

Notes to the Reader

Not all who wander are lost.

TOLKIEN



Who Might Benefit from Reading This Book?

Our intention in writing this book was to share our ideas about the potential of nature-based approaches to healing and to hopefully inspire professionals across a variety of human service and educational fields who are working with children, youth, and families. We have read many academic books about outdoor adventure approaches in education and therapy, as well as highly engaging mainstream books about the benefits of connecting with nature. Some of these seemed overly academic and others quite light and entertaining. We aimed to create a book influenced by both writing approaches, even though we recognize that our approach will not satisfy everyone. We were undecided about the depth of research and theory to include versus stories and ideas for practice. As the chapters came together, and our colleagues gave feedback, we identified core elements and content that stayed near the middle ground we sought. At times, we felt lost. Lost in the immensity of trying to capture all that this approach to therapy has to offer. Lost in the literature of “who said what” and “what evidence do we have to say that?” And lost, at times, in our confidence to provide something of value to you the reader. If we take Tolkien’s adage to heart, it will all be OK, as we accepted to go on an adventure and wander along in our efforts to share the work we truly believe in.

We hope that early childhood educators, youth workers, community youth leaders, teachers, social workers, counselors, psychologists, psychiatrists, occupational therapists, and a range of professionals in the human service field can find the materials, ideas, and activities we include helpful to their work. We hope this book inspires you to implement more nature-based approaches into your practice, and if you want to dive deeper into the material presented, we have left a breadcrumb trail throughout with our references. We did our best to provide theoretical support for the practices shared, as well as enough evidence from research to satisfy the rigor needed to represent the work fairly and justify our recommendations. So, whether you are a counselor wanting to take clients outside into nature for their weekly 60-minute sessions or a youth worker utilizing parks and greenspaces for relationship-building, group work, or psychoeducational activities, we encourage you to find and use the parts of the book that will work for you.

Chapters and related sections are set up to be read front to back; however, you be the judge of how to approach it. The book begins with broader narratives suggesting why we need nature for therapy and how it is portrayed in the research as beneficial. We locate our practices among other outdoor and ecopsychological approaches and then explore practice more in depth through case examples and personal experiences. We hope these examples and activity explanations offer you plenty of material to explore. Topics from certain chapters may draw your attention more than others; however, while each chapter can be read independently, they are all linked through cross-referenced content, theoretical assumptions, and research evidence, while covering a wide variety of issues, populations, and contexts. In short,

- Chapters 1–3: provide the philosophical and theoretical map for the practice terrain we explore
- Chapters 4–11: provide knowledge, skills, and evidence to guide you into the terrain and direction on design and delivery of your own nature-based practice

We hope we have created a book that can provide practitioners with guidance, program administrators with evidence and justification for

practice, and readers new to nature-based therapy ideas with the encouragement and confidence to join us in moving your practice into nature.

What Do We Mean When We Say Nature?

We recognize that what we describe as nature throughout this book may be seen and read as uncritical universal claims—such as “nature is good for everyone” and “nature is healing.” We do not ignore the fact that by design we are all nature, and nature is everywhere. Well, that is how we perceive nature. The *Oxford Dictionary* and Wikipedia, however, still define *nature* as “other than human.” These definitions perpetuate the belief that nature is just the physical world of plants and animals and the features of Earth such as beaches, mountains, and rivers. This definition excludes human or human creations and dichotomizes our relationship to nature: being nature is other than human. Derived from the Latin *natura*, the word *nature* originally meant the essential or innate quality or disposition of something. If we pause and consider this from a therapeutic standpoint, we are trying to create the circumstances for our clients to achieve this quality of being: to rekindle their vitality and find their core qualities and disposition. This fulfillment of one’s potential can be realized through an improved ecological self that begins and ends with a deep meaningful relationship, as Alan Watts suggests above, as being not just in nature but as nature.

*You didn't come into this
world. You came out of it,
like a wave from the ocean.
You are not a stranger here.*

ALAN WATTS



Blending Indigenous knowledge with the physical sciences, botanist and member of the Citizen Potawatomi Nation Robin Wall Kimmerer¹ describes human relationships with plants as that of family, or “kin.” Her thesis is grounded in knowledge systems of First Nations across North America who relate to other living things in this way versus subjecting plants and animals to the title of “it.” “It is a tree” is more likely to lead to a tree being chopped down without gratitude than “She is a tree.” While a very simple premise, this approach has had an impact

on our work and our clients' relationships with the land. We see this as more than a narrative shift, but in fact a relational one.

We are, however, trying to isolate our practice well enough to provide useful definitions, structure, and process as a therapeutic approach in nature. Nature, as it will be described in this book, is the primary venue and medium for our practice. While in some ways our writing will echo the dualism inherent in speaking of nature and humans as separate, although we also work with our clients toward their reunion with nature in the establishment and strengthening of their ecological selves. Our combined professional experiences include over fifty years as outdoor educators, wilderness guides, youth workers, facilitators, and counselors. Much of our work has been undertaken in nature, albeit in differing ways. References to *wilderness* versus *nature* do not suggest distinct differences to us but rather nuanced ones. We try to focus on nature as a place for healing that is primarily not human-made, and generally nearby, close to where we and our clients live, work, and play. Wilderness, as opposed to nearby nature, in our terms, is just going farther out from urbanized, populated, and manufactured spaces. You might say "more natural" or "wilder" than the city park or town greenspace context.

