

NATURALLY INCLUSIVE

*Engaging Children
of All Abilities Outdoors*

Ruth Wilson, PhD



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PRAISE

for *Naturally Inclusive: Engaging Children of All Abilities Outdoors:*

“What an inspiring book! Ruth Wilson fully explores the great potential of connecting children with special needs to the natural world. In that larger world, every living thing has special abilities, different from those of other individuals within their own species and certainly from those of other species. Nature, then, represents both ultimate diversity and universal shared experience, a sense of belonging within the largest family. And through this awareness comes healing.”

—**RICHARD LOUV**, author of *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder and Our Wild Calling: How Connecting with Animals Can Transform Our Lives—And Save Theirs*

“In the literature on connecting children with nature, children with special needs are often a forgotten population. This book gives them, their parents, and the people who create inclusive nature-play-and-learning programs overdue attention. Its wisdom reflects Ruth Wilson’s decades of work with children in nature and her deep knowledge of relevant research. She weaves advice about how to work with children with a variety of special needs together with evidence about benefits of nature engagement for all children. Her stories about parents, teachers, and children with diverse abilities bring general ideas to life. The result is an essential guide for the creation of inclusive nature-based play spaces and programs, as well as an inspiring resource for connecting every child to nature.”

—**LOUISE CHAWLA**, Professor Emerita, Program in Environmental Design,
University of Colorado Boulder

“I highly recommend this newest book from Dr. Ruth Wilson. It fills an important gap in illuminating how to more effectively serve the needs of all children’s healthy development and overall well-being through meaningful experiences with nature





PRAISE

for
Naturally Inclusive:
Engaging Children of All Abilities Outdoors:

in their everyday lives. While solidly grounded in research and practice, Dr. Wilson is also an artful communicator—clear and compelling, innovative and inspiring, positive and practical, hopeful and healing. May the book be read, shared, and applied widely in children’s lives!”

—**CHERYL CHARLES, PHD**, Cofounder and CEO Emerita, Children & Nature Network

“A truly fascinating book, this resource offers a comprehensive guide on various nature programs and practices to meet the needs of every child.”

—**ANGELA HANSCOM**, author of *Balanced and Barefoot: How Unrestricted Outdoor Play Makes for Strong, Confident, and Capable Children* and founder of TimberNook, an award-winning nature-based program

“[This book] underscores the importance of nature connection for each and every child. Well-researched examples and poignant anecdotes reveal just how fulfilling nature-based learning can be for a child’s mind, body, and spirit. This is truly an informative and inspirational read for nature-based educators and parents alike!”

—**MONICA WIEDEL-LUBINSKI**, Director of the Eastern Region Association of Forest and Nature Schools





Dedication

To my husband,

Frederick Wilson,

who has
supported and inspired me
in so many ways
over our years together.

