

DECEMBER 2023

# *Trends and emerging ideas influencing the children and nature movement*

*By Richard Louv, Chair, and Cheryl Charles, Co-Chair,  
of the Children & Nature Network Founders' Council*

One of the ways in which the Children & Nature Network (C&NN) Founders' Council contributes to support of the organization's mission is to help alert the board and others to trends and emerging ideas that influence the children and nature movement.

This report is not intended to be comprehensive; however, the Founders' Council members believe it helps to bring attention to issues that are affecting the ways in which children and youth meaningfully connect with nature in their everyday lives.

Within this brief report we identify and briefly describe some of the most compelling and influential challenges and opportunities. These observations are grounded in science and research, as well as less formal ways of knowing, to help inform the ongoing contributions of the Children & Nature Network. *Among the most important trends: impressive international growth of the children and nature movement itself.*

## DEFINITIONS

- **A Trend** is a concept, phenomenon or idea that moves and develops with some strength in a general direction. It is differentiated from a *fad* in which something emerges as a short-term phenomenon reflecting people's interests, and then quickly fades away.
- **An Emerging Idea** is a concept or perception that appears to be gaining strength, with the potential to become a trend, and which serves as an example of ways to nourish the growth of the children and nature movement because of its potential for positive change.

## TRENDS IN MENTAL AND PHYSICAL HEALTH

- **Immediate and Delayed Impacts of COVID:** Anxiety and depression continue to increase even among young children. Social skills are in decline as well, manifesting in many children's lack of skills in regulating their emotions. Some of this is directly tied to lack of experience in interacting with other young children in their toddler and preschool years. Leaders in the California WIC (Women, Infants and Children) program report that challenges continue when children enter preschool and kindergarten, manifesting in emotional outbursts, abusive and bullying behaviors, and lack of physical self-regulation among a disproportionate number of children. Recent research has focused on the impact of the COVID years on teens; WIC reports little research on the impact on very young children during vulnerable developmental years.
- **Growth of Eco-Anxiety and Environmental Depression:** The American Psychiatric Association defines eco-anxiety as "a chronic fear of environmental doom." *The Lancet*, Britain's prestigious medical journal, reports "Symptoms associated with climate anxiety include panic attacks, insomnia, and obsessive thinking....potentially leading to increases in stress-related problems such as substance use disorders..." Like COVID, eco-anxiety has long-term implications. In 2016, a report issued by the American Psychological Association, Climate for Health, and ecoAmerica (a former C&NN partner) projected long-term societal damage caused by eco-anxiety, including interpersonal and intergroup aggression, and loss of social identity and cohesion, especially for "Indigenous communities, children and communities dependent on the natural environment." Some of the most recent research suggests that mental health professionals who treat eco-anxiety are increasingly seeking personal counseling for it. There are many factors at play. One important dimension is to recognize that children can see and feel the changes going on around them, including environmentally. Louise Chawla cites the importance of relational values — recognizing not just the benefits that humans get from nature, but our interrelatedness. Louise says, "We need to be in relationship with nature, where it is not just what benefits do I draw from it but how is the quality of my relationship to nature beneficial to both of us — to the natural world and to us as humans in it." She cites the need to give children and youth agency; to give them safe spaces to talk about their fears; to support them in their efforts to make a difference and to encourage them to work with others.
- **Awareness of the Loneliness Epidemic and Species Loneliness:** For years, the medical community has expressed growing concern about what some call an epidemic of human loneliness. As contributors to major illnesses and death, social isolation now ranks with obesity and smoking. One study found that the younger the generation, the lonelier people are — a dramatic reversal from prior decades. Many factors, from anti-social media to poor urban design are blamed for this growing isolation; these cited reasons mirror the causes of nature-deficit disorder. This aloneness is rooted in an even deeper isolation: *species* loneliness. As a species, we are desperate to feel that we are not alone in the universe. This yearning has religious implications, but it also suggests that the path back to each other leads through woods and fields, arroyos and riparian areas, backyards and local parks through the greater community. As one antidote, we see growth in the number of family

nature clubs, which connect families to nature and to each other, building both social capital and natural capital.

