as they remain safe. The Children and Nature Network has strongly embraced family nature clubs, and produces an excellent free guide to their creation and operation which can be downloaded from their website.

Many American cities now have one or more family nature clubs in operation. (See a list of clubs at the Children and Nature Network's website.) Most land-holding conservation organizations could make their properties available for periodic visits by these family nature clubs, albeit requiring acceptance of the minor damage that might result. If there is no nearby club already in operation, then virtually any conservation group can start and sponsor one at minimal cost—using existing staff and/or volunteers to lead the effort, gathering at various natural areas around their region, and committing their media and promotional tools to bolster the effort.

Community Nature Play Collaborations

In numerous U.S. cities, new coalitions have sprung up that focus on getting children back outside, playing—and often stressing nature-based play. These coalitions are usually formed at the organizational level, and are notable for their diversity. They routinely include such groups as natural



resource agencies, nature centers, schools, botanical gardens, zoos, early childhood centers, educational farms, children's hospitals, colleges and universities, pediatric practices, civic groups, youth groups, individual volunteers, and other entities that share a desire to enhance childhood through outdoor play. Typically they pool their resources (staff time, funds, and sites) in pursuit of the shared goal to restore children's nature-based play and all the benefits it can foster.

Some of these collaborations have evolved into new non-profit organizations but most continue as voluntary coalitions. Oftentimes their work is largely promotional—getting the word out about nature and outdoor play. But they may also sponsor or create more tangible products: speaker series, nature playscapes, treasure hunt or passport games to entice families to visit multiple natural areas, teacher and parent workshops, play days and festivals, resource fairs, nature nights at local schools, publications, etc. Most of these coalitions are metro or statewide, and the diversity of their member groups is a great reflection on the wide-ranging benefits and appeal of children's nature play.

The Children and Nature Network has been an early and strong supporter of these community coalitions, and offers the *Community Action Guide* to help with their creation.

Share and Partner with Early Childhood Programs

As explained previously, the early childhood years are a crucial period for the formation of life-long values as well as for holistic development. Consequently, conservation groups should put extra effort and brainpower into finding ways to work with childcare centers, preschools, and Head Start agencies. Perhaps the easiest way to do this is simply to invite preschool and daycare programs to visit your sites and allow their children to play and explore within a defined space.

Preschool programs are not as confined by government standards as are K to 12 school classes, and thus early childhood teachers have more flexibility in allowing unstructured play. In fact, well-trained early childhood educators fully recognize the tremendous developmental value of this kind of child-centered play and the emergent curriculum that it can generate—that is, children's outdoor interests and discoveries that good teachers can then weave into stories, artwork, pretend play, and other classroom activities. What they don't always realize is how powerful and effective a natural setting can be for these activities.

If you have a staff or volunteer naturalist who can join these groups during their visits, all the better—since they can help kids to search for and discover small critters, interesting plants, and other natural wonders. However, such instructors should be careful not to dictate the children's activities, but rather to respond to what the kids find and show interest in.

Beyond hosting periodic visits from early childhood groups, conservation organizations can also form longer-term partnerships. In these, the preschoolers may visit the natural area weekly or monthly throughout the school year, thus creating the crucial frequency of nature experiences needed for developing a sense of place and greatly magnifying the overall impact of nature play (when compared to annual or semi-annual visits). One example: the Schlitz Audubon Nature Center (Milwaukee) has partnered for several years with an urban preschool that primarily serves a disadvantaged population. The preschoolers visit the nature center once or twice each month, and have grown comfortable with the setting and the experience. This acclimatization is essential for enjoying unstructured play and for more focused learning—and especially so for urban children who may not have had many prior experiences in wilder natural settings.