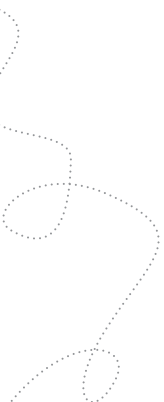





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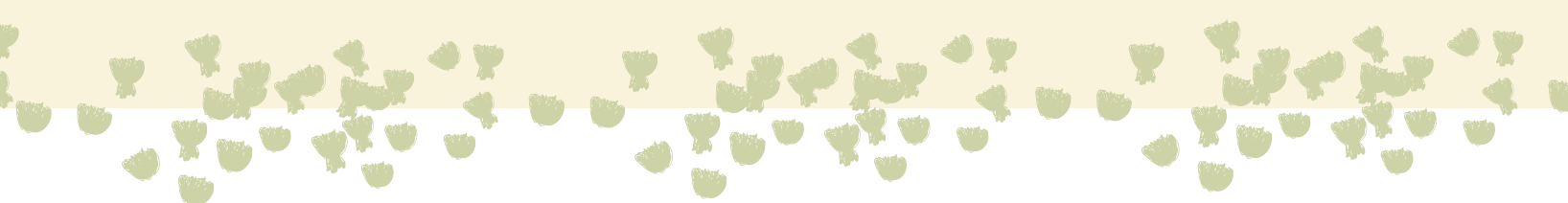
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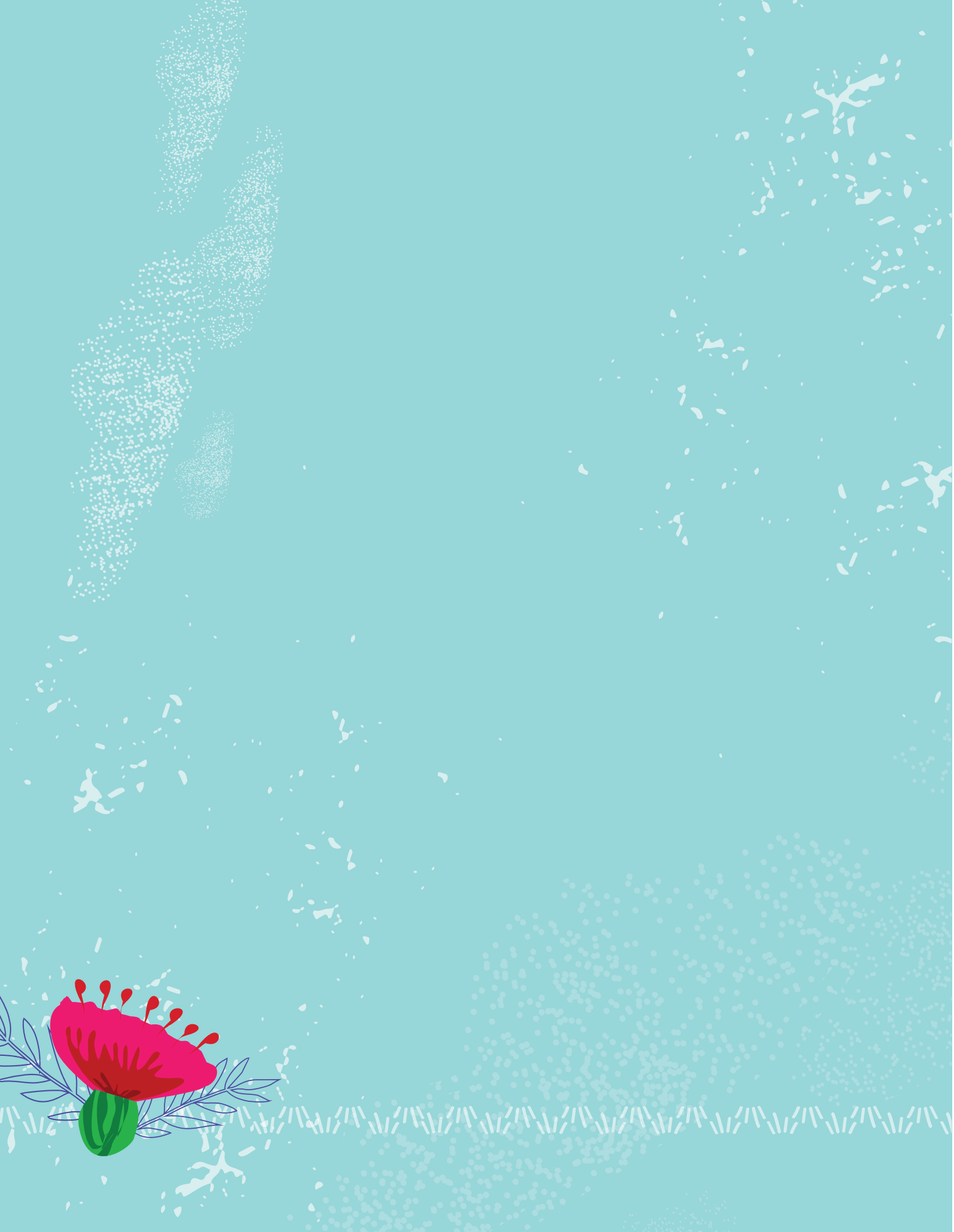
Preface

This book is about the beauty of diversity and the importance of inclusion as applied to young children with differing abilities. This book is also about nature as an exemplar of diversity and a catalyst for inclusion.