Within this understanding of nature and wilderness, we still recognize how these terms may be contested. Reading early (and recent) Western literature, nature and wilderness carry Romantic notions of sacred and healing spaces, Judeo-Christian overtones of human "dominion over" nature (as seen in modern Western resource extraction growth economies), and colonial impressions of *terra nullis*, or empty land, which was to be filled up and civilized with settlers from homelands. In turn, the Romantic notion of nature and wilderness as sacred healing spaces ignores the fact that people get lost and occasionally die due to environmental exposure, that environmental crises are real, and that many are left homeless due to environmental catastrophes, war, and economic collapse the world over. These realities make nature as healing space seem ridiculous to espouse across populations and contexts. Biblical ideas of nature being for human dominion and use, and that "wild" is opposed to "civilized," has obviously led to many of the aforementioned global environmental and social crises. Last, and very

relevant to us and our work, global colonial projects tend to ignore First Nations. Wilderness was described as those uninhabited places, suggesting “untouched” and “unused” nature, which is ridiculous considering the travel, hunting, harvesting, and settlements of First Nations. What a settler may have considered wilderness in 1800 was simply home to those people whose Nations were already long-established.

What Does It Mean to Do Nature-based Reconnection Work on Traditional Indigenous Territories?

This book was written with strong intentions to improve the lives of children, youth, and families through what we believe is one of the most accessible and affordable paths to healing. Nature-based approaches are becoming more common and offered in education, community, and therapeutic settings. We see the trend and know also that we want to avoid the trap of calling this innovative, unique, or some form of emerging panacea in light of our privileged Western locations and viewpoints. We need first to recognize that although humans connecting with nature for therapy is the main theme of this book, we are generally participating in these activities on unceded and traditional territories of First Nations whose deep connections and relationships with the land are still maintained today. We also recognize that local and First Peoples around the globe have maintained strong ties to the Earth as a healing place, as well as the basis for their cosmologies. We want to be clear that we try to engage in practices that are culturally appropriate for us, and for our clients, and do not engage in ritual or practices of other cultures. Cultural appropriation is a real and harmful practice, especially so when there is a deep craving by so many to reconnect with nature and rediscover their sense of belongingness to something greater than themselves. There are ways to learn from the more-than-human world, and across cultures in a good way, without appropriating, and in our experience, doing so helps to facilitate a strengthening of the sacred bond Kimmerer describes and thus more willingness to bring about a world that is harmonious and life-sustaining for all beings. So, while we who are privileged as benefactors of the colonizing project of Canada are discussing connection with the land, we acknowledge our social location and privilege. We recognize

that we live, work, and play on the traditional territories of the Coast Salish people, known also by the colonial name of Vancouver Island, British Columbia. It is important for us as practitioners to honor this reality and to think deeply and act appropriately about our work relative to the land.

Connecting people with nature has been a significant part of our careers, and we hold strong beliefs about the health of our planet and its relationship to human health and well-being as well as environmental well-being. We each have our own ecological stories of the role nature has played in our lives and how it now defines and influences our professional careers. While we utilize our relationships with nature for therapy, we also need to remain mindful to the suffering of the environment and the people of the land. Without this *social and ecological justice perspective*, we would do no more than perpetuate the Western colonial practice of benefiting from the consumption of others' natural resources: a hollow and short-sighted approach to healing in our minds.

Are We Addressing a Modern Western Problem?

We also recognize that the use of nature for therapy is primarily a modern and Western middle- to upper-class phenomenon. The number of people currently displaced from their homelands globally is beyond anything ever experienced in history. Human migration, driven by social and environmental conditions, includes conditions unbearable to most who read this book. Environmental change due to global warming, wars, an ever-increasing competition for resources, and the negative influences of the global economy have created these circumstances. What we have seen and experienced in our work, however, is that connecting with nature is a conversation we hear more often, and we see growth in the research literature building the case across academic and professional disciplines.

While the content of this book may suggest themes and concepts applying to all humans, we know this work is not for everyone (as therapists or clients). We have described nature-based programs and interventions for individuals, families, and groups. These are contextualized relative to client backgrounds, experiences, needs, and interests. We don't assume what we offer can reach across all diverse populations. A

telling experience from colleagues a few years ago illustrated the need for our field to improve its understanding of culture and diversity. A group of young new Canadians (recent immigrants) were participating in a service club's recreational program and were asked if they wanted to join in an outdoor experience trip to the Canadian Rocky Mountains. When the trip details were described, these youths said that the idea of going to the woods, carrying all their possessions on their backs, sleeping under tarps, cooking on small portable stoves, and learning to deal with the conditions of living outdoors sounded an awful lot like the refugee camps where some of them had lived, often for years. As practitioners, and with this book as simply one reference, you will need to find ways to appropriately assess and meet your clients' needs, whether in nature or not.

Core Elements of Nature-based Therapy

While nature-based therapy may manifest in various ways, we provide here the core elements of our practice. This list may serve now as an advanced snapshot of our philosophical orientation and how it influences our practice.

- Practitioner's relationship with nature
- Nature as co-therapist
- Full-body engagement, play, and risk
- Restoration and regulation
- Bonding and belonging

As mentioned above, we are not prescribing our approach to practice but, rather, simply sharing our approaches to therapy. We will also be transparent about what we see as the major benefits, and potential limitations, of the nature-based therapy approach.

Disclaimer for Practice

This book is not a substitute for professional training and qualifications. Therapeutic work carries with it significant professional obligations and responsibilities. Taking your practice outside further increases your liability and needs to be undertaken with the knowledge and competencies required to do so ethically. While you may be

inspired to try activities and approaches suggested in this book, you must also take responsibility for ensuring the health and safety of your clients, that professional codes and standards are not compromised, and that you meet regulatory bodies' approval for your work. We assume

*I believe that there is
a subtle magnetism
in nature, which, if we
unconsciously yield to it,
will direct us aright.*

HENRY DAVID THOREAU



readers will utilize this book relative to their type and level of training and the mandate of their organization or practice and will complement the helping skills they have already developed. Neither the authors nor the publisher assumes any responsibility for any consequences of action taken as a result of the information contained in the book. Names have been

altered and story details combined in our case examples to ensure that client confidentiality is maintained. In some cases, clients gave permission for their experiences to be disclosed in ways they may recognize; however, we still altered the case enough to ensure anonymity.