Another great example of an early childhood partnership comes from the Aullwood Audubon Center in Dayton, Ohio. When planning and constructing a major new educational center for the farm portion of the Center, Aullwood included a classroom designed for preschool use. They then worked out an agreement with a local Head Start provider, the Miami Valley Child Development Centers (MVCDC), to operate classes for ages three to five at the nature center. The resultant Head Start Nature/Farm Play Preschool is the first of its kind in the country, guiding 30 economically disadvantaged children into regular and enjoyable outdoor activities. The MVCDC provides the transportation and the primary teachers, while Aullwood provides the classroom, the incredibly rich natural environment, and enrichment activities from their staff. For some of the children, this is their first real taste of how much fun nature can be.

Nature Preschools & Forest Kindergartens

The Aullwood Audubon Center's Head Start initiative is one example of what may be the pinnacle model for connecting very young children to nature: "nature preschools." These are not just occasional programs (or series of programs) for very young children, but rather are fully licensed preschools that are sited in a natural area where the children explore and play daily, in all safe weather conditions. Nature preschool students are usually three to five years old, are enrolled for a full school year at a time, and attend for two to five half-days per week. These centers have professional teachers as well as complete classroom and support facilities, but spend far more of their time outdoors than do most preschools. Typically this outdoor time encompasses both full-class discovery hikes and time for individual play in a nature playscape.

A variation on this approach are *forest kindergartens*—a German model that is just beginning to be take root in the U.S. Forest kindergarteners typically spend all of their time outdoors, and may have no facilities other than latrines and perhaps an open-sided picnic shelter. This is truly a full immersion approach to nature in the early childhood years!

Nature preschools and forest kindergartens offer the huge advantage of being able to foster nature play for multiple days per week over the course of a full school year (and often for two years). They perfectly match the crucial dimensions of nature play: the right kind of place, the right kind of play, and the right kind of re-play. In addition, they can actually operate at a financial profit, as they use the same tuition-driven business model that is employed by thousands of for-profit and non-profit preschools throughout the country.

Most true nature preschools in the U.S. are affiliated with (and based at) community nature centers or other similar institutions—providing the classrooms, support facilities, business functions, and land that is required. These have been uniformly successful, and are being adopted by more and more nature centers. For instance, in Philadelphia the Schuylkill Center for Environmental Education opened a new nature preschool in September 2013, and before one semester was completed it had proven so successful that they are adding an additional classroom for the 2014/2015 school year. Also in Philadelphia, the long-standing and beloved Smith Memorial Playground is just beginning the planning process for a full-day, year-round nature preschool which, if funding is secured, will use their own 6.5 acres plus the surrounding public land of Fairmount Park.

The country's oldest nature preschool, at Connecticut's New Canaan Nature Center, has been in operation since 1967, and is now serving the third generation of some families. Other prominent and well-established nature preschools can be found at Dodge Nature Center (West St. Paul, MN), Schlitz Audubon Nature Center (Milwaukee, WI), Chippewa Nature Center (Midland, MI), Kalamazoo Nature Center (MI), and Irvine Nature Center (Owings Mill, MD), among others. It is worth noting that many existing Waldorf and Montessori early childhood centers also make great and frequent use of small tracts of natural land.

The best-known American example of a forest kindergarten is Cedarsong Nature School on Vashon Island in Washington state. This unique program has received much publicity for its outdoors-all-the-time approach. Although it directly serves only a tiny number of students, it is helping to spark similar schools in many other locations through training programs and nationwide presentations. (Many of these unique early childhood programs offer adult workshops and classes about the nature preschool/forest kindergarten model, and most of them welcome visitors with advance notice.)

The creation and operation of a nature preschool is a complex and demanding process that is beyond the scope of this booklet, but it is an especially effective nature play option for a conservation group that may want to either operate its own preschool, or perhaps serve as an exceptional site for another community group's early childhood center. Green Hearts is one source for help with business plans for new nature preschools.