We see diversity in the natural world around us and recognize this as an indication of a healthy ecosystem. We see diversity in the human community and are sometimes perplexed by the response to such diversity. One unwelcome response takes the form of discrimination and exclusion. People with differing abilities are sometimes discriminated against and find themselves excluded from certain settings, activities, and opportunities, including active engagement with the world of nature. This is troubling and unfortunate, as everyone has a right to nature and can benefit from nature's gifts. People with special needs or differing abilities may benefit even more than others from close connections with nature.

While children with special needs often face physical and social barriers to more intense engagement with the natural world, stories and testimonials generously shared by families, teachers, and therapists indicate that these challenges need not prevent children with disabilities from enjoying the many benefits nature has to offer. Their stories and the focus of this book—while addressing nature connections for children with special needs—are more about abilities and capabilities than disabilities. The focus is on well-being and happiness. The intent of this book is to promote human flourishing, optimal development, and quality of life for young children with differing abilities.

This book is also about inclusion and belonging. Inclusion occurs when people with differing abilities are valued, viewed as contributing members of the group, and feel a sense of belonging. Nature doesn't discriminate or judge. It offers a welcoming environment and serves as a natural habitat for all children. When given the opportunity, many young children experience a sense of kinship with the animals and plants they encounter in natural environments. Just being in nature and with nature can help children with special needs feel accepted and cared for. Nature tells them that they belong and that they are an integral part of something larger than themselves.





Acknowledgments

For the many contributors to this book, I would like to extend my deepest appreciation and gratitude. Your stories and insights have inspired me; I am sure they will inspire the readers as well. For each of you, I am deeply grateful.

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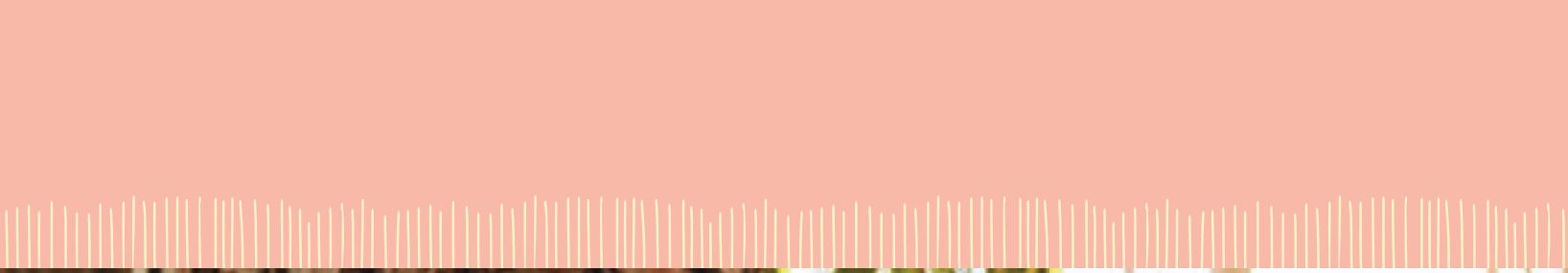
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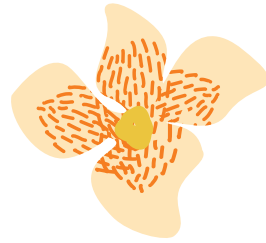
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Shiqi Yue





CHAPTER 1

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The Role of Nature in Our Lives

“

Our identity is nature—
not concrete and asphalt.