An Introduction to Nature for Therapy

A child grew up in a small northern community. Population 600, and 59 degrees north; that is, just south of the border separating most Canadian provinces from Alaska, Yukon, and Northwest Territories. Being inland and that far north, in the heart of the boreal forest, it was quite cold and dark through the winter months, and -40 degrees was not uncommon. One of the many wondrous aspects of winters there was the presence of the northern lights, also known as aurora borealis. For the child, these electrically charged particles entering the Earth's atmosphere were not a scientific phenomenon but rather a spectacular hypnotic dance of some other-worldly spirits.

I (Nevin), the child, would join my friends in the neighborhood, bundled up in enough warm layers to protect ourselves from the frigid cold, to go find the perfect snowbank, with front-row seats, and to back flop body depth into the fluffy white stuff for the show. In doing this, our bodies were cocooned into the snowy surface of the Earth, thereby providing us further insulation. Another aspect of this wonderful activity is that those many layers covering 98 percent of your body to prevent frostbite included your ears and, hence, your ability to hear. The snow cocoon further dampens any noise, and unless there is wind, a cold winter's night contains very little sound to begin with due to the big soundproof blanket of snow. So, the stage is set: warm, cozy, and primarily left with the sense of sight for the spectacular show above.

The show, an evening with the aurora. Now, trying to remember back 40 years, what was it like as a child? What do I recall? How much of it will be a mash-up of images, feelings, and stories amassed since then? What of it is driven by nostalgia for the past? I do have clear memories of happiness from watching dancing yellowish-green flares, smoky apparitions shivering and swerving along to some unheard orchestra. The trees that far north do not grow tall, and there is minimal light pollution, so when the aurora was really showing up with vigor, the majority of our visible sky could be involved. Compared to the seventeen-inch television screen we had (with only one channel), this “show” was clearly without equal as a childhood distraction. There is plenty of wildlife viewing in the north, so it was not uncommon to come across bears, wolves, and moose, even in town... but the northern lights held the crown for best entertainment to us kids. When the solar wind brought bigger flares to Earth, we could have a really amazing stretch of nights when most kids were out there watching, and a few adults too. Occasionally the rarer colors appeared, the purple-red-blue and the very rare red—which I know now has to do with differing gases showing up at different altitudes. Reflecting on this experience floods my body with emotions and thoughts and triggers memories of my family and community life as a child. I would likely put the northern lights at the top of my fondest, and probably most impactful, memories of my relationship to nature. I can say that now, decades later, although active thoughts of the aurora were not highly present for years after leaving the North. I did not pine for the northern life, and the south offered me, as a young man, many more diverse experiences and opportunities, socially and educationally. When I began working as an outdoor guide in the early 1990s, I was fortunate that my work took me to beautiful places in nature, and around the world. It was in facilitating the experiences of others in nature whether students, clients, or customers (context specific), on canoe trips or adventure travel trips in other countries, when my own memories of discovering nature and my awe of its grandeur and scope were fully rekindled.

Not to fall prey to simply romanticizing nature, I can say that my relationship to nature became more of a subject to reflect on when I was

held responsible for others' experiences in nature. What experiences would I want to create for a client? What are their needs? What are their current and past experiences of nature? And so on. As I reflected more on my own childhood, and by actively engaging in my own personal and professional development as a leader of outdoor experiences, I can say with some confidence now that I had spiritual experiences with the northern lights. My attraction to, and awe of, the northern lights at 7 to 10 years of age was uninformed. I didn't then inquire with science teachers or the relic called the encyclopedia. I simply wondered: What are they? Why are they? And yes, who am I in relationship to them? Now, the 7-year-old did not articulate it like that, no, not a chance. And those questions probably wouldn't have gone over so well at home or at school either! My now-improved understanding of nature-connection—although it still grows every day—would suggest that I was having existential inklings, or at least a child's version of those thoughts. I believe now that, in those moments of awe, I felt connected to something much bigger than myself. Maybe I sensed I was nature—and that nature was not something outside of me. I was physically embraced by the bed of snow; I was often in a near trance state; and I too danced and shivered with the aurora, until, of course, a parent yelled out into the frigid night, "Nevin, get inside. It's bedtime!" It's not easy to theorize as to how these early childhood experiences have contributed to who I am in the world. I can say that I truly believe in the power of the human-nature connection and have strong beliefs that our ecological identities can be nurtured through positive experiences in nature and that these experiences carry the potential for health and well-being. We have chosen to include some personal stories throughout this book to increase your sense of who we are, as relationships form the basis of healthy communities. So, let's hold this first childhood story in contrast to the reality that many young people today share, growing up in cities with limited nature contact, even sometimes without the experience of seeing the night sky due to light pollution. In his book *The End of Night*, author Paul Bogard¹ paints a bleak picture of what this loss means to our health, well-being, and, on a deeper spiritual level, us as humans in relationship to the Earth.

We will discuss some of the significant human and environmental crises being experienced today and how those relate to our work in nature-based therapy. Rachel Carson, American biologist, conservationist, and author who advanced the global environmental movement, wrote, “The balance of nature . . . is a complex, precise, and highly integrated system of relationships between living things which cannot safely be ignored any more than the law of gravity can be denied with impunity by a man perched on the edge of cliff.”² Carson spoke of the balance of nature as a fluid state, with ever-shifting properties, and not something that can be tallied, organized, or controlled. She spoke out with courage and conviction in the early 1960s to warn the public of egregious acts against the environment through the use of chemicals in agriculture and desires by governments and corporations to control nature. Carson’s work was a catalyst for change, and a movement of inspired activists and ecologists has followed as advocates for nature, with success in some areas, but in total, further environmental devastation has occurred in the last half century. This degradation often goes unnoticed from generation to generation as change is measured against what one knows in their own lifetime. Peter Kahn, psychology professor at the University of Washington, termed this phenomenon *environmental generational amnesia*.³

