Building a Culture of Conservation

STATE-OF-KNOWLEDGE REPORT ON CONNECTING PEOPLE TO NATURE IN PARKS

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About the Report

This report is characterized as a state-of-knowledge (SOK) report that summarizes an extensive literature about park visitation and nature connectedness, and how they relate to the goal of building a culture of conservation. It does not purport to be an exhaustive summary of all that is available, but is focused on synthesizing some of the core concepts in order to identify key findings and gaps to help guide further research and evidence-based decision-making. All information is referenced to enable other researchers to further examine the key concepts in order to build a more comprehensive knowledge base. We are indebted to those who have written some of these more comprehensive reviews of literature or critical papers that are at the core of this topic (c.f.[1–7]).

Our primary intent for this project was to address these issues within a North American, and specifically Canadian, context with a focus on natural parks and protected areas. Thus national and provincial parks, as opposed to urban/city or historic parks are the focus. We were constrained in our examination to works published primarily in English. While we recognize that there may be extensive bodies of literature in other languages as well as published informally (e.g., many government and/or consultant reports) we were also limited by information that we could source through the published literature. We are also cognizant that our report is framed from a western and not an indigenous perspective. However, we hope that given that our review of literature was international in scope, some of this information may be useful beyond North America.

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BUILDING A CULTURE OF CONSERVATION

STATE-OF-KNOWLEDGE REPORT ON CONNECTING PEOPLE TO NATURE IN PARKS

PARKS AND PROTECTED AREAS – BUILDING A CULTURE OF CONSERVATION

Parks and protected areas in Canada and worldwide are reservoirs of biodiversity. They provide critical refugia for species, allow for the provision of ecosystem services, provide carbon-storage to buffer the effects of climate change and offer myriad other ecological benefits. Parks and protected areas* also support economic, social and cultural values – including providing nature-based recreation, tourism and education opportunities. In an increasingly urbanized and hectic society, parks provide a touchstone to the natural world; they are important spaces for building social capital and for building a culture of conservation among citizens.

Many park agencies are focusing a great deal of attention on attracting more visitors to parks and offering a broader range of visitor opportunities in parks as ways of building support for parks and protected areas in the future. However, there is very little empirical evidence to guide park managers and policy makers on what kinds of activities/experiences will best connect people to nature in a way that will increase support for pro-environmental behaviour and conservation initiatives over time. This state-of-knowledge report was developed to respond to this information gap by reviewing what we know about the linkage between visitor experiences in parks and public support for conservation; by identifying research gaps in the area; and by outlining a research agenda to begin to address these gaps, in order to build more robust evidence to guide park management.

THERE IS MUCH MORE TO LEARN

We know little about whether park visits increase support for parks

Beyond the ecological and economic values of parks, visits to parks result in countless potential outcomes for park users including physical, psychological/emotional, social, intellectual, spiritual, nature-connectedness, and cultural benefits among others.[2] However, sustaining a park system over time requires a population that values protected areas and is likely to advocate for those values. Numerous authors and agencies work under the premise that park visitation, in and of itself, translates into support for conservation and protected areas.[8,9] Although a number of studies and polls show strong and consistent support for parks and related environmental conservation objectives in the population at large, there is limited evidence (and it is unpublished and correlational) about the relationship between park visitation and support for parks.

*In this report, unless otherwise specified we use the terms 'parks' and 'protected areas' interchangeably. For the most part this report focuses on 'natural' as opposed to cultural or historic parks, and to parks in more natural (as opposed to urban) settings such as national parks and many provincial parks.

Existing research is not robust enough to address the issues

In our review of the existing research we identified a number of overarching challenges. There is a robust and growing body of research establishing a strong positive relationship between contact with nature/outdoors and physical and mental health (c.f.[10–12]). However, although there is also a significant body of research related to the concepts or variables (e.g., environmental attitudes, constraints to park visitation, recreational preferences and motivations, nature connectedness and sense of place) that relate to the linkage between park visits and support for conservation, most of the studies are descriptive in nature and very few studies have examined the predictive relationships between the variables. In other words, although high quality survey research is useful, so too are in-depth qualitative or mixed methods approaches that can be particularly focused on understanding the meaning and nature of park experiences. Few studies and related measurement tools have been conducted in park environments, especially in Canada. Park agencies, along with polling research companies, have conducted a number of potentially important studies related to aspects of the topic but this research is rarely published or peer reviewed, making it difficult both to access and also to assess the quality of the research and its veracity.

