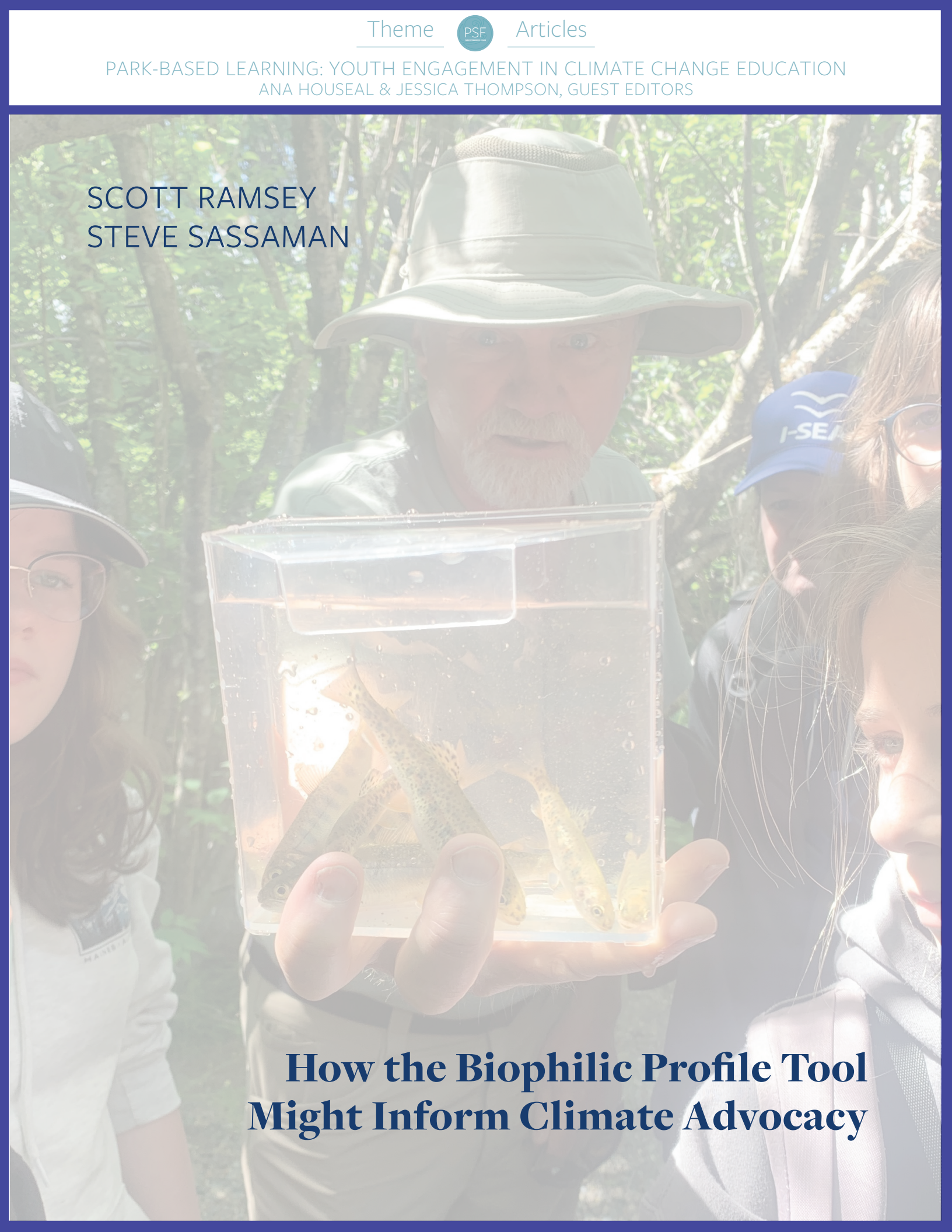


SCOTT RAMSEY  
STEVE SASSAMAN

A man with a beard and a light-colored hat is holding a clear plastic container filled with water and several small, spotted fish. He is looking directly at the camera. In the background, there are trees and other people, including children wearing blue caps with a logo. The scene is outdoors in a wooded area.