Today, scientists around the globe agree that climate change and environmental degradation have been primarily caused by humans and the situation is getting worse. Scientists have dubbed our current era the *Anthropocene*—in that we live with conditions created by our own hands and that this era is marked geographically by human alterations to the planet. Specifically, they argue that the advent of atomic weapons (and their fallout), plastics, and other human products have now left indelible evidence of their existence in the global geographic record. If left to its own, nature would find its equilibrium across its diverse ecosystems and reclaim its full health, in spite of our intrusions. The absolute truth remains that humans depend on the health of the planet, on nature, which sustains us as a species, but nature as a whole surely does not depend on, or need, us humans. Ecopsychologists and those writing on deep ecology have posited that the reality of our current situation has led to a cultural “dis-ease” and disconnect that underlies

the prevalence of mental illness in Western societies—with increasing incidences of anxieties, depression, suicide rates, etc. This book is not written from an environmentalist perspective. It is, however, written partially in response to the current deteriorating condition of human health and well-being, as well as how the state of human health relates to the health of the planet. We will do our best in the following chapters to promote nature for therapy as antidote to the ever-increasing mental health issues experienced by children, youth, and families. Nature-based therapy, as a practice, is informed and guided by nature and natural systems. In return to nature, we also hope to increase ecological awareness and concern for the global environmental conditions that affect us all.

The Healing Power of Nature

The essential thesis for this book is that nature can be an ideal place, partner, and guide in therapeutic practices. In short, what we will describe is how an hour session might look in nearby nature versus an office setting. To make this reasonable for our readers, we need to provide a rationale. To start, let's talk about *vis medicatrix naturae*, which is Latin for “the healing power of nature.” Often attributed to Hippocrates, the phrase means, in essence, that left to itself, an organism can self-heal. If we simply consider what is known about fevers and inflammation, or how our bodies mend themselves from cuts and colds, we know this axiom to be true for many human physical ailments. An organism must be given the right conditions for healing to occur. In the development of modern medicine and the colleges of human services, we know “do no harm” as the ultimate universal oath of physicians and therapists. This oath is sometimes meant as a moral compass to do something or, conversely, to do nothing, if doing something causes further harm. While ethical debates and moral conundrums arise in this line of reasoning, we would suggest that a “do no harm” approach to many health and wellness issues could be better addressed through direct contact with nature. We could follow Hippocrates, and many ancestors, into the forest and out on the land, if time allowed, to develop our knowledge of the environment through relationship building with her, and to learn her secrets for health. This utopian-sounding approach would actually

be ideal versus the pharmaceutical prescription approach to symptoms so often taken today. A walk in the woods may provide health and wellness benefits and yet may not cure the ailment. But alas, we should remember that the second law of therapeutics, well-grounded historically and taught in medical schools, is to “do good.” When conditions are right for the client, the safe path would be to walk barefoot on the biomass of the forest floor and trust in *nature as medicine*: allowing nature to counteract dis-ease and facilitate movement toward a desired state of balance. When combined with assessment of the child or family’s needs and ecological well-being, and supported with client-focused intentional practice, the woodland stroll becomes a multidimensional, health-promoting experience.

It is within the clinical and educational understanding and skill of the practitioner to align client needs with the intervention in nature and, most critically, to assist in removing or reducing barriers (e.g., negative thoughts and self-limiting behaviors) to allow the individual to recover their own health. Natural healing, green marketing, health-food stores, and “green” car ad campaigns seem to indicate that marketers know full well the powerful attraction humans have to what is “natural.” So, what is the attraction to a nature-based approach to therapy, and more specifically, what does it look like? While the practice of a nature-based therapy may take numerous forms, and fidelity may never be achieved to establish this approach as an empirically based therapeutic modality, we will attempt to provide a description broad enough to interpret for meaningful use in your practice yet narrow enough to identify and distinguish it from other common approaches. A promising development occurred during the writing of this book: an announcement was made in the National Health Service of Shetland, in Scotland, that general practitioner doctors will be allowed—and, better, encouraged—to prescribe nature for their patients. The health board decision, as read in the *Guardian*, is promoting health through bird-watching and rambles through the moors.⁴ Getting back to nature—just as the doctor ordered. While we are not fans of the “medicalization of nature,” we do welcome the field of medicine’s efforts such as these to influence health and well-being naturally. On a grander population health scale, significant efforts are also being made to reeducate the

masses on the benefits of protecting and spending time in nature. A new edited book, *The Oxford Textbook of Nature and Public Health*,⁵ explores the complexities and interconnectedness of nature and health and makes a strong case for local and global public health strategies to improve human health and well-being.

Nature-based Therapy: What's in a Name?

To start, our choice of the name *nature-based therapy* to describe our practice was not easy to adopt for a number of reasons. For the act of sharing our work, a title was needed. We looked to other common names of practice and realized they don't quite fit what we do. So, let's talk about nature first. The notion of suggesting nature as an agent or actor in the healing process seems a bit simplistic when we also recognize we are all nature; that is, we are fully aware that we are composed of the same biological materials as the trees, the rivers, and the bees. The universal "all things connected" ecological story is well-aligned with our beliefs, yet for the purposes of a book, we needed to compartmentalize content to help share it in logical and meaningful ways. We need to be reductionist to the extent we can communicate ideas and practices to you the reader, as well as to make sense of them ourselves in recognition of subtle, and not so subtle, differences they may make in practice. A multi-day wilderness expedition with a group of incarcerated youth, for a very obvious example, is quite different from a one-to-one counseling session with a youth in a nearby park, yet they would both seem to be therapies based in nature.

Are we able to truly connect *with* nature if we are already integral *as part of* nature? Can we heal by simply becoming more aware of our connections to nature? The questions could go on, and to be honest, we do sometimes fall prey to the esoteric and ever-expanding interpretations of this multifaceted approach to healing. The questions and rationalizations we reviewed to name this practice were insightful and interesting, ultimately helping us to focus the organization and content for the book. We have each been employed in fields described as human service work, youth work, child and youth care, residential treatment, counseling, ecopsychology, adventure therapy, wilderness therapy, guiding, and outdoor/adventure and experiential education.