- **Continued Growth of Research related to Nature-Deficit Disorder:** Nature-Deficit is increasingly linked to multiple psychological and physical health problems. Childhood obesity remains too high, having increased dramatically in recent decades, even with major efforts to provide education and support to mitigate the trends. Sedentary lifestyles among many, isolation, harassment, bullying and access to drugs all compound and interact to create a cycle of disease and depression for too many. There remain too many latch-key children and teens, left to the electronic babysitters and isolating by-products of over-use of technology. Ironically, some of the anxiety and isolation of children and teens is related to well-intended but damaging overprotection by parents. At the same time, scientific research on the deficit and the benefits of nature experience continues to grow, from approximately 60 studies in 2005 to over 1300 now abstracted in C&NN's research library. This research is being put to use.
- **Nature as Prevention and Treatment:** As counterweight to growing mental health problems, we see the rapid growth of ecopsychology and ecotherapy, including immersive forest therapy. We also see the mainstreaming of mindfulness, rooted in Buddhist meditation, but growing as a secular practice. This development parallels the increase in research linking health to time spent in more natural habitats. Also, pediatricians throughout the United States, Canada and other countries increasingly prescribe or recommend nature time as prevention and therapy. C&NN Founders' Council member, Dr. Stephen Pont, has been instrumental in building awareness of the children, nature, and health connections within the American Academy of Pediatrics for years and is seeing both progress and opportunities emerging. He says, "I think that now more than ever there is an opportunity to advance work and collaboration with the health, mental/behavioral health, and general wellness space. The COVID pandemic greatly highlighted pre-existing disparities, and further raised awareness for all regarding the need and importance of spending time outdoors and in nature. I cannot imagine how the COVID pandemic was experienced by inner city lower income families, and particularly in states that experienced extended periods of lockdowns, who therefore endured extended periods of time with little time outdoors and in nature. The time indoors would be more likely to be spent in cramped quarters, compounding communities' baseline levels of stress. This lack of outdoor time and all of the stress of the COVID pandemic only further exacerbated the mental health crisis that was quickly rising pre-COVID." An excellent review of the literature is available here: [Fyfe-Johnson AL, Hazlehurst MF, Perrins SP, et al. Nature and Children's Health: A Systematic Review. Pediatrics. 2021;148\(4\):e2020049155.](#)

## TRENDS IN CHILDHOOD EDUCATION

- **Retrenchment and Renewal in Response to COVID.** Regarding what has been called “learning loss” through the COVID years, usually attributed to missed school days, distance learning, and screen dominance, schools have reemphasized testing and basic literacy and numeracy skills. Responses range from cities and states that have taken over the schools in a lock-step approach to curriculum where everyone is to teach the same thing the same way at the same time, typically indoors, to areas of the country where project-based, place-based and nature-based community-oriented teaching and learning continue to expand and grow.
- **Direct Experience as an Alternative:** Countervailing trends to retrenchment within four walls include emphasis on social-emotional skills, trauma-informed education, project-based, hands-on learning, and a continuing movement to implement nature-based outdoor learning. Experiential education; greening school grounds; outdoor classrooms; and project, place and nature-based learning continue to gain in strength, where children are able to apply their learning in context, in hands-on situations. Around for years, Reggio Emilia is one approach that continues to gain strength. It includes integration of culture and nature within the classrooms and schools with a community focus. Among the benefits of this alternate response to pandemic “learning loss” is that it attends the educational as well as the health needs (both physical and emotional) of children.
- **Greater Attention to Equity:** The Children & Nature Network has contributed significantly to steady growth in this area especially for urban and under-represented communities. Nature-based preschools and kindergartens continue strong growth; implementation of nature-based outdoor learning throughout the elementary school curricula remains less frequent. Farm-to-school programs are helping in some areas. Needed: a comprehensive study of the increase in these trends, including the apparent growth of outdoor classrooms, as opposed to relying on media reports. Also: while the connection of identity, equity and nature is one of the most important trends in the children and nature movement, we must also remain concerned about economic and experiential poverty among all racial and cultural groups, including the rural white poor and the cloistered urbanite. Every child deserves nature.
- **Broadening the Goals of Education:** Not new, but high schools are again questioning an over-reliance on college preparation as the dominant factor in school curricula. That opens the doors to more job shadowing, mentoring and internships within community businesses, particularly the trades – and potentially nature-related careers through the broadening definition of green jobs, beyond energy efficiency to nature connection. Universal food programs: Again, not new, but growing with legislative support at state levels throughout the country. Regeneration is gaining attention in education, with potential new roles for the children and nature movement: for example, helping children plant trees, native plant species and local gardens, and helping to create natural schoolyards – an international effort in which C&NN is deeply involved.