Structured Programming for Connecting Children with Nature

The early childhood years of birth to age eight are a crucial and fertile period for frequent, unstructured nature play experiences. However, connecting children to nature ideally includes a broad spectrum of ages and activities. As children get older, programs that are more structured and content-focused become increasingly appropriate and valuable. These can take a very wide range of forms: after-school programs, summer day camps and overnight camps, teenage work programs like Youth Conservation Corps, outdoor adventure programs and expeditions, parent-and-child explorations, skill-based workshops, guided walks, and a nearly endless variety of other activities. One engaging example, Minnesota's Dodge Nature Center has successfully (and repeatedly) offered weeklong summer day camps in fort building, with upper-elementary-age kids using only materials they find on site. Many of us remember doing just that during our own childhoods, without our parents having to register us in advance and pay tuition. But in today's culture, approaches like that are both important and effective.

With sufficient understanding and resources, conservation groups can develop a thoughtful mix of programs and activities that can help link children of all ages to nature—and often their parents and other adults, as well. Many of these can incorporate free-time nature play, but others may adhere more carefully to pre-determined lesson plans—perhaps designed to coordinate with local schools' learning standards or to teach specific and challenging outdoor skills.¹⁵

The Aspetuck Land Trust (ALT) in Fairfield County, Connecticut adjusted its emphases more towards nature play, young children, and families. This land trust oversees 45 preserves and in recent years has made a concerted and successful effort to expand opportunities for children and families to enjoy and explore those sites. In 2010 they created a 10,000 square foot natural playground at the Leonard Schine Arboretum in Westport—the area's first. Designed for ages three to seven, this playspace was constructed with materials found on the site, and has areas for fort building, digging, tea parties, tower-climbing, trail-walking, stick-stacking, nature collages and more. They support this site with ideas that encourage kids to continue exploring nature at home, such as a natural scavenger hunt and a leaf and tree identification kit.

ALT's wide variety of scheduled children's activities includes "Short Hikes for Short People" that serve as introductions to their preserves and to nature play. In addition, under ALT's auspices a local family leads (and blogs about) another ongoing series of preserve hikes that are tailored to children's interests, to wit: "...we went at his pace and stopped often to look at bugs or throw rocks in the water. And if we don't go very far, that's OK." ALT also sponsors longer, more far-field hikes and natural history adventures for older children (typically ages 6 to 13), and is now piloting a summertime junior stewardship program for adolescents. The Aspetuck Land Trust backs up these initiatives with thoughtful resources at www.aspetucklandtrust.org.



Planning Nature Activities for All Ages of Children

One of the strengths of the Aspetuck Land Trust's children-and-nature programming is how they created a spectrum of different types of activities to serve different ages. Children's nature activities are definitely not one size fits all; in order to be most effective, the offerings need to appropriately reflect children's developmental stages and abilities. This may seem obvious to trained educators, but many conservationists come from entirely different career paths. Here is a very abbreviated overview of characteristics of different stages of childhood, along with appropriate nature activities for each.

Early Childhood (*ages birth to 8*)

Characteristics

(Their abilities evolve greatly during this age span.)

- Self-centered in younger years, growing into more social and sharing
- Need concrete, hands-on, sensory-based activities and experiences
- Play-based activities work better than content-based ones
- Do not grasp concepts (the "big picture") until at least five years old
- Child-initiated (self-guided) play and explorations are best
- Avoid scripted activities; no worksheets; no pre-determined crafts
- Keep supervision light—i.e., "lifeguards," not teachers or generals
- Avoid gloom and doom about the environment

Appropriate Nature Bonding Goal

Fall in love with nature while beginning to develop their understandings, abilities, and identity. These youngest children need to become comfortable, confident, and secure in the outdoors.