The primary common feature tying our work together is that much of it occurred in natural environments. Nature has also been the central feature in our discussions and descriptions of the change processes we facilitate.

“Nature-based” best identifies our physical location—often nearby nature—for therapy in contrast with office-based or indoors, which is the standard and conventional practice for delivering therapy. This suggests a place and space orientation that are both malleable concepts. We can choose locations and set conditions to create “environments” we think best fit clients’ needs and our aims for the session and that can be accessed and utilized in a safe and efficient manner. In doing so, we need to be careful to not adopt a resource-use orientation. We want to portray nature-based therapy not as an expression of using nature as a resource but, rather, joining nature in a healing partnership. This is our ecological position on the relationships we hope to establish between ourselves, our clients, and nature as well. If you agree that we are currently in a time of nature disconnect, then reconnection *with* nature will in fact be seen as a service for one’s health and well-being. In this regard, we partner with nature and attempt to assist clients in reestablishing a meaningful relationship with nature that can be mutually rewarding. Increasing one’s ecological awareness, or sense of connection to place or nature, can often lead to increased responsible ecological behaviors. It is known that people tend to protect what they love. Pre-eminent Canadian scientist and eco-activist David Suzuki described in his book *The Sacred Balance*⁶ how humans are comprised of air, water, soil, and energy. He eloquently tied environmental issues with each of these elements and left the reader with an increased willingness to care about and protect the environment. We don’t lay claim to the spaces we visit or consider them as our home place or office. We do, however, honor our time in these places, as well as recognize those whose lands they are. We also do our best to work toward decolonization through small acts of resistance to systematic social and environmental injustices. For example, we can bring attention to park land managers for the lack of recognition of traditional lands on park signs or ensure our clients are informed of the history of local Nations and their territories.

So, why not simply call this approach nature therapy? As with many therapeutic approaches, a title generally suggests a focus or element of practice to differentiate it from others. Nature therapy could literally imply nature as therapist, or maybe it could be misinterpreted as therapy for nature! We know she could use some after those humans started messing with her! Should nature be described front and center as the essence of our practice, as the lone agent of healing? While the notion of nature as therapist is also well-aligned with our beliefs and definitely in the right spirit of this book, we also recognize the value of intentional and client-centered therapeutic practice that meets the needs of children, youth, and families being served. This means the facilitator plays an important role alongside nature in the process.

There are already therapeutic practices considered to be outdoor therapies. Each by name, and definition, holds slightly different conceptualizations of practice than just being in nature. We will cover some of the more common approaches briefly in chapter 2. The research literature on outdoor therapies is growing and showing positive treatment outcomes, yet the mechanisms of change are hard to identify, and it's even harder to prove they work, let alone how they work. We as practitioners are biased and believe they do work, and we assume those reading this book may believe so as well. Truth be told, much more empirical work is needed to solidly claim efficacy of outdoor therapies. Further, meaningful dialog and research on processes and variables in practice are needed to uncover with more certainty, surely more than we can offer now, as to how being in nature is therapeutic.

Nature as Medicine: A Dose Response

It seems there is now a pharmaceutical response to almost every medical condition and discomfort, and the notion of a *dose response* is pervasive in Western medicine as well as mainstream society. A pill for every ill. A dose is that amount of medication required to treat a symptom or cause of illness. The biomedical industry is driven by measurable, repeatable, and prescriptive use of curatives. As one can

Let nature
be thy medicine.



now find “contact with nature” recommended online at WebMD and elsewhere for health and wellness, immediate questions within the industry are how much and for whom is nature a medication? The notion of prescribing nature in a dose is a bit tongue-in-cheek, yet also quite troubling as it objectifies nature once again as a resource for human benefit.

We have worked with kids and adults who have been medicated for a wide range of disorders, some physical although mostly social and psychological, such as anxiety and depression. We have had to, at times, monitor or assist in administering a range of medication when working in nature-based programs, especially when on multi-day trips. This has, at times, compromised or at least challenged our ethical position on the use of medications for young people during extended time in our care. We make no recommendations here but can suggest that some youth may benefit from nature-based approaches and not require medication for ADHD/ADD to assist in managing their behavior, specifically for school hours during the week. For those who question this premise, it is based on the dosage and timing of the meds which indicate the time and place for being “medicated” is in the classroom. Many youth coming through our programs have dosages for the morning and noon, but not for the afternoons, evenings, or weekends. At home, parents were also advised they need not medicate during the holidays unless they felt it necessary to manage behavior—indicating that the “problem” is contextual and environmental rather than a “problem” residing within the child themselves.

To be diagnosed with ADHD, a young person has to be exhibiting significant inattention or impulsive/hyperactive behaviors that impair or impede success at school, home, or during play. It is actually hard to diagnose accurately as the symptoms may be caused by other illnesses, influenced by the environment, or related to attitudinal or motivational issues. Further, those diagnosed with ADHD often also have concurrent diagnosable disorders, such as learning disabilities, substance abuse, affective and regulatory disorders (e.g., anxiety or depression), or disruptive behaviors (e.g., oppositional). ADHD is treated with stimulants, usually amphetamines or methylphenidate, and common brand names include Ritalin and Adderall. While hard to get conclusive answers

from the literature, we have understood these medications to have side effects including appetite suppression, insomnia, and increased emotionality. Evidence from the 1970s and 1980s showed growth and weight suppression associated with ADHD meds, but this line of research trailed off and all but disappeared over the past two decades. Concurrently, the use of the medication has increased significantly; 1 in 10 young people in the US today are diagnosed with ADHD, according to the US Centers for Disease Control. The evidence suggests that physical growth suppression does not last, and long-term studies show youth using ADHD meds would eventually gain back weight and height “lost” during the period of medication use. One theory is that the appetite and sleep disruption was to blame for the suppressed growth. Logical, but what other costs to a growing and developing body would these disruptions cause? We speak from a critical position on child and youth medication in general; however, these meds have been studied well enough to make solid claims about improved student behavior and “compliance” at school and at home. We will treat the school system to just a bit more critique here and reinforce our belief in how nature-based approaches can easily counter some common practices and misconceptions about the need to medicate kids for the classroom.