**How the Biophilic Profile Tool  
Might Inform Climate Advocacy**

## ABSTRACT

Across the globe, our park systems, which serve as strongholds for intact ecosystems and as some of the last bastions of wilderness, are exhibiting the impacts of a changing climate. This is particularly significant because these emblematic sites serve as vital educational opportunities. While parks are uniquely positioned as prospects for promoting climate advocacy, it is important to recognize that our relationship with climate change and our connection to nature varies dramatically across different groups of people. Consequently, the effectiveness of climate-related educational efforts depends directly on strategic messaging that aligns with these distinctions. By using the Biophilia Hypothesis as a theoretical framework and employing the Biophilic Profile, an educational tool that explores our nuanced connection to nature, valuable patterns can emerge that offer insights into strategies to diversify climate messaging to better align with different people's unique ways of knowing. This alignment can promote more effective, responsive, and meaningful climate campaigns and environmental education initiatives.

## INTRODUCTION

**Our park systems serve as collections of public jewels, operating as strongholds for intact ecosystems and as some of the last bastions of wilderness.** In addition, these protected areas—national, regional, and local—are essential for safeguarding biodiversity and cultural heritage while offering people opportunities to deepen their relationship with nature, or, as David Abram termed it, the more-than-human realm (Abram 1996; Beissinger et al. 2019). However, across the globe, these precious time capsules are demonstrating the impacts of a changing climate, from amplified fire cycles to invasions of non-native species. At the same time, these sites that are emblematic of the impacts of climate change can serve as vital educational opportunities to promote climate advocacy.

While current trends have been influenced by the recent global pandemic, visitation to parks, in general, has become increasingly popular. In fact, according to the National Park Service (NPS), many US national parks are breaking attendance records, with overall visitation trending upwards (NPS 2024). With more audience turnout comes a potential increase in exposure to environmental education programs and climate advocacy campaigns. Since their inception, environmental education campaigns have had a rich legacy across the national park system (Myers and Park 2013). This trend seems to be particularly relevant today. In fact, according to Myers and Park, “environmental education goals, particularly understanding the natural processes observable at national parks, has become more a part of the interpretation and education missions of the parks” (2013: 385). While communication and programming vary, whether through ranger-led interpretation tours, popular Junior Ranger offerings, exhibitions, or sponsored research projects, the units of the national park system serve as valuable informal centers for climate change education (Beaver and Navy 2023). Recognizing this critical role, in 2016, NPS established the National Climate Change Interpretation and Education Strategy (NCCIES), which offers a framework for communication and engagement to promote climate advocacy.

## KNOW THY AUDIENCE

Though each national park is impacted by climate change differently and to varying degrees, acknowledging the role parks can play and establishing objectives and goals through initiatives such as NCCIES is an important step. However, with any public communication endeavor, it is essential to “know thy audience” and consider what types of messaging are being offered and their effectiveness. In fact, the Yale Program on Climate Change Communication (YPCCC) conducts extensive research on climate knowledge and factors influencing the public's relationship with that knowledge. YPCCC argues that “Public communication about climate change must start with the fundamental recognition that people are different, and they have different psychological, cultural, and political reasons for thinking, feeling, and acting—or not acting—in response to climate change” (Leiserowitz et al. 2021: 97). Furthermore, visitor survey research has shown that visitors to national parks are significantly different than the average American (Schweizer et al. 2013).

## RELIANCE ON FACTS

Gauging communication specifics across the national park system can be challenging. However, recent research on climate change interpretation on NPS websites potentially

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OVERLEAF We hold the future in our hands. SCOTT RAMSEY

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offers a glimpse into this phenomenon. Specifically, Roberts et al., looking across the websites of 391 park units, found that while communication is not uniform there is a distinct delivery focus, noting, “the new direction of interpretation across the NPS places an emphasis on evidence-based scientific information that can help to invoke a sense of stewardship regarding the issue in question, making climate change a timely theme for park interpretation” (2021: 9).