Sample Activities

- Nature playscapes
- Parent-and-child explorations
- Family nature clubs
- Family activities like walks, treasure hunts, and passport programs
- Summer and vacation nature day camps
- After-school programs and entry into youth groups (like scouting)
- Nature-based preschools
- Concrete fun: toasting marshmallows, creating simple birdfeeders, watercolors, simple gardening, collecting natural treasures

Middle Childhood (*ages 9 to 12*)

Characteristics

- Becoming more social and group-oriented
- Becoming adventurous; want challenge; want to test themselves
- Want to roam farther, and explore on their own or with friends
- Beginning to separate away from parents, but want to work with and impress adults who they admire
- Difficult to supervise closely without restraining growth
- Active, physical play tends to be preferred
- Like to create tangible things: forts, tree houses, rafts, art

Appropriate Nature Bonding Goal

Test their limits in nature, begin establishing their independence, and develop tangible skills that will let them enjoy nature as a life-long source of recreation.

Sample Activities

- Construction (fort-building, service projects, bird houses)
- Clubs and scouting-type groups that meet regularly for social activities, play, learning, and service
- Treasure hunts and passport programs (with or without parents)
- Initial volunteering (short-term will likely be best)
- Can be effectively engaged with play naturalists and mentors
- Skill-building classes: geocaching, canoeing, camping, fishing, etc.
- Beginnings of serious personal art: sketching, journaling, photography
- Wildlife encounters and lessons
- Overnight summer camps
- Basic technology: digital cameras, binoculars, GPS, digital field guides

Teenagers (ages 13 to 19)

Characteristics

- Social; raging hormones; nature interest often “goes underground.” Teens who remain active in conservation will likely be “nature geeks” who want longer, in-depth experiences and real-world learning
- Like to impress other teens and admired adults
- Enjoy contributing as volunteers, part-time staff, & “junior naturalists”
- Love to use technology
- Forming true, lasting personal identities and life-long hobbies
- Still testing their abilities, but in more challenging and extended ways
- Searching for freedom, yet (inwardly) hesitant about breaking away

Appropriate Nature-Bonding Goal

Grow into adulthood while using the interest, beauty, and challenges of nature to prove their abilities and find their place in the social order.

Sample Activities

- Nature-based adventure: ropes courses, backpacking, canoe trips, etc.
- Advanced skills training: climbing and rappelling, backpacking, river canoeing and kayaking, live animal care, nature interpretation
- Mentor projects: assisting admired adults with scientific research, land stewardship, bird banding
- Creating special events as a group, with light supervision e.g., haunted houses, nature festivals, amateur performances
- Service learning that provides tangible results and social interactions with other teens; teaching/mentoring younger children
- Clubs that provide social interaction around nature and outdoor activities
- Technology they can handle: websites, databases, Facebook pages
- Personal art: painting, sketching, photography, performance, journaling, etc.
- Like to be asked for their input on planning, activities, etc.

By pairing these guidelines with an appraisal of your organization’s mission, resources, and culture, you can design your own strategy for re-connecting children with nature. From their earliest contact with nature until they are on the edge of adulthood, strive to capture them with age-appropriate activities that will engage both the heart and the head—in that essential sequence!



CALL TO ACTION

Reintroducing nature play to children is certainly no small task, but great work and efforts already abound. You too should be part of the movement. Conservation organizations have a vital role to play. Not only do they have tangible resources to share as well as individuals with expertise and passion, but ultimately their success depends upon the emergence of new generations who share a passion for conservation. The future of conservation is clearly and strongly affected by children's opportunities to bond with nature via frequent, unstructured nature play during their youngest years—followed by other appropriate nature experiences as they mature. Your organization should consider which nature-bonding options match up to its resources and mission and then do its part.

New ideas and strategies are popping up frequently, and the field is only beginning to be able to determine which approaches are most effective, most efficient, and most appropriate for different circumstances. Everyone is striving to learn from the innovations, successes, and failures of others.

Be aware, though, that it is easy to over-think the problem of children being disconnected from nature. Nature play is a simple and timeless concept. The playful child/nature relationship has existed throughout human history; it has only eroded during the past three decades, so it's not as though this is completely new territory to cover. If you understand the problem and want your organization to step up to the challenge, here are five "R's" to serve as pointers:

Relax your rules and fears.