## TRENDS IN TECHNOLOGY: COMPETITION WITH THE METAVERSE

- **Is Virtual Reality Gaining On Us?** Pediatricians report that parents are handing their children iPads and smartphones at an earlier and earlier age, including to infants. This year, Apple announced its Vision Pro mixed reality headset, a device virtually guaranteed to keep its user couch bound. A reporter for CNN Business tried it out and reported her experience: "In the demo ... a virtual butterfly landed on my finger; a dinosaur with detailed scales tried to bite me...When a small bear cub swam by me on a quiet lake during another immersive video, it felt so real that it reminded me of an experience with a loved one who recently passed away. I couldn't wipe the tears inside my headset." In the coming age of Artificial Intelligence, will the attraction of direct experience in nature hold its power with children and adults?
- **Technological nature can be helpful:** To be fair, research has shown that people experiencing technological nature can receive some – though a fraction – of stress reduction and some of the other benefits of nature experience. A painting by Van Gogh of a starry night or a photograph of Yosemite by Ansel Adams can touch our hearts. A smart phone bird app can attract children to wildlife, and encourage participation with others in that attraction (Cornell's annual Bird Watch is one example); but research also shows that bird apps can disrupt wildlife, too, by reproducing bird songs. While media have focused on issues such as human autonomy and survivability in the A.I. Age, a more immediate question remains largely ignored: How is A.I. already changing childhood and our relationship with the natural world?
- **New Focus on Direct Nature Connection:** Even in this age, living in the infinitely dimensional *direct* reality of the natural world is, for most of us, more interesting and challenging than manufactured existence in the 3D metaverse's reductionist space of virtual life. In his upcoming new book, Richard Louv documents this trend, which involves three relatively new areas of scientific research into the breadth of human senses, communication within and among species of animals and plants, and an expanding definition of consciousness. Anywhere in the natural world, whether nearby nature or wilderness, can serve as a direct portal into a larger world. If we open our imaginations. If we notice. We also see emerging nature connection techniques, applicable to education, daily life, art, and scientific pursuits, from "slow birding" to "critical anthropomorphism." Along with this expansion comes the timely awareness of the wisdom and modern usefulness of Indigenous and traditional ecological knowledge, including the discovery of new/old ways to combat climate change and biodiversity collapse.

## TRENDS INTERNATIONALLY

- **Recognition of the Connections between Biodiversity Loss and Climate Change:** International tribunals are explicitly making the link between climate change and biodiversity loss while increasing their emphasis on the importance of education. In 1992, two separate conferences of the parties were established in support of two different conventions or treaties: one on climate change, the other on biodiversity. Specific to climate change, the parties refer to 197 nations that agreed to the United Nations Framework Convention on Climate Change in 1992. In the same year, the UN Convention on Biodiversity was established. The Convention was opened for signature on 5 June 1992 at the United Nations Conference on Environment and Development (the Rio "Earth Summit"). While these two COPS continue to meet separately, the topics they discuss and prioritize are increasingly commingled—combining climate change and biodiversity loss as interrelated concerns. Climate change directly impacts biodiversity loss, and biodiversity loss impacts climate change.
- **Increased Emphasis on Education:** At the recent World Environmental Education Conference in Abu Dhabi, nature-based education was a strong emphasis, particularly featured through presentations and dialogues facilitated by the IUCN's Commission on Education and Communication (CEC). C&NN's 2023 Richard Louv Award Recipient and CEC's Regional Vice Chair for South America, Luis Camargo of Colombia, eloquently described the importance of the approach. The 28<sup>th</sup> COP on Climate Change convened in Dubai, United Arab Emirates (UAE) from November 30 to December 12, 2023. For the first time in the history of these conferences of the parties, there was an area dedicated entirely to education and its importance. UNESCO sponsored a Greening Education Pavilion where speakers and interactive presentations occurred. At the COP 15 Convention on Biodiversity in 2022 in Montreal, where Cheryl participated as part of the IUCN delegation, the emphasis on education was interwoven throughout the resulting Global Biodiversity Framework. An emphasis on communications, education and awareness is not entirely new in these international tribunals; however, it is becoming more and more integral.
- **Increased Voices of Indigenous, Women and Youth:** Throughout the world, there is greater recognition of the rights of Indigenous peoples and the strength of their traditional wisdom to serve to address contemporary problems and challenges—in areas as diverse as raising children to enhancing biodiversity to mitigating climate change. Illustrative of the trend, Cheryl participated in the Conference of the Parties (COP) 14 to the UN Convention on Biological Diversity in November of 2018 in Sharm El-Sheikh, Egypt. Those deeply concerned about biodiversity loss could see and report the connections with climate change. The increased commitment to intergenerational equity, respect for young professionals and youth, recognition of human rights to a healthy environment, the role of women and Indigenous peoples, and the importance of meaningfully connecting people with nature through direct experiences and education have all grown dramatically even in the four years from 2018 to 2022, building on a trend that has been growing for decades.