Research Priorities

- Does/how does the park visit facilitate a culture of conservation and action within park visitors?
- What are the predictors of park appreciative values (e.g., park support)?

Photo: Jennifer Casciani

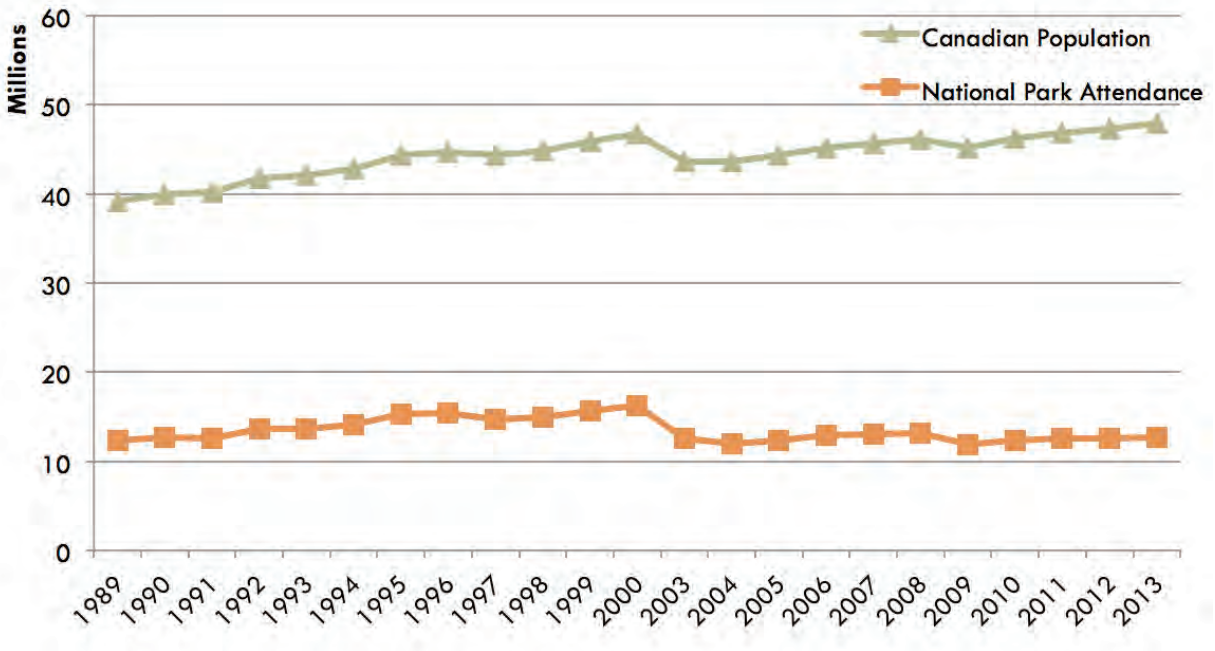
THE CURRENT CONTEXT

In North America, public support for parks remains high

Concern is being expressed by governments, non-governmental organizations, academics and others that if the populace becomes disconnected from the natural environment, there will be a parallel decline in support for parks and protected areas and other conservation initiatives. However, numerous polls and nationwide surveys have demonstrated that parks have, and continue to have, a valued place in the minds of Canadians and Americans.[13–15] Interestingly, although support for parks may be somewhat stronger among park users than among non-users[16], support for parks even amongst non-users crossing demographic and political lines is strong.[17] For example, a 2011 Ipsos Reid poll[14] found that 75% of Canadians felt that preserving natural areas is important to them. In the US, 95% of voters indicated support for National Parks.[15]