— CLEMENS ARVAY,
author



Nature isn't a frill, nor is it a playground or an amusement park. Nature is a necessity in our lives. We need nature for our very existence, as nature is the source of our food, water, air, and shelter. But nature does far more than provide for our basic physical needs. We tend to be happier, healthier, more socially engaged, and more creative when nature is an integral part of our daily lives. These benefits apply to people of all ages and abilities when they are physically, emotionally, and psychologically connected with nature. Unfortunately, the way many people live today fosters disconnection from the world of nature. This is true for children as well as adults. This introductory chapter focuses on the role of nature in our lives, describes nature-related characteristics in humans, and introduces readers to different terms and concepts about the study of nature and its effects on humans. It also looks at what happens when the role of nature takes a back seat in our everyday life.



Nature—Our Natural Habitat

A *habitat* is the place or environment in which a living being usually lives. The habitat provides the conditions and resources that a being needs to live and thrive. Taken out of its natural habitat, a living creature will experience stress and may even die. Humans, as living beings, have been formed and shaped over millions of years by the natural environment. Nature is a habitat for humans.

Of course, humans have changed and evolved over time. We've created and adapted to different types of environments. Yet, our evolutionary roots—our interconnectedness with nature—remain inside our psyche and bodies. We need nature to maintain our health and well-being.



Children and Nature

The amount of time children spend in our natural habitat has decreased dramatically over the last fifty years, resulting in serious concerns about what Richard Louv, author of *Last Child in the Woods*, refers to as *nature-deficit disorder*. While this term is not intended to represent a medical diagnosis, it does call attention to physical, emotional, and social concerns related to the human costs of alienation from nature. These costs, as outlined by Louv, include the following:

- ❁ Diminished use of the senses
- ❁ Attention difficulties
- ❁ Higher rates of physical illnesses
- ❁ Higher rates of mental illnesses

Families, educators, researchers, youth leaders, health-care providers, landscape architects, psychologists, and many others are beginning to take notice of the outcomes of diminishing interactions between children and nature.

As interaction with nature diminishes, so, too, do understandings and appreciation of the natural world. People often fear what they don't understand. Fear and dislike of natural things is called *biophobia*, which not only reduces the motivation to protect wildlife and other forms of nature but also further discourages direct contact with nature. People who don't like nature aren't inclined to spend time engaged with it. This comes at a cost, not only to the environment but to ourselves. According to E.O. Wilson, on the other hand, humans have an innate affinity for the natural world, which he calls *biophilia*. He and his colleagues proposed that biophilia is biologically based and integral to the holistic development of humans.

The benefits to human health and well-being by engaging with nature are too great to be dismissed or ignored (Putra et al., 2020). While such benefits apply to all ages and abilities, the importance of nature connection may be especially consequential during the early years and may be more impactful for children with special needs than for other children (Faber Taylor, Kuo, and Sullivan, 2001; Byström, Grahn, and Hägerhäll, 2019; Galbraith and Lancaster, 2020).

Nature excites, challenges, motivates, and brings joy to children. Yet, children with special needs tend to visit green space less often than typically developing children (Horton, 2017). Children with special needs often face physical, emotional, and social barriers to more intense engagement with nature, but these barriers need not prevent them from experiencing nature. Throughout this book, we will take a look at ways to get around these barriers.

Human beings, regardless of age, culture, or ability, share the capability to develop. Researcher Louise Chawla says that this capability is part of what it means to be human. In her 2015 article "Benefits of Nature Contact for Children," Chawla lists ways in which access to nature enables children to realize what are referred to as *central capabilities*. These capabilities include the following:

- ❁ A normal lifespan and good health
- ❁ The ability to move from place to place
- ❁ The ability to use their senses and experience pleasure
- ❁ Opportunities to use their imaginations
- ❁ Opportunities to think and reason
- ❁ Attachment to things and people outside themselves
- ❁ Recognizing and showing concern for other human beings, animals, plants, and the world of natures
- ❁ Opportunities to laugh and play

Nature connectedness is a basic human need that, when met, promotes health, development, and well-being. On the other hand, when this need is not fulfilled, humans suffer ill effects physically, emotionally, psychologically, and even socially.