- **Growth of the Green Schools Movement:** The Greening School Grounds and Outdoor Learning project for which C&NN received seminal funding from the Robert Wood Johnson Foundation in 2021 continues to grow. This project fits within long-standing efforts throughout the world to transform school grounds into biodiverse learning environments. The timing is right for a variety of reasons: recognition that greening school grounds helps to mitigate climate change and enhance biodiversity; societal changes in which parents increasingly value schools as safe and healthy environments; increased recognition of the social, emotional, academic and overall health benefits from connecting children with nature; and evidence-based recognition that connecting children with nature contributes to their likelihood to care for species and ecosystems throughout their lives. International partners with C&NN on this project include: IUCN Commission on Education and Communication, IUCN #NatureForAll, Salzburg Global Seminar, International School Grounds Alliance, Learning Through Landscapes, Learning Planet Alliance, Alana Foundation and UNESCO.

## OTHER EMERGING IDEAS AND POTENTIAL TRENDS

- **Collaborative Work with Health Care Providers:** According to Dr. Stephen Pont, there is significant potential to position the Children & Nature Network as a leader, collaborator and supportive partner by health and mental/behavioral health practitioners as well as professional societies. He says, "This would both be great for advancing the benefit of children and families through more time spent in nature and for C&NN. Most health-related professional societies and their members are likely not yet too familiar with C&NN, so I think that this remains fertile ground for collaboration, synergy and greater impact." While there is momentum and clear potential through enhancing these collaborations, Dr. Pont notes, "These types of collaborations will likely take years to advance unless fortuitous circumstances and opportunities arise. However, without doing some of the foundational work and relationship building, C&NN will not be able to take advantage of unexpected time sensitive opportunities, which could arise with short notice."
- **Public Agency Partnerships and Collaborations:** C&NN's work with the National League of Cities exemplifies the power of partnerships, and continues to grow, serving as role models and practical examples for others. Beyond cities, there are growing partnerships between public lands and public health agencies. For example, in Texas there is a partnership between the Texas Parks and Wildlife Department and the Texas Department of State Health Services. According to Dr. Pont, "This partnership includes addressing health disparities through a CDC grant that is funding the development of a greenspace/park access GIS mapping tool for the state, which is being developed in collaboration with the Trust for Public Land. Additionally, the funding funds three health and nature liaisons for the Texas Children and Nature Network who are working to increase the amount of time children and families spend outside and in nature in the lower Rio Grande Valley (southern Texas-Mexico border region), the Gulf Coast (Houston region) and North Texas (Dallas/Fort Worth region). An additional extension of funding will continue this funding through at least May of 2024."

- **Are We Trapped in a Dystopian Trance?** Earth's environmental crisis is measurable not only in the growing number of fires, floods, or the inches of rising seawater, but in physical and mental trauma — including heat exhaustion and injuries from floods and other induced disasters — along with rising rates of depression and anxiety, what is now called eco-anxiety. Meet what Rich describes as the Four Horsemen of the Apocalypse: climate disruption, biodiversity collapse, zoonotic pandemics, and human loneliness — our disconnection from nature, and from each other. These four interacting forces represent a single existential threat, the shadow in the corner, always there. It infects us with fear, a sense of helplessness, cynicism, panic. Because it works on so many levels — psychological, economic and environmental — this dystopian trance itself poses a threat. What happens to a culture when it can no longer conjure images of a beautiful, nature-rich future?
- **"Doomers" and the Necessity of Imaginative Hope:** We need a countervailing force, what Richard Louv has called "imaginative hope" – the focused ability to create a new image of the future, necessary if we are to pursue that future. Recently, young leaders have led the way toward an alternative view of the future, neither the dystopian trance nor climate denial. Critical of what they call the Doomers (a play on the word boomers), some have moved toward organized, energetic activism based on hope. What role might the children and nature movement play in that emerging idea and trend? The partnership between the Children & Nature Network and the National League of Cities is paving (or greening) the way toward new images of what the future could be. One question for the movement, and C&NN specifically: How can more children, families and communities incorporate nature into their lives, and at the same time learn to protect the nature they enjoy, and create more of it? Learning from traditional knowledge and Indigenous wisdom, should we teach or promote reciprocity?
- **The Generational Nature Gap:** At C&NN's recent international conference, during a collaboration breakout, a Colorado Nature Kids program video showed Latino parents entranced with the program's efforts to get kids outside in parks, nature centers, etc. The parents talked about how they didn't have nature when they were kids and how grateful they are for the opportunity — not only for their kids but for *themselves*, now. This is the third generation — the *third*, not the second — of parents that missed out on nature. This Generational Nature Gap, sensed but seldom directly addressed, is especially evident among parents and young teachers and other adults. Of future concern: The first nature-deficient generation is now or soon will become grandparents. In the past grandparents were, in a sense, the keepers of nature experience because they grew up with it. What happens when grandparents no longer grow up immersed in nature? Does this question suggest that the children and nature movement should give increasing attention to developing what might be called Green Grandparents?
- **Democracy Depends on Children and Nature Connection:** Just released from MIT Press: ["Democracy in a Hotter Time: Climate Change and Democratic Transformation,"](#) with essays by 22 authors, including Bill McKibben, Kim Stanley Robinson, Frances Moore Lappé, and Richard Louv was edited by David Orr, a member of C&NN's Founders' Council and Paul Sears Distinguished Professor of Environmental Studies and Politics Emeritus at Oberlin