Fluctuations in park visits parallel population change and economic conditions

Visits to parks in North America, including national parks, increased relatively steadily from their establishment through the 1980s,with only minor variations linked to disruptive historical events such as World War II, economic depressions and recessions.[18] However, between the late 1980s and late 2000s, per capita visits (that is the number of visits relative to the overall population of the country) to US and Canadian national parks declined. This decline in per capita parks visits has been relatively widespread across Canada and the US and there is some evidence, although not clear, that the trend reflects a broader decline in involvement in nature-based recreation.[19,20] For provincial parks in Canada and state parks in the US, the trends are fairly similar. Visitation to US state parks as well as to other park-type natural areas (e.g., Bureau of Land Management sites) has declined since the late eighties.[3] Although day use to some provincial parks has increased, overall visits to provincial parks in Canada have generally declined or are increasing below the rate of population growth. Teasing out the extent and nature



Visitation to Canadian National Parks 1989 to 2013

Source: Parks Canada Attendance 2008-2009 to 2012-2013; http://www.pc.gc.ca/eng/docs/pc/attend/table1.aspx?m=1

Photo: Jennifer Berney

of these declines is difficult, given changes in the number and type of parks reporting (e.g., national historic sites, national parks), changes in how visitors are counted, and changes in data availability.

US national park visits reached a peak in the late 1980s (287 million visits in 1987) and since that time have been quite variable, ranging from a low of 266 million to a peak of 287 million visits. Per capita visitation (for all types of national parks including historic sites) was highest in the mid 1980s (1.18 in 1987) and dropped down to .90 per capita in 2008. When visitation statistics for 54 of the 58 US national parks (as opposed to historic sites or monuments) was examined in detail for the period from 1985 to 2013, visitation peaked in 1997 (68 million visits) and then leveled off. Thus declines in overall visits to US National Parks Service sites may be more associated with historic and 'other' types of parks, than with national parks.

In Canada, both per capita and actual numbers of visits to national parks were on a slowly increasing trajectory throughout the 20th century, peaking in 2000 (16 million visits/.54 visits per capita), then dropping to a low of .36 visits per capita in 2008/2009.[3] After 2001, like many other leisure and economic activities post 9-11, national park visitation dropped significantly by 22%. It has since been rebounding at a slower rate, with one further dip in 2008/2009 coincident with the recession. In the last five years, there has been an increase in actual visits to national parks in Canada of approximately 7%.[21]

The growing concern about our disconnect with nature

In recent years, there has been a growing recognition of the individual and societal benefits to health and well-being from contact with nature and parks,[6,7] and concern about the growing disconnect between children (and adults) and the natural environment.[23] At the same time, there is mounting scientific evidence that the ecological health of the planet is declining[24] including the ecological integrity of parks and protected areas.[25–28] As a result of these factors, connecting people to nature and building political support for parks and conservation issues have become top of mind for park agencies and conservation organizations.

Many park agencies are striving to increase visits to parks with a stated objective of enhancing support for parks and protected areas in the future, and increasing revenues. Some of the strategies being implemented include diversifying the visitor experiences offered in parks, better connecting with urban communities, and attracting more diverse cultural groups to visit parks. Parks Canada has formally set an objective of increasing visitation

Research Priorities

- What are the key constraints to park visits across a range of Canadian park jurisdictions?
- What are the causal effects of constraints on park visits?
- How do potential visitors/infrequent visitors perceive the value of various strategies to overcome constraints, and how effective are they?
- Development of an integrated nationwide visitor counting methodology to ensure consistency across jurisdictions.
- What is causing/What predicts declines in park visitation?
- Are increasing urbanization, aging populations and other social change phenomena associated with a lack of interest, or opportunity in park visits?
- How do youth feel about nature, parks and conservation and how does this differ from previous generations?
- Do recreational experiences in nature, particularly urban experiences, generate or maintain connectedness to nature; are urban park/nature experiences truly gateway experiences leading to other park visits?
- What is the link between park agencies responses to these issues and the increased focus on new uses or activities in parks?
- What audience is attracted (vs detracted) by new, built infrastructure based opportunities in parks; do these result in increases (and long-lasting increases) in visitation; do these activities provide opportunities for people to have meaningful nature experiences?

to national parks by 10% between 2010 and 2015.[29]

In spite of the growing effort to attract more visitors, however, there is a lack of strong evidence to guide park managers and policy makers on what kinds of activities/experiences best connect people to nature in ways that will increase support for parks and other conservation initiatives over time – in other words, build a culture of conservation among citizens.