Suffice to say that the level of performance stress at school and at home today is higher than ever, and children’s social skill capacity is in decline due to screen culture and a decrease in recess and physical education, along with reduced available time and supervision for physical activity outdoors. Further, the fundamental attribution error of thinking something is wrong in children for not being able to sit in rows of desks for hours on end, quietly listening and learning, without fidgeting or getting up to move around, is actually quite absurd! This is not an area we claim any expertise in, although it is surely worthy of further investigation for nature-based therapy. We don’t ask our clients to sit quietly in chairs and talk to us. In fact, it is only in recent history, after millions of years of human development, that young people have been asked to sit for 7 hours each day, 5 days each week! We move, and our clients move, and we engage them in open spaces in forests and on the beaches. These environments are less constrictive than the shared yet controlled spaces of school classrooms and hallways. Nature seems

to be able to absorb immense amounts of behavior and emotional energy—as well as give it back. In a study by Faber Taylor and Kuo,⁷ kids diagnosed with ADHD were found to demonstrate significantly better concentration after a 20-minute walk in a nature park than after 20 minutes walking in a neighborhood or downtown—and with similar effect to that reported for Ritalin. In short, the need for the medications is drastically reduced by the environmental changes alone.

A Story from the Field

We would like to offer an example to try to illustrate the potential of nature-based therapy as an alternative to medication. In doing so, we are opening ourselves up to criticism, and we can accept that. We can also challenge those who have to make decisions about medications to consider the possibility that activity in nature may yet be proven as a dose approach to the same issues (e.g., child success in school). We might also add that, beyond possible negative side effects, about a third of young people prescribed ADHD meds either show no change from using them or that their bodies cannot tolerate taking them.⁸

When working in youth corrections and taking groups of adolescent males on month-long wilderness expeditions, I (Nevin) and my colleagues were able, with consent from parents, probation officers, and doctors, to reduce and eventually take some youth off their ADHD medication completely. In this example, the youth and his parents agreed that the medication may be causing more harm than good. Tony, was able to realize the benefits of nature as a reasonable facsimile to the meds and to again experience his full vitality. The behaviors he was medicated for included the commonly cited inattention and impulsiveness in the classroom, blurting out answers, and moving too much, all of which distracted the other students (who likely would prefer to be moving themselves). Moving? To think, kids who wanted to honor their body's desire to do what humans were made to do, move! Crazy. So, when youth are out on wilderness programs, there is little need to control their bodies, beyond setting and maintaining boundaries to prevent them wandering off in the woods or cutting themselves while splitting wood or chopping vegetables.

Nevin recalls Tony's varied experiences and visceral reactions to changes in environments while reducing and completely dropping his meds for approximately 21 days of the program. Tony, a 14-year-old of small stature among nine other boys his age and older, had been on Ritalin for ADHD for more than three years when he attended the program. He had been in and out of youth court the previous year for breaking curfew and failing a urine test for drugs, and being in breach of his probation landed him on the wilderness challenge program. The program consisted of a two-week ocean canoe trip, a week-long mountaineering trip, a three-day solo experience, and the daily rigors of outdoor travel and living. From the leaders' perspective, Tony was a prime candidate for the program on paper, yet when he arrived, he moved through his days in a state of low energy interspersed with erratic, impulsive behaviors and anger, which led to heated arguments with other youth and the guides or being inattentive with his gear, like ripping the zipper out of his sleeping bag or leaving his boots too close to the fire to dry. Nevin and his co-worker discussed how Tony seemed to be unmotivated and yet frustrated much of the time. It was determined on Day 3 to get permission from his parents and probation officer to reduce and then withhold his meds during the rest of the month to see how he responded without them and to give his body a chance to detox from them. We were curious about his capacity to self-regulate and concerned for his overall health. What we learned was that within forty-eight hours, Tony, in many ways, came back to life. He began eating more and was far more energetic during the day. By month's end, he had gained almost 10 pounds and was much stronger, and we were convinced he had grown in height, although we had no measurement on that. His behavior was still somewhat erratic, and yet it did not interfere with his success, or the group's, while on expedition. We learned how inquisitive and reflective he was, as well as the extent of his energy and humor. Although we saw Tony's full potential as a growing and vibrant young man, we also knew he had to transition back into his home, school, and community, where his impulsiveness got him into trouble. He left the program assuming he would be back on his meds within the week. While the month was a gift to Tony's health and happiness, what

was most interesting for us to witness was his increased sensitivity to the changes in the environment.

Tony had a temporary break to grow and experience the potential of his physicality when off his ADHD meds; he also experienced heightened sensory awareness in nature. He first brought this to our attention at mealtimes, when he expressed how much he enjoyed the taste of the food. We are talking about camp food here, although the program prided itself on nurturing youth with healthy filling meals. Tony's taste buds were only the first sense to wake up. He was always looking around, seeking out alternate viewpoints of the local landscape wherever we stopped. When we traveled through forests en route to the mountain we aimed to climb, Tony stayed close to the leaders and was more conversational than usual. Nevin's working theory was that this young man was not so comfortable with the deep dark places we were traveling through, which were in a region inhabited by cougar, wolf, and bear. He remained nervous and fidgety until we gained the alpine area the following day and had climbed up on a ridge above the tree line. At that point, Tony became near silent and walked some distance apart from the rest of the group. He seemed to be scanning the horizon in all directions and happily sat alone when we took breaks. This was all new behavior for us to witness. It was hours later, when we arrived at the summit, that Tony held his arms up outstretched to the sky and in front of the group yelled, "We're on top of the world!" Shortly after, he wandered off and sat by himself, staring off to the southwest, where he correctly identified a distant smokestack of his hometown's local wood mill. When preparing to descend, Tony seemed reticent to return from the summit. He never really shared what his reason was for this during the descent, but observing his summit experience and his quiet time alone suggested to me that he had a deep experience of joy and was wanting to reflect more on that when we, as a group, had to leave. In now retrofitting those experiences with theory, a clearer picture of *why nature for therapy* begins to emerge.