College. In the book, Richard Louv's essay focuses on the importance of nature experience to democratic health. To develop a sense of the larger community, a child or an adult must step outside, must get to know the neighbors, both human and other-than-human. What happens to a democracy when people no longer know their neighbors – human and more-than human? As the poet Wendell Berry has said, "If you don't know where you are you don't know who you are." During the pandemic, people instinctively rushed to parks and trails for their health and their sanity. One consequence is that we are more aware of the inequitable and socially undemocratic distribution of parks and other open spaces. And many have recognized, sometimes for the first time, the value and solace of the natural world just outside their window.

- **Democracy and Respect for Diversity:** A recent inaugural national poll in the United States, the Heart of America Survey, reported that two in three (67%) of those polled say they "are hopeful Americans can work through differences and find lasting common ground in the future." The National Collaborative for Health Equity (NCHE) conducted the poll. According to NCHE, "All respondents were 18 years old or older and included oversamples of young voters and voters of color to ensure adequate representation within the survey." Executive Director and member of C&NN's Founders' Council, Dr. Gail Christopher, said the poll results demonstrate the "rhetoric frequently presented by some media, politicians, and public figures does not accurately represent the feelings of most Americans." She further states, "For our country to heal, we need to elevate the voices of the many. The voices of people who want democracy to work and for our nation to heal." In commenting on the poll results, Georges C. Benjamin, MD, American Public Health Association Executive Director, agreed that "too much attention is placed on differences among Americans and not enough on the common threads that can unite the country." "While we focus on differences, this survey reinforces my belief, and that of most Americans, that we can and want to work together for racial healing and equity."
- **The Growing Recognition of Nature Connection as a Human Right:** For over a decade, some of us have argued that a positive connection to nature should be considered a human right, alongside nature's right to health -- because a positive connection to nature is so fundamental to our health, to our humanity, to democracy, and to the health of the Earth itself. As long as that right is not recognized, the human connection to nature will be considered a nice-to-have rather than a necessity. How might the children and nature movement activate that recognition in tangible ways? How else can we inspire and support the movement?

**Note:** The authors gratefully acknowledge contributions from Louise Chawla, PhD; David Orr, PhD; Stephen Pont, MD, MPA, FAAP; Dr. Gail C. Christopher; and Keith Wheeler in developing this commentary.

## ABOUT THE AUTHORS

**Richard Louv** is a co-founder and Chairman Emeritus of the Children & Nature Network and the author of ten books, including *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*; *The Nature Principle*; *Vitamin N*; and *Our Wild Calling*. Translated into 22 languages, his books have helped inspire an international movement to connect children, families and communities to nature. In 2008, he was awarded the Audubon Medal. He speaks frequently around the country and internationally. He has written many columns for the Children & Nature Network, many of which can be found [here](#). He currently serves as Chair of the Children & Nature Network [Founders' Council](#). Learn more at [richardlouv.com](http://richardlouv.com).

**Cheryl Charles, Ph.D.**, is an innovator, author, organizational executive and educator. She is a co-founder and President and CEO Emerita of the Children & Nature Network. She currently is Research Scholar and Executive Director of the Nature-based Leadership Institute at Antioch University New England, a Steering Committee member for the International Union for the Conservation of Nature's Commission on Education and Communication and Co-Chair of IUCN's [#NatureForAll](#). She served as founding National Director of the pioneering K-12, interdisciplinary environment education programs, Project Learning Tree and Project WILD. Cheryl is author, editor and designer of a wide variety of publications. She currently serves as Co-chair of the Children & Nature Network [Founders' Council](#).