Children playing on your land are not likely to be seriously hurt or to do substantial ecological damage, so loosen up and re-think your rules and priorities. Increasing levels of carbon in the atmosphere are changing the world as we know it; tens of thousands of productive acres of farmland are being lost to development each year; invasive species are killing millions of trees. Do you really think you should be worrying about kids climbing trees or catching frogs? In fact, you should worry if they aren't!

Remember what got you here.

Think back to the kinds of childhood experiences that turned you into an adult who cares about and cares for the planet. Then use those memories as a template for crafting similar experiences for today's children.

Remind your supporters and other community members of their own great memories of nature-based childhood play.

Ask them how often they now see children enjoying similar play, and ask them if they don't think something important has been lost.

Rebel against narrowly focusing conservation work on land deals.

Land conservation that is to last for generations needs the support of future generations. So try something new, like getting children back outside, playing in nature.

And finally, at the heart of it all: **Restore the nature of childhood, before it slips further away!**



APPENDIX. NATURE PLAY & LIABILITY: FURTHER DISCUSSION

The prospect of creating a nature playscape often raises concerns about injuries and liability. Since nature play areas are relatively new phenomena, guidance on these issues is lacking. However, there are several core points for considering and managing liability in nature play. Central to the matter is an understanding of risk.

Risks and Hazards

A **risk** is an action chosen by an individual that poses a chance of injury. Risks are ubiquitous in nature and in modern life; we make choices about risk every time we get in our cars, walk across the street, or choose what to eat. Crucially, an individual can see a risk and make a judgment about whether or not to accept it and/or attempt to overcome it. An example in nature would be a log lying across a small stream, where a child can clearly see the risk and can decide for him or herself whether to try crossing it.

Children actually benefit from encountering risks in their lives—albeit modest and thoughtful ones. They are a good developmental stimulus since kids need relatively safe situations where they can practice their judgment, test their physical abilities, and strengthen their courage and resilience. Any play area devoid of all reasonable risks is oftentimes boring and thus unappealing to children. (Research has found that extra-safe, modern playground equipment is often more dangerous than its predecessors because children are bored with it and thus use the equipment in ways it was never intended for!16) When well designed and properly maintained, a nature playscape offers beneficial, managed risks for children, with only minimal danger.

Different from risks, a **hazard** is a condition that poses a likelihood of injury—and the worst hazards are those not clearly visible to the user, so no thoughtful judgment can be made about the degree of danger. Examples in nature would be a dead or broken branch on a tree where climbing is allowed, or the presence of venomous snakes near a playspace—dangers that would not be apparent to most children and could result in significant injury. Needless to say, true hazards are never appropriate for any type of play area.

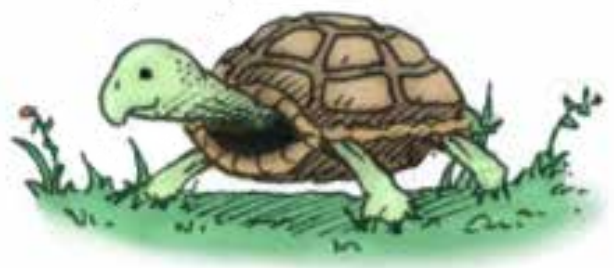
Risks in Perspective

It is valuable to engage staff, boards, educators, parents, and other caregivers in common-sense discussions about the risks of nature play versus the panoply of other dangers that children routinely face. We especially seem to agonize over new and sensationalized dangers to our children, while ignoring more significant and long-standing risks—like autos, organized sports, and junk food. Also, we often do not completely think through a risk situation, instead considering only the most obvious and immediate perils rather than taking a longer view. For example, when a fearful parent forbids their children to play outside, what are the kids probably going to do instead? Most likely they'll sit in front of an electronic screen, which poses its own set of dangers to a child's healthy development. A wise caregiver will think through all the play options for their children and look for a healthy balance of risks and benefits.