We believe Tony's story is not uncommon in youth expeditions in nature, especially the physically demanding programs where leaders and participants become a small interdependent community of travelers doing their best to thrive in the variety of environmental conditions.

What was most interesting from Tony's story was his increased mental clarity once the meds were cleared from his system. It is also worth highlighting that this program provided plenty of nutritious food, was quite rigorous physically, and tended to leave participants healthier and much stronger by month's end. His perception of the landscape, colors, sounds, shapes, and even his tastes were heightened in nature. He was also clear off his meds, so we don't want to overestimate the power of nature alone. For many, experiencing this degree of change in such a short period of time is foreign unless they have had a medical procedure or have altered their senses with drugs or medicinal plants. Tony was in a novel environment, with heightened sensory opportunities. His physical and psychological responses to the changing landscapes and wilderness experience over a month have stuck with Nevin for close to 20 years now as a significant learning about our human condition. Witnessing the connections between a young person's development that didn't fit in with behavioral expectations at school and the resultant medicated life the person had to live was, unfortunately, not uncommon in working with young people involved in the criminal justice system.

What we now understand theoretically about nature-based practices seems more obvious, but we didn't have the language for it years ago. What Tony was experiencing through his senses could be explained through biology and pharmacology. What he was experiencing in the forest and on the ocean was a heightened awareness of potentially dangerous environments, and after the state his meds created was cleared, he paid closer attention. While simple evolutionary devices to protect us from dangerous environments may not need theoretical or empirical research to support, we can say that it is not as common as one would think. Probably half the youth on these expeditions were not afraid of the environments and activities that could harm them. Their person-in-environment awareness was not highly tuned, only improving after considerable time in nature. The most salient teaching from Tony's story was his summit experience. The wide open and very exposed ridge hike up to the summit was for him a steep solitary march where he created distance from others and hardly spoke a word. This was noticed by all youth and yet not criticized or commented on.

The summit was an achievement in Tony's mind and, by his yelling and throwing his arms in the air, obviously one of significance to him. One element of attention restoration theory we will cover in chapter 3 is that of *extent*, or being a part of or connected to something greater than oneself. Tony was extending his arms upward and outward, a near universal expression, argued to be at an evolutionary level, of oneness, connectedness, and unity with something greater than ourselves.

Medication is a complicated aspect of client well-being and not one to be trifled with. We have offered the above example to share our beliefs about the healing power of nature and that, in some cases, it can reduce the need for medication. How does the notion of a dose become of interest to us? In 2011, at a Healthy by Nature conference we all attended on connecting children with nature, UK physician and leading physical activity proponent Dr. William Bird shared preliminary results of a study of diabetes patients and the stabilizing of blood sugar through a novel intervention: walking in nature. While not exactly blowing our socks off, due to our already strong bias for nature-based work, what was intriguing was his idea of a dose response he described in the study. If the biomedical industry has an ability to cite intervention research for a specific condition that has resulted in positive outcomes from a dose of X, then the appeal and uptake as a practice will be more significant. Unfortunately, the biomedical industry is also heavily influenced by Big Pharma. We imagine that the competitive pharmaceutical companies are "beavering away" (Canadian for "working tirelessly") at the formulation of a nature drug. Surely it can be manufactured, no?

The distinctiveness of nature-based approaches from conventional clinical or medical approaches to health and well-being surely lies in the environmental effects. Whether one-to-one or in small groups, the natural surroundings are present, and the time in those environments is where the exposure or intervention model of research could be established. This is not the first time it has been suggested, but we also recognize the inherent difficulties in real-world research when trying to control for, or in this case even define, the intervention. The type, timing, and strength of the dose would need to be established. Dr. Bird was suggesting twenty-minute walks in a natural greenspace, primarily

in urban settings. This is an approach more likely acceptable in the biomedical community because physical activity has been well-established across fields of study as an approach to health and well-being. We have national health-promotion programs established with interventions across media, schools, public television, and radio, encouraging active lifestyles through exercise, sport, and recreation. They recommend two to two and a half hours of moderate to vigorous physical activity each week for Canadian adults and a full hour of moderate to vigorous activity daily for children and youth.

So, let's imagine we could get clients walking at a moderate pace for twenty minutes, a condition we should be able to achieve without too much difficulty, considering we may not access an office setting and would like to move away from the busyness of the parking lot to find a private place to talk. A walk to the site of our session may accomplish part of the client's recommended activity for the day. Now just add a natural setting. As we mentioned earlier, nature is hard to describe and define as a research variable. Is it a question of how much natural versus human-made elements are visible? What do the walkers see? What landscape features are present? What type of weather are they experiencing? What is the walking surface? We often rely on studies with stronger conclusions, and yet those are often completed in labs, not naturalistic settings. Research "in nature" becomes logistically and methodologically difficult to pull off. What is easy to agree on are the benefits of being in nature versus human-made spaces. However, much of what we argue for is lost in research translation from lab-based controlled studies that attempt to prove nature-based theories. Suffice to say, we would happily accept a recommended dose of nature for our clients and for the general population. We have seen here in British Columbia several movements to get people out walking in nature, often informed by a research evidence position. The David Suzuki Foundation has run the One Nature Challenge or 30 × 30 for a number of years now. It recommends thirty minutes of walking in nearby nature for thirty days, with the hopes of developing a year-round habit. The BC Parks Foundation has implemented the Healthy by Nature "Outside & Unplugged" walk series, which is led by local health-care practitioners

to encourage and educate families (using research evidence) about why nature and exercise are important for health. These initiatives would both be considered evidence informed, and both organizations rely on the research but do not necessarily prescribe a dose approach; rather, they encourage a lifestyle shift to increase nature connection.