Clemens Arvey is a prominent researcher in eco-psychosomatics, the study of the mental and physical effects of nature on humans. He explains how this field views humans as part of the network of life and how related research focuses on the close connection between mind, body, and nature, which everyone needs for optimal physical, social, and emotional development.

His book *Nature and Autism Spectrum Disorder: Supporting the Development of Autistic Children through Biodiversity* (2021) focuses specifically on children with autism spectrum disorder (ASD). Researchers are not the only ones who recognize the importance of nature on humans. Families of all children, including those with special needs, also see the positive benefits of the natural habitat on their own children as illustrated in the following vignette.

Weston's mom, Misti, describes him as "a kid with high sensory needs and a barrel for a body." She explains how he "crashes into furniture and constantly tests his strength on toys, trees, sticks, the ground, and sometimes on other humans. . . . His brain seems to be moving so fast, and his head at times seems to have a hard time syncing with his body."

Weston also loves the outdoors. Misti refers to the natural environment as Weston's natural habitat, as this is where he is most himself. His favorite thing to do outdoors is to play with his friends. "It's when he's outdoors that Weston is most patient with other kids. He'll take on the role of organizer. He'll plan activities and make up games. But it's different indoors. It seems as if the walls are closing in on him. At times, Weston gets overstimulated, and that's when bad decisions happen. Weston might respond with anger; he might start hitting people and things."

Misti thinks that Weston's demeanor and behaviors are different outdoors due, in part, to the sense of freedom he experiences there. "There are fewer constraints, fewer have-to's. Outdoors, Weston isn't coaxed into one way of doing things. He can make his own path."

Weston is a six-year-old who attended SOL Forest School in Tijeras, New Mexico, before his family moved to California. The forest gave him the space and freedom to engage deeply with nature. This sense of freedom seemed to fit Weston well. Misti described this as "the forest giving him a place to play out his thoughts, with no barriers to make him feel trapped."

Misti sees Weston at his best when he can spend at least four hours outdoors during the day. "He'd spend all day outdoors if he could. Outdoors, he has no concept of time. He's so engulfed in what he's doing."

Based on the facts that nature is something we all need and that biophilia is something we all have or can quickly develop, we can be assured that providing rich opportunities for children to be deeply engaged with nature is an effective way to promote their overall health and well-being.

While the term *biophilia* may be new to some people, the meaning may reside deep in our bones. After being introduced to the term, Helen McDonald, Pedagogical Director of the Collaborative Teachers Institute in New Mexico, said, "I think I have been looking for that word—*biophilia*—for my whole adult life." She went on to say that the opportunity to spend time outside "should really be considered a basic human right." Helen's idea about access to nature as a basic human right is reflected in *Home to Us All: How Connecting with Nature Helps Us Care for Ourselves and the Earth*, a report developed by Cheryl Charles and colleagues from the Children & Nature Network (www.childrenandnature.org) and the #Nature for All movement (<http://natureforall.global/>).

This report emphasizes the importance of opportunities for children to experience the many facets of the natural world at an early age. One of the related goals of #Nature for All is to “inspire opportunities for all people to experience and connect meaningfully with nature.” Achieving this goal requires, among many other considerations, attention to the special needs of children with disabilities.



Naturalistic Intelligence

In addition to biophilia, *naturalistic intelligence* is another nature-related characteristic found in humans. Howard Gardner, a developmental psychologist, suggests that human intelligence isn't limited to what is generally measured on IQ tests. Instead, he says that humans have what he calls “multiple intelligences.” In *Frames of Mind: The Theory of Multiple Intelligences* (1983), Gardner proposes eight abilities that manifest multiple intelligences:

- ✿ Linguistic
- ✿ Musical

RESEARCH NOTE:

NATURE MATTERS TO CHILDREN

In a study of young children's views on what matters to them, researchers invited a group of preschool children with and without special needs to draw the activities and objects they liked and viewed as “good” in their school setting. Then, the children were asked to talk about their drawings and to share what they liked and didn't like about their school experiences (Lundqvist, Allodi, and Siljehag, 2019).