Despite our collective differences, heavily centering messaging on the scientific aspects and climate facts is a common approach, not only in the national park system but across climate education in general (Sauer et al. 2021). While entrusting science as the primary strategy to promote climate advocacy may seem like a reasonable avenue, research suggests that the approach of focusing on facts is not enough (Leiserowitz et al. 2021; Hayhoe 2022). In fact, Duhaime indicates that “scientific research on effective environmental communication and behavior change confirms that just telling people *the facts* is an oversimplified and ineffective approach” (2022: 189). Furthermore, while some resonate with the language of science, a growing trend toward science denial and disinformation make this pathway particularly flawed and uninspiring (Duhaime 2022).

### CONNECTION TO NATURE

In addition, how we relate to the climate crisis is often directly associated with our connection with nature, or the more-than-human realm (Eisenstein 2018). Our relationship with the more-than-human realm is a complex amalgamation of our unique experiences and sociocultural background (Pascual et al. 2017; Duhaime 2022). Despite the challenges of knowing how we connect with nature, a more relational approach that attempts to align messaging to where people are affectively might be more beneficial (Chan et al. 2016). Furthermore, Duhaime suggests, “Rather than relying solely on facts, aligning with goals may be the most effective route to change behavior” (2022: 189).<sup>10</sup> Pascual et al. (2017) propose that relational values reflect aspects of cultural identity, social, and moral responsibility toward nature. These relational values, which, as Ross et al. note, “underpin how one relates to the natural world,” help to explain how and why people regard the more-than-human realm (2018: 47).

While park visitors share common destinations and likely have similar general characteristics, they also are likely to have nuanced relationships with and different values

toward the natural world (Roberts et al. 2021; Verlie 2017). Consequently, creating climate messaging that resonates and captures the broad spectrum of ways visitors relate to the more-than-human realm can be daunting. One avenue is to use scales that measure people’s relationships to nature. While several tools attempt to capture this dynamic, such as the New Environmental Paradigm (Dunlap et al. 2000) and the Nature Relatedness (Nisbet and Zelenski 2013) scales, many focus on the degree to which we connect rather than the intricacies of these relationships. These distinctions, however, are significant for informing how to promote climate advocacy effectively.

### THE BIOPHILIA HYPOTHESIS

One effective theoretical framework that has been successfully used to explore our relational values toward nature and may be helpful in informing climate messaging is the Biophilia Hypothesis, designed by E.O. Wilson and Stephen Kellert (Kellert and Wilson 1995). The theory reasoned that for most of human evolution we were surrounded by the natural world and directly depended on nature for our subsistence, and so we developed advantageous relationships to the natural world that helped us survive. Kellert explains: “For more than ninety-nine percent of our history, our fitness and survival depended on adaptively responding to the ongoing demands of the natural environment, which drove the development of our senses, emotions, intellect, and spirit” (2012: x).

The Biophilia Hypothesis has been used successfully in various capacities to explain the different ways we connect with the more-than-human realm (Jones et al. 2016; Ramsey 2018; Ross et al. 2018). In fact, Ross et al. suggest that “the appeal and validity of this [Biophilia Hypothesis] typology have been tested widely (and) a number of independent studies have applied the typology to practical environmental issues, confirming its appeal and wide applicability in social-ecological contexts” (2018: 50). For instance, the hypothesis has been used as a helpful theoretical framework to explore the various ways people from Australia to Alaska connect with water (Jones et al. 2016; Ramsey 2018).