Risk Management

As with other organizational endeavors, it is sensible to analyze the benefits and risks of the organization's current and potential nature play activities and follow up with appropriate actions (such as removal of hazards). Resources to aid in risk management, including the development of policies and plans, include:

- the offerings of the Nonprofit Risk Management Center;
- *A Guide to Risk Management for Land Trusts* (2014), published by the Land Trust Alliance;
- the guides published by the Pennsylvania Land Trust Association and available at ConservationTools.org (Search for guides with the keyword *liability*).



In addressing the risks associated with nature play, organizations should consider, in addition to the more general issues raised by the above resources, the following questions:

- Will allowing children's nature play significantly increase the risk of serious injury?
- Will allowing children's nature play significantly increase our risk of litigation?
- Can we mitigate the risks and dangers of nature play?
- Do the benefits of nature play outweigh any increased risk of injury or litigation?

Responsible Playspace Management

Once you have created a nature playscape, you assume the responsibility for managing it responsibly. Regular safety inspections and maintenance are key. Any identified hazards must be removed or corrected: cutting off broken branches, removing or smoothing "sharps" on logs, stabilizing or removing loose climbing boulders, etc. Where acceptable risks are found and judged to have developmental value, it should be confirmed that they are clearly visible to the users, and it is helpful to record their developmental benefits. For instance, tree climbing can foster courage, build strength, encourage cooperation with other children, improve balance, and help nurture a bond between children and nature. Worth noting is that the very process of doing risk and benefit analyses of nature play can begin to change the liability conversation from one based solely on fears to one involving thoughtful consideration of what is best for children.

Insurance

Of course, regardless of how thoughtful and responsible you are with your nature play initiatives, questions around liability and litigation will inevitably arise. One common question pertains to the effect of nature play on insurance rates. Some entities have reported little or no insurance increase due to the addition of nature play—even with the extensive play and young ages that come with the operation of nature preschools. Yet, other organizations have been scared away from providing nature play. One nature center in New Mexico was told that they'd be OK just letting kids play on their land but that their premiums will jump significantly if they intentionally provide sticks for the kids to play with, due to the possibility of poked eyes!

There is no database on nature play injuries, and there is no case history to support that New Mexico agent's judgment about the menace of sticks (which, by the way, are so terribly dangerous to children that they have been formally inducted

into the National Toy Hall of Fame in Rochester, NY). But until nature playscapes develop a longer history that insurance companies can use to objectively evaluate risk, there will be varied responses from the industry.

If you propose to facilitate more children's nature play on your land, it may be wise to meet with your insurance agent and educate him/her about the benefits and minimal dangers of nature play. Do not roll over and play dead at the first indication of your agent's concern (which typically equates to higher premiums). If your insurance agent claims that nature play will create a significant new risk, politely ask to see their research on this. Generally, that research doesn't exist.¹⁷

Safety Standards

While safety standards for nature play facilities do not exist, emerging thought is that existing playground safety standards should apply only to manufactured equipment, not to natural elements. (In the U.S., playground standards are produced by the CPSC and the American Society for Testing and Materials.) For this reason, organizations that create spaces for nature play are sometimes advised not to call them playgrounds as this may cause an inspector to apply standard playground safety criteria, which were never intended for natural materials. Instead, terms such as nature playscape, play garden, play habitat, or natural classroom are often used.

Some suggest that self-selected play should be distinguished from play that is invited or facilitated within a natural playscape when considering safety measures. For instance, climbing an unaltered tree may be seen as purely a matter of a child's personal choice and judgment, while encouraging a tree climb with a ladder, trunk cleats, or other aids may put more liability on the host organization. Given the present uncertainties, it is wise for an organization to be familiar with playground safety rules, since no one wants to see either injured children or a lawsuit.