The researchers interpreted the children's expressions of positive and negative experiences and their indications of what mattered to them as their “needs and values.” The children's responses included a long list of needs and values:

- A sense of belonging with peers
- Opportunities for play, creative activities, and thinking
- Experiences of speed, excitement, and physical challenges
- Elements of coziness, withdrawal, and comfort for recreation
- Feeling safe
- Experiences of growth in knowledge and understanding of the world
- Feelings of freedom and autonomy
- Comforting objects and bonds with home and family
- Connection with nature

Specifically, children said they enjoyed green grass, yellow suns, blue clouds, skies, big green trees with leaves, branches, apples, raindrops, stones, forests, sand, snow, rainbows, brown earth, moons and stars, and birds. Almost all the children indicated that they liked to play outdoors and that they preferred playing in a natural environment to playing in a playground with traditional equipment.

While the preschoolers described their outdoor and nature-related activities as fun and interesting, the researchers also noted how such activities related to self-determination, especially in the areas of autonomy, relatedness, and competence. The researchers highlighted ways in which experiences with nature can have a positive effect on children's development and well-being. They also noted the importance of outdoor play in addressing the needs and values of both typically developing children and children with special needs. For example, they described how some children might value and need more exciting and challenging activities, while other children might value and need more elements of coziness and opportunities for withdrawal.

❁ Logical-mathematical

❁ Spatial

❁ Bodily-kinesthetic

❁ Interpersonal

❁ Intrapersonal

❁ Naturalistic

The naturalistic intelligence is sometimes referred to as “nature smart,” as it reflects an understanding of nature. While naturalistic intelligence includes the ability to recognize plants, animals, and other parts of the natural environment, it also includes the ability to make connections with elements in the natural world. For the naturalistic intelligence to thrive, children need frequent, positive experiences with nature.

While everyone can benefit from engagement with nature, the benefits of such engagement may be greater for individuals with ASD. Angela Wildermuth, founder, director, and lead teacher of Wilderkids Urban Forest School in St. Louis, Missouri, had firsthand experience of how one child with ASD benefited from this engagement with nature.

Steven looked a lot like every other child I had in my nature program at his age—unique, imaginative, and so precious. He’s six years old now, but I’ve known him since he was three. For the first year or so, I wasn’t aware of the fact that he had any diagnosis of special needs. I know now that he is on the autism spectrum. Steven attended my once-per-week forest school one year and attended a summer camp I ran for two summers. I believe Steven enjoyed the outdoor programs so much because—like all the other children who came—he experienced an emotional acceptance and support needed to engage deeply in the special type of play that nature offers him, amidst a community of others.

It may have been harder for Steven to make emotional connections with other people, but I don’t believe this affected his ability to connect to nature. He displayed an intensity to his imaginative play in nature that was unmatched by almost any other child I’ve seen. Steven could be deeply focused and concentrating, despite lots of other activities going on around him. He would zone in on one or two particular loose parts that called to him—a stick, a few boards, or a piece of trash—to build something creative, such as a robot, a spaceship, or a new type of mechanical apparatus.

Being in nature with open-ended playthings gave Steven the chance to take ownership of natural objects that were, in essence, up for grabs. If Steven found something and imagined what that something was—for instance a board being a robot—then, to him, it was a robot. If someone came by and said, “That’s a cool board you found!” he would angrily tell them “It’s NOT a board! It’s a ROBOT!”

One week at summer camp, bald cypress boughs had been scattered around the grass after a storm. Like many children, Steven gravitated toward the big sticks—grabbing them, trailing them behind him for later use, or assembling them together. After disengaging from the main group for a while, Steven was soon joined by another child who hadn’t been particularly



drawn to play with him before. I think his intense and thoughtful style intrigued some of his peers and enticed them to try his style, too.