As the theory evolved, Kellert later asserted that our complex relationship with nature comprises 10 relational values informed by experiences and cultural norms. Each value is a range of emotional, intellectual, and physical connections to the natural world and is a “complex process encompassing an array of values and qualities that constitute a broader affiliation with nature” (Kellert 2012: xii). They are *aesthetic, humanistic, naturalistic, utilitarian,*



Exploring the dynamic geology of the Chilkat Valley. SCOTT RAMSEY

*scientific, negativistic, dominionistic, moralistic, symbolic, and spiritualistic.*

### **Aesthetic**

The aesthetic value is an overall attraction to the beauty of nature. The aesthetic value relates to harmony, order, and recognizing patterns (Kellert 2012). From an evolutionary perspective, having this association may have benefited us by allowing us to identify ripe fruits and berries or discern certain terrain features as landmarks for navigating. From a practical orientation, this helps to explain why people often gravitate to sunsets or travel distances to see the changing colors of a tree in the fall.

### **Humanistic**

According to Kellert, having a strong emotional attachment to and love for aspects of nature is a humanistic response (Kellert 2012). This can manifest as a deep appreciation, for bonding with, or nurturance of a landscape, ecosystem, species, or place. This type of connection to nature may have been beneficial by offering a sense of safety or enriching collaborative relationships. Applied, the humanistic value might help

to explain our deep connection to pets or how some are called to show their love of nature by hugging trees.

### **Naturalistic**

The naturalistic typology manifests as direct experiences and exploration of nature. This may help to explain why some of us see a tree and want to climb it or swing on its branches for fun. In addition, this typology may encourage exploration and inspire us to see what is around the next bend or why we might resonate with the sound of water or the motion of the river. As such, direct contact with nature, from an evolutionary orientation, would have helped to promote physical fitness, expanded our curiosity, and developed our imagination (Kellert 2012).

### **Utilitarian**

Looking at a tree and thinking of it in practical terms, such as firewood or lumber, is the utilitarian value. This comes from “our long evolutionary history of material dependence on nature” (Kellert 2012: 16). While much has changed, we still look to nature for food, medicine, clothing, building materials, security, or comfort. Using products from nature effectively would have had

tremendous evolutionary benefits. Saving the rainforest because it may have medicinal plants useful to us is a utilitarian perspective.

### Scientific

The scientific typology encompasses our quest to understand, gain knowledge, hone observation skills, or catalogue components in nature. Those who resonate with this typology may enjoy the systematic study of structure and ecological function or be more attuned to facts. In the field, this may manifest as the desire to learn the name of the tree and what type of soil or habitat it grows in. For our ancestors, understanding natural systems or recognizing patterns that would have made hunting or harvesting food easier. People who have a developed scientific value likely resonate with the strategies that center facts to promote climate advocacy.

### Negativistic

Being aware of the dangers in nature would have increased our survival. Kellert notes, “The natural world is a powerful source of human fears and anxieties” (Kellert 2012: 147). Knowing what animal to avoid, what plant is poisonous, or understanding to seek shelter in a lightning storm are valuable associations to develop. This value can be a component that fosters respect for nature. People with a developed negativistic relationship with nature may see an old oak tree and want to cut it down, fearing it may fall on their house.

### Dominionistic

The dominionistic value relates to our desire to control nature. It represents our “powerful tendency to hone our mental and physical skills by subduing and mastering nature” (Kellert 2012: 121). Having this type of physical and mental strength would have benefited us by developing our fitness and adaptive capacity, which may have meant acquiring food, sustenance, and security. The desire to challenge ourselves to climb to the top of the tree manifests this value.

### Moralistic

Our ethical concern for nature, an ecosystem, or a specific place is related to our moralistic values. Having a sense of responsibility for caring for the earth and a restraint to exploit nature would have had evolutionary benefits for preserving natural resources for future generations. Applied, those who resonate with this value may want to save the tree because it is the right thing to do. For many environmental organizations, this is the main focus of messaging.