Restore Common Sense

As a conservationist interested in re-connecting children to nature, you cannot eliminate all risks from the equation, and you should not pretend that they don't exist. But with understanding and a bit of persuasion, you can put these risks into a reasonable perspective and help to restore a measure of common sense to children's outdoor play choices. Don't let unsubstantiated fears prevent you from adopting one of the best methodologies for reconnecting children with nature.

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Ken Finch, the President and founder of Green Hearts Institute for Nature in Childhood, is the principal author of this guide. Ken has decades of experience in environmental education and conservation work, including leadership roles in nature centers, children's museums, the National Audubon Society and the Association of Nature Center Administrators.

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- 1 "Thirteen Years of the Public's Top Priorities." *Pew Research Center for the People and the Press*. <http://www.people-press.org/interactives/top-priorities>. 27 January 2014. Web. 10 July 2014.
 - 2 "Generation M2: Media in the Lives of 8- to 18-Year-Olds." *Kaiser Family Foundation*. <http://www.kaiserfamilyfoundation.org>. 1 January 2010. Web. 2 September 2014.
 - 3 Hofferth, Sandra and Sandberg, Joh. "Changes in American children's time, 1981—1997." *University of Michigan Institute for Social Research* (1999). Print.
 - 4 *Ibid.*
 - 5 "Frequently Asked Questions." *U.S. Census Bureau*. <https://ask.census.gov/faq.php?id=5000&faqId=597>. 2010. Web. 2 September 2014.
 - 6 Louv, R. *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder*. Chapel Hill, NC: Algonquin Books of Chapel Hill, 2005. Print.
 - 7 Council on Communications and Media, American Academy of Pediatrics. "Policy Statement: Media Use by Children Younger Than 2 Years." *Pediatrics* Vol. 128, No. 5 (2011): pp. 1040-1045. Print.
 - 8 Rideout, VJ and Hamel E. "The Media Family: Electronic Media in the Lives of Infants, Toddlers, Preschoolers, and Their Parents." *Kaiser Family Foundation*. <http://www.kaiserfamilyfoundation.org>. 2006. Web. 2 September 2014.
 - 9 Ministerial Council for Education, Early Childhood Development, and Youth Affairs. "Engaging Families in the Early Childhood Development Story." (2010): p. 4. Print.
 - 10 Chawla, Louise. "Life Paths Into Effective Environmental Action." *The Journal of Environmental Education* Vol. 31 (1999): pp. 15–26. Print.
 - 11 Grahn, P., Martensson, F., Lindblad, B., Nilsson, P., and Ekman, A. *Ute pa Dagis (Out in the Preschool)*. Hassleholm, Sweden: Nora Skane Offset, 1997. Print.
 - 12 Pyle, R. *The Thunder Tree. Lessons from an Urban Wildland*. Boston, MA: Houghton Mifflin Company, 1993. Print.
 - 13 Chawla, L.; *op cit.*
 - 14 "New Study Examines Stair-Related Injuries Among Children in the United States." *Nationwide Children's Hospital*. <http://www.nationwidechildrens.org>. 12 March 2012. Web. 2 September 2014.
 - 15 Resources and ideas for such structured and/or school-based environmental education activities are widely available through national groups like the North American Association for Environmental Education, Project Wild and Project Learning Tree, the National Environmental Education Foundation, the Izaak Walton League, the environmental education office at the U.S. Environmental Protection Agency, and the Green Ribbon Schools initiative sponsored by the U.S. Department of Education. Many state agencies also offer resources and outdoor activity suggestions for the whole family, such as Get Outdoors PA. All of these diverse approaches are worthwhile for various ages and circumstances, so each organization needs to consider where it can have the most impact, and what types of programs its staff and resources are best suited for.
 - 16 Chawla, L.; *op cit.*
 - 17 The Conserve-A-Nation insurance application completed by many land trusts requires applicants to describe the extent or use of play facilities as well as many other facilities and activities.



RESOURCES

To locate an abundance of resources regarding nature play, search on “nature play” at [ConservationTools.org](https://www.conservationtools.org).





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