Steven's imaginative style seemed to make it easier for kids to engage with him—but only as long as they accepted the parameters he established. Only after they entered *his* imaginary world would Steven allow them to offer suggestions or modifications. In many ways, the extent to which Steven could connect to nature seemed only inhibited by the extent to which others could imagine.

One day at camp as the children were frolicking in the creek, Steven scooped up a handful of wet sand from the shallow bottom and convincingly shouted, “Look guys, it’s a



... sand slug!” I had to think hard about whether or not sand slugs actually lived in our locale.
... Steven repeated his announcement until some other children came to look. Whether the
... “sand slug” in his hands was real or not remained a fleeting mystery. The difference between
... the real and the unreal in this case was delightfully unclear and magically welcomed. I only
... wonder how much more magic and possibilities Steven will create, discover, and share
... throughout his lifetime.



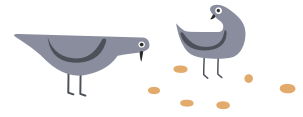
Nature’s Contribution to Quality of Life

Quality of life, as defined by the World Health Organization, is an individual’s “perception of their position in life, in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.” As this definition indicates, quality of life clearly means more than the simple absence of discomfort, illness, or trauma. Quality of life is a presence, an overall feeling of well-being encompassing the physical, psychological, and social aspects of one’s life, including the following:

- ❁ Interpersonal relations
- ❁ Social inclusion
- ❁ Personal development
- ❁ Physical well-being
- ❁ Self-determination
- ❁ Material well-being
- ❁ Emotional well-being
- ❁ Human and legal rights

Quality of life can also include the extent to which an individual is *satisfied* with various domains of his or her own life; this is the subjective quality of life. It’s important for interventions or treatments for people with special needs to include a focus on subjective quality of life—how the individual perceives her life, not just what others think would be a good quality of life for that person.

An enhanced quality of life is a realistic and obtainable goal for all persons, including people with special needs. Research conducted over the past several decades supports the idea that engagement with nature can play a significant role in promoting subjective quality of life. For example, a team of researchers from four different countries found that people with more frequent and intense engagement with nature tend to be happier, healthier, and more creative than people who spend little time engaged with nature (Hartig et al., 2014). Another group of researchers found that exposure to green space may potentially increase prosocial behavior, such as offering help, sharing, cooperating, and comforting, among children and adolescents (Putra et al., 2020). Further research identified a list of twenty evidence-based health benefits of nature contact, including physical and mental health, social well-being, and happiness (Frumkin et al., 2017). These findings of specific benefits attest to the value of nature engagement for enhancing quality of life.



Humans, like all other living things, are social beings. We live in relationship with other humans and with the rest of the natural world. Kinship is an integral part of this reality. While the natural world is our natural habitat, it's more than the place where we live.

The concept of nature as a contributor to our quality of life focuses on relationships, connectedness, and even kinship. Kinship, in some contexts, refers to a physical relationship, as in a blood relationship. But kinship can also be experienced as an emotional relationship. We sometimes refer to this as having emotional ties. It's not unusual to see expressions of such emotional ties in children's spontaneous interactions with elements of nature. Children readily talk to animals, express concern for an animal or plant in distress, and seek comfort in the branches of a tree.

Kinship with nature is rooted in meaning and a meaning-oriented relationship. It's reflected in the recognition that the world in which we live is a common world—a world to be shared by all other creatures. This recognition is crucial to a child's—and society's—holistic development. This topic is developed in more detail in chapter 7.

A kinship relationship between humans and the rest of nature is grounded in a biological understanding of the natural world. All species are descended from a single ancestral population. This makes all other species our kin. We—humans and other-than-humans—are inhabitants of each other's worlds. According to some researchers, sense of kinship with nature is vital for the health and well-being of children and the natural environment (Giusti et al., 2018).