### Symbolic

Kellert asserts that the natural world is a limitless source of communication and thought. He notes, “Certain plants, animals, and landscapes prompt images, myths, and symbolic projections” (2012: 69). Adaptively, the symbolic value would have been essential for language acquisition and everyday communication. Dreams, myths, and fairy tales that center the natural world emerge from this value. Choosing animal mascots for sports teams or seeing the Joshua tree as a symbol of resilience, strength, and survival in a harsh environment are manifestations of this value.

### Spiritualistic

Finding a spiritual reverence for nature or finding meaning from being in the natural world captures the spiritual value. For some, being in the forest makes them feel like they are part of something bigger. This association may have helped our ancestors find purpose and connection to a world beyond ourselves. This unifying sense of purpose may have motivated us to protect natural resources for future generations.

## USING THE BIOPHILIA HYPOTHESIS FOR CLIMATE MESSAGING

While everyone has a unique constellation of these ten values, constituting what we refer to as a “biophilic profile,” we have a shared biological tendency to relate with the natural world. This profile is a “range of human values and expressions, each reflecting a particular patterning of beliefs and dispositions to act toward the natural world” (Kellert 2012: 4) made distinct and shaped by our personal experiences and influenced by our diverse cultural backgrounds. This way of understanding our relationship with the more-than-human realm may be particularly valuable for framing climate messaging broadly, and especially in parks where visitors are likely attentive and attuned to education programs.

Specifically, if climate education is to be effective, it often requires both aligning with our shared commonalities and relating to our unique associations with the more-than-human realm (Eisenstein 2018; Duhaime 2022). Because each person’s connection to the natural world is unique and complex, finding an adaptive tool to frame messaging seems essential. This aligns with the notion that centering climate advocacy on scientific facts does not work for everyone (Duhaime 2022; Hayhoe 2022). In other words, if our overall relationship is an amalgamation of the 10 biophilic values, then it is likely that many of us may not thoroughly resonate specifically with the scientific value in the same way.

### FROM THEORETICAL FRAMEWORK TO PROFILE

Applied, the Biophilia Hypothesis can inform climate advocacy programs across a broad spectrum, including parks, to diversify their messaging to add components related to each of the 10 biophilic values. While it is highly unlikely for messaging to perfectly match any one person's particular biophilic profile, we have seen how an emphasis on one value, scientific, has not been successful. While this theoretic framework is essential to put climate conversations and environmental messaging campaigns in context, it is also helpful to find educational tools to promote critical self-reflection for practitioners.

Recognizing this need, Kellert, Shorb, and Schnoeker-Shorb (2016) developed the Kellert Shorb Biophilic Value Indicator (KSBVI), a survey designed to tap into individual biophilic responses. This education tool has been used successfully to explain our unique individual relationships to nature in various outdoor settings (Meltzer et al. 2018; Ramsey 2018). To increase accessibility, Ramsey and Sassaman (2023) created a version of the paper-only KSBVI that can be used on multiple web-based platforms and in person, called the Biophilic Profile (<https://biophilicprofile.com/>).

Like the KSBVI, the Biophilic Profile tool is a survey. It consists of sets of questions that cover all of the 10 biophilic values. The questions are designed to elicit the attitudes and preferences of the respondent toward various aspects of nature. Respondents are asked to rate their level of agreement with each question. The point of the Biophilic Profile tool is inspire reflection by the respondent.

### FIELD CASE STUDY OF THE BIOPHILIC PROFILE TOOL: INSIGHTS FROM ALASKA AND BEYOND

Since its development, the Biophilic Profile tool survey has been given to college students in numerous and varied online classes, such as Environmental Ethics, Environmental Communication, and Sustainability