BARRIERS TO PARK VISITATION

A decision to visit a park is a function of both interest and opportunity. For individuals, barriers to visiting parks (known as visitation constraints in the literature) can be classified as *interpersonal* (e.g., awareness/knowledge of parks, lack of interest in parks/park based activities, health concerns or limitations, lack of available time, fear); *intra personal* (e.g., family demands, social group constraints) or *structural* (e.g., cost, access difficulties, lack of equipment). This has been an area of significant research over the past 30 years.

Time, cost and knowledge are the most significant constraints to park visits

A recent meta-analysis of 22 North American studies of constraints to park visitation found that time, cost and knowledge were the most significant constraints preventing people from visiting parks, followed by fear, health, location and access to transportation.[30] The types of facilities available and level of interest in parks were the lowest ranked constraints. Income and age had a strong influence on these constraints, followed by education, which had a moderate influence. Specifically, those with higher incomes and younger individuals most frequently cited time as a key constraint, while those with lower incomes were more likely to report most other constraints (except facility availability and interest levels) as significant. Older park visitors were more frequently constrained by health and fear. Gender and race, in spite of much discussion to the contrary in the non-research literature, had relatively low influence on constraints to park visits. The majority of the studies included in this meta-analysis were American (just 14% of study participants were Canadian) and they included a wide range of parks, including urban parks.

Those who are highly motivated to visit parks will find a way

Although an increasingly urbanized, wired, aging and diverse population, along with other socio-demographic phenomena,[4] are often cited as leading factors in the decline in park visitation, empirical evidence for the causes of visitation decline is largely lacking and correlational at best. There is relatively little research and empirical evidence on what strategies can be reasonably pursued to minimize constraints to visitation, as well as how and by whom. Similarly we know little about whether strategies developed to remove constraints will be effective. Recent research suggests that those who are highly motivated[31,32] are more likely to put more effort into overcoming barriers to pursuing leisure activities, including visiting parks, and that they will be more successful.[33–35] Increased

Research Priorities

- Is there a lack of interest in visiting parks among some segments of the population, and if so, why?
- For whom is lack of interest (as opposed to opportunity constraints) the driving reason behind the decision to not visit a park?

awareness and information about parks and recreation opportunities, alleviation of safety concerns, and provision of transportation options (c.f. the Ontario, Canada, Parkbus program www.parkbus.ca) are some of the strategies that have been evaluated and demonstrated some success in reducing visitation constraints.[35] In urban park contexts, recent research suggests that an individual's orientation towards nature is a stronger determination of park visits than proximity to green space.[36] Ongoing research in Alberta indicates that strong commitment to parks and a strong sense of nature connectedness are strongly correlated with motivations and outcomes.[37]

Lack of interest and facilities are not key constraints

It is often suggested that park visitation is declining because people are less interested in parks. Evidence suggests, however, that interest is the least important constraint influencing park visitation.[30] Similarly, evidence suggests that the number or type of facilities in parks is not a constraint to park visits.

ATTITUDES INFORM PARK EXPERIENCES

Within the context of park experiences and support for parks, our values, beliefs and attitudes affect all aspects of the dynamic between interest and understanding of parks, the decisions to visit parks, the types of experiences within the park, and the outcome of those experiences. Likewise, our experiences with and within parks may affect our values, attitudes, beliefs and behaviours towards them.