We may need to responsibly ask, in the near future, the questions of what type of nature, how much, and for whom. As with a dose response approach, we would also need to consider how much is too much. Exposure to extreme weather and temperatures can be harmful, yet so can a dark forested path to someone who is anxious about closed spaces, has experienced an assault in a park, or is a returning war veteran who has experienced trauma in unfamiliar environments. A level of sophistication not yet present in therapeutic or educational literature has been found to support this line of thinking in outdoor therapies. With an ethic of care, we need to be cautious in our approaches and ensure client safety and meaningful practices, and to abandon our methods when they are not helping. Without guidance from practitioners before us or telling research behind us, the nature-based therapy approach is ripe for development as a modality. While not fans of manualized and prescriptive practices, we are definitely open to the research-practice explorations that will improve client care and outcomes.

The Right Dose of Nature: How Much Is Enough?

So, let's stick with the idea of a dose for a minute. If we were to promote a dose of nature for therapy, we would need to clarify what a minimum exposure to the natural world might be to benefit health and well-being. In North America, health promotion organizations, doctors, and exercise scientists all suggest a minimum of at least thirty minutes of moderate to vigorous levels of exercise daily to maintain physical health. This approach to health is fully endorsed by the biomedical community and has a large amount of empirical support. This is also not a very difficult fact to accept, considering the human body was designed to travel the equivalent of a half marathon a day (~22km). Humans were designed as hunter-gatherers, and that would require considerably more significant physical effort than many expend today

in our modern technologically advanced and convenient lives, where we have designed ourselves into sedentary beings. Truth is we are capable of so much more physical exertion and do not move enough. We were made to move, and move often, yet today we mostly sit and stand and sleep. Thirty minutes of moderate to vigorous physical activity seems a stretch to achieve for some in our hurried world, yet it should be easily achieved. So now how do we go about suggesting a dose of nature, knowing it is not just for physical benefits? What duration of nature could be appropriately suggested for human health and well-being? What intensity would we recommend? And how could we monitor, or even expect, adherence? Some inactivity in nature is very healthy for one's mental well-being and to reduce stress and recover from attentional loss. If we can imagine the doctors well-informed of nature-based approaches to health and well-being, we may hear someday, "Well, Mr. Johnstone, your son appears to be in good health and has a great reserve of energy. I strongly recommend you take him out for at least two good rips around the park and at least one tree climb each day to ensure he can manage all this pure energy. I'd also recommended fishing or another slow activity you can do with him to also provide space, while outdoors, for his inner explorations and adventures. Get him to find a place to sit quietly, and if that is not easy, make a game of it. Nature-based games are now reporting higher positive outcomes than prescriptions of the past!"

It would be simplistic but acceptable to suggest adding nature to the current thirty-minute dose of daily exercise. Emerging research has begun to support this notion. A recent Finnish investigation with over 2,000 participants confirms this, concluding, "Nature provides an added value to the known benefits of physical activity. Repeated exercise in nature is in particular, connected to better emotional well-being;"⁹ the research is once again emphasizing that it is being outside that brings additional health benefits.

Health researchers Barton and Pretty reviewed ten "green exercise" studies and explored the question of what is the best dose of nature in exercise.¹⁰ Their findings suggest both short- and long-term benefits. Self-esteem and mood were most improved with short durations of green exercise (e.g., 5 minutes) regardless of age, gender, intensity,

or other variables assessed. Both factors diminished but remained positive over longer periods for outdoor exercise but declined with growing intensity of activity. That is, the best results were for light and continuous outdoor exercise. Again, this sounds like what our bodies were best designed to do: be active more often, but don't overdo it. From a nature-based therapy perspective, we do not often engage in vigorous levels of activity but do find ourselves moving often through our sessions, whether hiking on a beach or in the forest, with low to moderate levels of physical engagement.

Other notable results were that all types of green spaces produced positive results; water seemed to increase benefits; and the greatest impact seemed to be with the younger participants and diminish with age. Barton and Pretty concluded that exercise in nature is a "readily available therapy with no obvious side effects."¹¹ However, we must always acknowledge that elements in nature can be harmful to human health (bites, stings, allergies etc.) and that there may always be some people for whom the experience of nature creates anxiety and fear rather than being restorative. For example, we have seen in the last couple of years a growing concern for Lyme disease (carried by ticks) that has parents pulling their kids from summer camps and outdoor programs. It is the benefits of time spent in nature that we believe clearly outweigh the risks, real and perceived, that may require public education, and proper risk management, for the masses to be fully realized.

There is a call to address the growing epidemic in the Western world of chronic health issues such as obesity, cardiopulmonary disease, and diabetes. Nature-based activities were identified as well-positioned to promote health, family connectedness, and psycho-spiritual growth.¹² However, the authors also concluded that health and well-being will be improved when programs have specific objectives, build participant confidence, and are challenging and, above all, fun: "Ideal programs should offer both physical activity and ecologically meaningful nature experiences."¹³ Fortunately, these criteria are also key descriptors of many outdoor programs. With a growing body of health-related evidence, the argument for increased time and activity outdoors gains strength,¹⁴ and strategies to make it happen become clearer. We can

only expect that these trends will include an increased openness to and desire for nature-based therapy approaches.

Prescribing a particular dose of nature is in many ways almost the antithesis of our personal beliefs, philosophies, and lifestyles. However, the current path our global society is following demands a packaged approach that measures inputs and outputs. Promoting a dose of nature clarifies the minimum time exposure people should be outdoors and seeks to highlight the socioecological benefits this natural, accessible, and free health remedy can have for everyone.