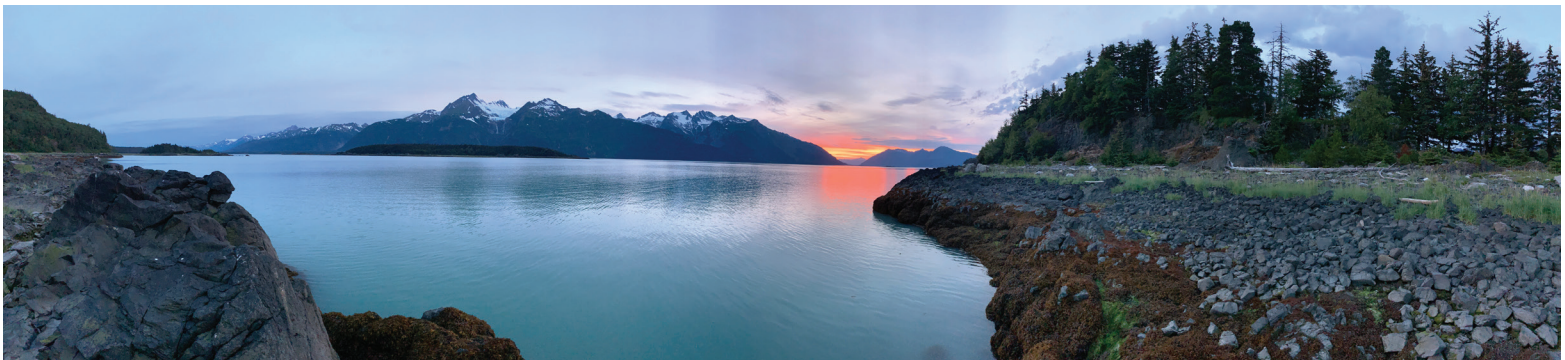
Education. It has also been the focus of various in-person workshops of environmental organizations across the country, including the Association for Experiential Education and Florida Master Naturalist Programs. In addition, it has been applied to field courses of organizations that offer programming for 8th-graders to post-college graduates, such as the Alaska Outdoor Science School (AOSS). Across the board, the tool has been successful in promoting critical self-reflection and offering valuable insights into our different ways of knowing. Insights from the Biophilic Profile tool can become a tangible framework for climate advocacy for more responsive educational programming.

### CLIMATE CHANGE IN THE CHILKAT VALLEY: LESSONS FROM SALMON AND OUR BIOPHILIC PROFILES

For the past ten years, AOSS has been running multi-day, experiential environmental education programs for students from across the country, welcoming participants from all backgrounds. Based in Haines, Alaska, amidst the awe-inspiring landscape of the Chilkat Valley, where majestic glaciers and the remnants of ancient glaciations shape the land and where the rich culture of the Tlingit people endures, AOSS provides programs in a unique living classroom. The Chilkat Valley serves as both an ideal setting for placed-based programming and a living model for applying our unique biophilic profiles to deepen our relationship to the more-than-human realm and to explore how Biophilic Profile tool can inspire meaningful environmental and climate advocacy.

Emphasizing experiential learning, AOSS courses are designed with a holistic, interconnected systems approach to explore the nexus between cultural and ecological sustainability. With an emphasis on biophilic relationships, the five species of Pacific salmon, all of which are present in the Chilkat River, serve as a central framework for shaping the course structure and focus. For example,

Sunset on the Chilkat Range, Haines, Alaska. MANDY RAMSEY



students learn how the region's dramatic landscape was shaped by geological and glacial forces, discovering how these processes created the cold and pristine water needed by these keystone species to survive. One need only look at the jagged peaks that rose above the glaciers during the last Ice Age to see the extent of a changing climate. Learners uncover that today the rate of change is dramatically different than it has been in the past. These realizations become particularly insightful as students recognize that one of the greatest threats facing salmon is the rapidly increasing temperatures of the river and its tributaries due to climatic shifts.

Next, students begin to develop ecological literacy, learning the interconnections between salmon and their habitat and the key role the specie plays in the ecosystem. Learners begin to understand that the Chilkat River, the glacially fed river that runs through the valley, is home to all five species of Pacific Salmon. They discover how each individual fish undergoes a biological transformation, migrating from its natal freshwater stream to head to the ocean, only to return to the area where it was born to spawn and complete its life cycle.