Environmental values are enduring beliefs that express an end state preferred by individuals or societies.[38] Values are abstract notions from which attitudes, and ultimately behaviours, might evolve. A worldview can be viewed as a framework for how we understand the world and it is built on these deeply held values. Attitudes rest on this foundation of values and are a collection of beliefs about a specific object or issue such as the environment or parks that includes cognitive (knowledge/fact), affective (feeling/emotion), and behavioural (intended actions) elements.

We bring our worldviews to the park

Our worldviews are based on deep and enduring value systems that are influenced by the sociocultural context in which we are born and raised. Research suggests that in large part our worldviews (e.g., environmental worldviews) are antecedent to the park visit and may predispose choices regarding the park visit.[39] For example, a number of studies have shown that those holding more eco-centric attitudes (seeing oneself as being subject to nature rather than in control of it) are more likely to participate in nature appreciative activities while those holding more techno-centric attitudes (belief that humans have control over nature) are more likely to participate in motorized activities.[40, 41]

There is some evidence that significant life events, particularly those that engender a strong level of emotional affinity, can help develop meaning from an experience and influence our worldviews. Thus while most typically our worldviews are set before we visit a park, a park experience may influence our worldviews, particularly if it is a significant life event with a strong emotional component.

Research Priorities

- What specific attitudes do Canadians (visitors and non-visitors) hold towards parks and how and when are these attitudes developed?
- What role do park visits have in shaping or influencing environmental attitudes and worldviews and/or conversely what role do existing environmental attitude and worldviews have in influencing the park visit?
- Are children vs adults more influenced by exposure to nature and in particular early exposure to nature?

Burrowing owls Photo: Wilf Schurig

The linkage between attitude and behaviour

Attitudes are important to behaviour but there is a significant body of research that demonstrates that many people who hold a particular attitude don't exhibit corresponding behaviours. Attitudes are not behaviours, but can predispose behaviours.[42] Studies have found that the linkage between environment and park attitudes and behaviours is weak or modest,[43–47] although the link between attitude and planned or intended behaviour is much stronger. In other words, people with positive attitudes towards environment and parks are likely to have good intentions about behaving in a way that supports environment and parks, but they may not actually follow through on these intentions. Attitudes are more likely to lead to positive behaviour if the behaviour is very easy, or if there is confidence that the actions will make a difference.[48]

Nature appreciative activities are linked to pro-environmental behaviours

The relationship between outdoor recreation participation and pro-environmental attitudes has been the subject of a number of studies since the mid-1970s. Early studies found mixed or weak support for the hypothesis that there is a strong relationship between outdoor recreation and environmental attitudes.[49–53] More recent research has focused on improving research methodologies to provide greater certainty in the results, overcoming limitations of these studies by improving the measurement of the key variables including outdoor recreation participation, environmental attitudes and environmental behaviours.[41,47,54,55]

Recent studies have demonstrated that participation in outdoor recreation results in a stronger relationship between attitudes and behaviours related to nature appreciation behaviours.[41,56] In other words, those who participate in nature-appreciative activities have a tendency towards stronger levels of environmental behaviours

Research Priorities

- How does outdoor activity influence the relationship between attitude and behaviour within a park-type setting (with park-focused activities)?
- What park-specific appreciative attitudes and behavioural intentions do non-park visitors have and why? How do they compare to visitors' attitudes and intentions? How do these differences relate to place-protective behaviours?

(e.g., green consumerism) than those who don't.[41] Notably, this body of research did not take place in 'national park' type locations, suggesting a need to replicate these types of studies in park settings. There is also evidence that activities involving purposeful nature interactions, such as restoration activities[57] or other nature-based activities[58] are associated with increased concern about the health of a place.