Heather Fox and colleagues developed an Children's Environmental Kinship Framework (2020), a framework for learning about, in, with, and for the whole of the natural world. The guide is designed to inspire curriculum, provide a framework for documenting related learning, and encourage new practices in nature-based education. As an extension of this effort, the authors of the guide also formed Environmental Kinship International (EKI) to support this vision more broadly. EKI's central tenet is that time spent with nature experiencing and celebrating diversity and interdependence helps strengthen our pre-existing kinship with the natural world. You can learn more about the guide at <https://www.environmentalkinship.org/>



Shifts in Thinking about the Natural World

Some philosophical, psychological, and religious belief systems—especially prominent in the Western dominant culture—perpetuate the idea that humans are separate from and superior to the rest of the natural world. This way of thinking—sometimes referred to as *anthropocentrism*—is being challenged by scholars from different disciplines.

COMMON WORLDS

The *common worlds* concept is an inclusive idea that recognizes humans as beings in common with other species and elements of the natural world. The focus is on coexistence in the world with others. This perspective helps us avoid the divisive distinction often drawn between human societies and natural environments. It sees human lives as being situated within an indivisible common worlds, a world shared and entangled with other living beings, nonliving entities, natural forces, and landforms. For more information about the *common worlds* concept, see the Commons Worlds Research Collective website (<https://commonworlds.net>).

POST-HUMANISM

Post-humanism is also an inclusive idea. It focuses on multiple species sharing one common world. The post-human perspective helps us avoid assumptions based on the belief that humans are superior to the rest of the natural world. Post-humanism focuses on the interdependence between humans and the more-than-human world.

CHILDHOODNATURE

Childhoodnature is based on the understanding that children *are* nature and that meaning making occurs as children and nature work together. The childhoodnature concept rejects a human-centered view of nature, which considers humans the most significant entity on Earth. Instead, the childhoodnature perspective recognizes that we are part of nature, and it encourages mutually healthy relationships. You can find more information about childhoodnature through the Childhoodnature Collective website (www.childhoodnature.com) and from *Research Handbook on Childhoodnature* (Cutter-Mackenzie-Knowles, Malone, and Hacking, 2020).

Each of these terms reflect in some way the idea of “kinship with” versus “dominion over” nature. Included in these concepts is a rejection of the idea that humans are separate from and/or superior to the rest of nature. These concepts reflect eco-centric (nature-centered) versus anthropocentric (human-centered) worldviews.

The common worlds, post-humanism, and childhoodnature concepts have important implications for strengthening connections between children and nature. This book explores these implications in later chapters:

- ❁ Nature as teacher (chapter 4)
- ❁ Nature as play partner (chapter 6)
- ❁ Nature as healer (chapter 5)
- ❁ Nature for holistic development (chapter 7)

I’ve also embedded these implications in the suggestions offered on how to connect children with animals (chapter 9) and plants (chapter 10). The inclusiveness embedded in these perspectives may pave the way for—or reinforce—a different way of thinking about children with special needs.

As discussed in the next chapter, there’s a tendency to view children as being either “typically developing” or “special needs.” While this categorization may be helpful in some ways, it can also

lead to missing the larger picture—recognizing that all children share certain characteristics and certain needs, including deep engagement with nature. Moving beyond the tendency to think and act in dualistic terms—as in humans/nature and typically developing/special needs—may usher in a more inclusive view of what constitutes a healthy society. This more inclusive view rejects the concepts of what is “normal” and the superiority of humans over nature. It emphasizes, instead, common worlds where all can thrive.

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Young children with **special needs** often face physical, emotional, or social barriers to **deep engagement** with the natural world. These challenges **need not prevent them** from enjoying the many **benefits nature has to offer**.

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Ruth Wilson, PhD, works as an educational consultant and curriculum writer with special expertise in the area of early childhood environmental education. She has developed programs and initiatives in nature-based educational experiences for zoos and nature centers, state departments of education, and Sesame Street. Dr. Wilson's career includes working as a classroom teacher in both regular and special-education settings and as a teacher educator at Bowling Green State University in Ohio. She serves as the research library curator of the Children & Nature Network.


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