Bolstering a *scientific* biophilic value, students recognize that this journey is fraught with a gauntlet of constant predation, and that, acting as prey along the way, salmon feed countless birds, land mammals, marine life, and fisherfolk. Learners grapple with the fact that, even in death, salmon carcasses serve as vital food sources for invertebrates and smaller fish (Schindler et al. 2003). Additionally, salmon transport essential marine nutrients into the surrounding forest as birds and animals carry and disperse their remains into the woods, providing a vital influx of nourishment to the ecosystem (Atlas et al. 2021). Through this process, students discover that salmon are the ecological backbone of these systems, serving as keystone species. However, the survival of salmon is contingent on stable water temperatures, as they depend on cold, clean water. These insights become particularly poignant as students further develop their *scientific* value by recognizing how changing climate patterns could further disrupt these conditions.

Supplementing their understanding of the ecological importance of salmon, students explore the tremendous economic value they have for the community. From

Bald eagle trapping a salmon. RON HORN





Salmon smoking on a drying rack at Klukwan. SCOTT RAMSEY

commercial fishing to subsistence fishing to tourism, participants embrace the critical economic benefit salmon play for the region. In fact, according to the 2023 Haines Comprehensive Plan, tourism and commercial fishing sectors account for nearly half the city's economy (Haines Borough 2023). Through talking to residents and local fisherfolk, participants begin developing a *utilitarian* value, gaining a different perspective on the role salmon play.

In collaboration with the Alaska Department of Fish and Game, students get to trap and handle juvenile salmon, gaining a hands-on connection to the marvels of this species. In so doing, this direct contact with the salmon fry helps participants deepen their *naturalistic* value. The value is enhanced as learners core Sitka spruce (*Picea sitchensis*), a process of boring into the tree to extract a core sample. Holding their specimen, explorers can count growth rings, gaining a direct visual reminder of how climatic change influences tree growth. Furthermore, by analyzing tree cores and detecting marine-derived nutrients, students take part in the scientific inquiry process. Through critical reflection, empowered students embody the notion of a "salmon forest," signifying how predators carry and distribute carcasses throughout the forest.

Classroom lessons, enhanced by these types of experiential components, deepen students' attachment or bonding towards salmon, which is elemental to the humanistic biophilic value. This value deepens when students visit the Jilkaat Kwaan Heritage Center, located in the native village of Klukwan, home of the Tlingit people. Situated on the banks of the Chilkat River, in the heart of the Bald Eagle Preserve, students engage with Traditional Ecological Knowledge (TEK), gaining new ways of knowing that deepen their insight into how the Tlingit people rely on salmon as a way of life. Talking with Elders and touring the museum, they learn of the profound respect and reverence the villagers have for salmon. This embodiment promotes a *spiritualistic* value for salmon. Additionally, depictions of salmon are evident throughout the museum, portrayed in artwork and in story, enhancing both *symbolic* and *aesthetic* values.

Standing near the river's edge, listening to Tlingit Elders talk about the importance of salmon, students are compelled to foster their own relationship to place and the more-than-human realm. Through these types of intimate exchanges, learners gain a deeper understanding of how the Tlingit people have relied on salmon fishing

for generations to sustain their way of life, deepening learners' *moralistic* values. Moreover, hearing how a changing climate is threatening the Tlingit people's rooted connection to the area, and the added pressure from a proposed mine, inspires learners to advocate for protecting salmon and honoring the Tlingit way of life.