Early exposure to nature builds strong connections

There is a strong body of research that supports the notion that early exposure to nature helps children develop positive environmental attitudes and facilitates a sense of nature connectedness and likely support for conservation in later life.[59] Key factors in childhood experiences were frequency of visits to green space, particularly wild nature (e.g., park-like experiences as opposed to more urban experiences like gardening or even organized youth groups); nature experiences that were accompanied and encouraged by trusted adults (e.g., parents); and experiences that are less structured and allow creative free play.[59–63] There is strong support that childhood participation in "wild nature", unstructured activities has a positive association with environmental behaviours in adulthood, in contrast to "domesticated nature" (e.g., zoo visits) experiences that are only weakly associated with pro-environmental behaviours.[61]

CREATING A STRONG SENSE OF PLACE IN PARKS

A strong sense of place may facilitate connections and conservation

Sense of place is a broad concept that refers to the meanings and attitudes we hold towards a particular locale. When a particular place (like a specific park) plays a key role in an individual's identity – in how the person defines themselves – it is referred to as *place identity*. When we are reliant or dependent on a specific place (usually because of a particular activity), it is referred to as *place dependence*. Together, *place identity* and *place dependence* define our *place attachment*.[5,64]

There is limited research, with contradictory findings, examining the relationships between sense of place and environmental behaviours.[64–67] Interacting with nature increases place attachment and willingness to engage in environmental behaviours.[68] Some studies have found that those with strong place attachments to particular areas are more likely to act as resource stewards, to have more knowledge about the resource, and are less likely to engage in damaging behaviours.[69,70] Recent studies within park contexts have supported the relationship between place attachment and conservation behaviours.[64, 71]A study of place attachment to Point Pelee National Park (Canada) found that place attachment predicted place-related pro-environmental intentions. Place identity influences or controls the effects of place dependence in predicting pro-environmental intentions.[72] There is evidence suggesting that more frequent park visits[16] may correlate to stronger measures of place attachment; however, other research suggests non-park users can also develop a sense of place identity towards parks.[73] Some theorize that more frequent and longer visits may be important to developing a sense of place because they increase familiarity with the place and allow for potential integration of place identity.[1,74] Further research is needed to investigate, place attachment (defined in a more multidimensional way) and its relationship to pro-environmental behaviours.[5]

Research Priorities

- What is the nature of the relationship between the park visit and place attachment?
- Explore the role of place-specific emotions and feelings (using in-depth/longitudinal measurements) and place identity in fostering pro-environmental behaviour?
- Investigate the relationship of place attachment to pro-environmental behaviour in park settings as proposed in the conceptual framework developed by Ramkissoon et al 2012.
- How do people come to be attached to places – and what is the relative importance of social and physical characteristics of place in those relationships?
- How can place attachment be strengthened?

Photo: Nicholas Stanger

NATURE CONNECTEDNESS

Cultivate nature connectedness and conservation through emotional nature experiences

Nature connectedness refers to the degree to which individuals include nature as part of their identity through a sense of oneness between themselves and the natural world.[75,76] Exploring individual differences in nature connection can potentially help foster the development of stronger human bonds with the natural world.[77] People with high nature connectedness tend to have frequent, long-term contact with nature and spend the most time outdoors, exhibit ecologically aware attitudes and behaviours,[16,69,70,78] and are happier.[79] Indeed a strong predictor of nature connectedness is time spent in the outdoors[59] although some research suggests that general outdoor settings (as opposed to nature-focused/natural settings) do not result in an increase in connectedness.[80] Some research suggests that wilderness, as opposed to developed or domesticated nature settings[61], is more strongly related to building nature connections, and likewise, settings such as hiking trails and beaches are more strongly related than golf courses and other built facilities.[81]

Direct contact with nature and nature experiences with a strong emotional component are related to nature connectedness.[56] Although the study of nature connectedness is still in its infancy, there is evidence demonstrating that those who are more connected are more supportive of conservation, and that nature connectedness predicts environmental concern.[82,83] Recent findings also suggest that at least in the context of urban parks, a sense of nature connectedness is a stronger determinant of park visitation than proximity to parks.[36] Ongoing research in Canada has found that the more connected one is to nature, the greater the motivation to visit parks, and the greater health benefits received from park experiences. This research has also found that nature connectedness is positively related to age, frequency of visits, life satisfaction, and perceived state of physical and mental health.[37]

Intentional interactions with nature are the key to connectedness and action

Developing nature connectedness is not just a result of any time spent in nature; rather there is evidence that intention is key. Interactions with nature vary from indirect experiences (e.g., looking at nature through a window