The course culminates with an overnight river trip, where participants get a unique opportunity to camp along the river. While tent camping along the glacially fed river, students are afforded the chance to be intimately part of the salmon's journey as adults return to their natal stream by swimming upstream against the current. This is the very river flow that students will navigate the following day in guided rafts. Learning to control the boats allows for skill development, and the thrill of rowing down the river helps to build their *dominionistic* value. Furthermore, traversing the near-freezing water of the Chilkat River and sleeping in tents beside channels

teeming with salmon imparts a profound level of respect for the predators in the area and acknowledgement of the consequences of falling into the frigid water. These embodiments deepen respect while contributing to the *negativistic* value.

On the river, participants continue developing an intimate sense of place and embody a deeper relationship with the more-than-human realm. The grandeur of the landscape welcomes the continued development of the *aesthetic* value. Many have awe-inspiring experiences, the suite of emotions that happen when something so vast or complex forces you to re-evaluate how you see the world (Piff et al. 2015). The river trip ends, passing the village of Klukwan, floating on water trapped in nearby glaciers for millennia. Traveling downriver in the same water as salmon migrating upriver in the ultimate sacrifice can be profoundly moving. These feelings of being part of something bigger than we are and witnessing relationships

Hiking to Moose Meadows, Chilkat State Park, Haines, Alaska. MANDY RAMSEY



that have existed before us, and hopefully will continue to do so after us, strengthens our *spiritualistic* values.

The final night of programming involves students synthesizing what they have learned throughout the journey of the course. More importantly, learners are invited to reflect and share how their relationship with the natural landscape has been informed along the way. Having taken the Biophilic Profile survey, students are asked to share how they might use their own way of knowing to promote climate advocacy and environmental stewardship. This type of critical reflection deepens their connections to fellow students and to place, which can have lasting implications for conservation (Cundill et al. 2017; Halliwell et al. 2022; Hayhoe 2022). In addition, Halliwell et al. suggest, “Sharing experiences with others and learning from the diversity that one another brings into the experience is transformative and provides a social sense of belonging and a long-term community” (2022: 8).

## CONCLUSION

More than ever, it seems essential to celebrate the wisdom of nature and advocate for future generations to have the opportunity to walk in the woods, swing in a tree, plunge in a clean river, or sit by a meadow teeming with wildflowers. Not everyone can travel to Alaska and be immersed in pristine natural settings, but many can access their local parks. As some of the last bastions of wilderness, parks play a critical role in being the conduit for visitors to touch, smell, and listen to the sounds of nature, and, in so doing, deepen their relationship with nature. Finding ways to protect these safe havens from the impacts of climate change and to leverage their unique settings to educate people about climate advocacy is essential. After all, climate scientist Katherine Hayhoe argues, “By bonding over the values we truly share, and by connecting them to climate, we can inspire one another to act together to fix this problem” (Hayhoe 2022: 11).

Though offering the Biophilic Profile tool to visitors broadly may have logistical challenges, inviting administrators, staff, and educators to complete the survey will create opportunities for critical self-reflection on how they relate to the more-than-human realm. This offers a framework to explore how to create more responsive and relational programming. Research suggests that this type of “introspection might offer CC [climate change] communicators a springboard to renewed creativity, commitment, and success” (Johnson 2012).

Regardless of the capacity to administer the survey, agencies and other organizations might benefit from using

the Biophilia Hypothesis as a theoretical framework to align messaging and programs to the nuanced way we relate with the natural world. This way of finding shared commonalities to promote successful messaging is essential (Hayhoe 2022). Celebrating the different ways we connect with the more-than-human realm and explicitly aligning programming and messaging with these nuances raises hopes for deepening our relationship with nature while strengthening our love of place, a critical component in successful climate conversations (Hayhoe 2022). After all, we fight for what we love (Heacox 2020). 🌿

## AUTHORS' POSTSCRIPT

We hope that offering a glimpse into the AOSS case study and the ways we use the Biophilia Hypothesis and the Biophilic Profile tool to frame our programming provides a valuable guide and resource, helping educators, park administrators, program leaders, and outdoor enthusiasts develop responsive, relational educational campaigns and offerings that promote stewardship and climate advocacy. 🌿

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