Research Priorities

- How and why do people have such varying levels of nature connectedness?
- How does nature connectedness relate to one's motivation to visit parks?
- How does nature connectedness relate to the benefits received from park experiences?
- How can nature connectedness be influenced?
- Is interest in visiting parks/orientation to nature an equally strong determinant in national parks as in urban settings?
- What activities and settings facilitate connectedness to nature in parks? What park experiences are associated with the 'intentional interaction' with nature so important to nature connectedness?

or watching a movie), to incidental experiences (e.g., being physically present in nature but interacting with nature only as the unintended result of another activity such as cycling to work or downhill skiing in a park), to intentional experiences (e.g., intentionally interacting with nature such as by hiking in a park, viewing wildlife or gardening). Intentional interactions with nature have been identified as pivotal not only in the relationship to nature connectedness, but also critical to the relationship with responsible environmental behaviours.[84,85]

Nature connectedness is resistant to change but can be enhanced

Experimental research using nature interventions in non-park settings found that while nature connectedness, like other environmental attitudes, is deeply held it can be enhanced with increased nature contact.[77] Some research has examined the efficacy of specific interventions designed to improve nature connectedness,[86–89] but most were associated with interventions or experiences in counseling or educational settings. Other studies have focused on probing the relationships between nature connectedness and altruism,[90] stewardship activities,[91] meaning in life,[92] happiness,[93] mental health,[94] environmental behaviour[90,95] and other aspects, but there are relatively few examinations of nature connectedness in parks and protected areas. Empirical evaluations are needed of programs or experiences within or about parks designed to improve nature connectedness especially in the Canadian context.

Fostering restorative environments may hold promise

Research has found that natural environments provide for 'soft fascination' experiences – that is experiences where sounds, sights and smells attract our attention while still allowing us to function. There is evidence that these kinds of soft fascination experiences are more restorative by nature than hard fascination experiences such as participating in a sporting event or watching TV, which take our full attention and don't allow us to think, reflect and restore. There is potential to study the differences in park activities, and the settings in which they take place, based on the extent to which they provide soft fascination restorative environments.[96,97] Initial research into the restorative functions of spending multiple days in natural environments away from technology have demonstrated not only the capacity to restore executive decision-making systems, but also showed promise in increasing creativity and problem solving.[98] Related research on the notion of mindfulness[99] is focused on whether activities, particularly contemplative activities, will strengthen feelings of nature connectedness.[88,100] Spending time outdoors has been shown to increase feelings of nature connectedness. At the same time, those who have stronger feelings of nature connectedness have also reported more positive emotions, vitality, enthusiasm, increased attention, and greater ability to focus on problems.[101,102]

THE EMOTIONAL POWER OF MEANINGFUL NATURE EXPERIENCES

With the growing emergence of what has been called the 'experience economy', park agencies are moving beyond providing park experiences that are seen as merely satisfying or high quality, focusing instead on facilitating "meaningful and memorable" experiences. Research addressing the nature of meaningful or memorable experiences provides some insight into what types of experiences may help visitors forge strong connections with nature.

Meaningful nature experiences result in increased personal and conservation benefits

Parks provide an opportunity for the public to have not just meaningful or memorable experiences generally, but meaningful nature experiences (MNE). To be meaningful, these experiences aren't just significant and emotional but they make an impact on an individual's life – what might generally be described as an 'a-ha' moment. Research suggests that MNEs can be triggered by encounters with wildlife, or by spiritual or symbolic experiences (e.g., seeing signs of wildlife or patterns in nature). MNEs have been described as leading to increased awareness and sensory perceptions and to intense emotional experiences – often an increased sense of nature connectedness is the result.[6] Benefits from these experiences include feelings of renewal, restoration, compatibility, connection and satisfaction.[103,104] These kinds of experiences with high emotional involvement, have also been identified as important to motivating environmentally responsible behaviours.[59,105–107] This connection between meaningful nature experiences and supportive conservation behaviours results from generating positive views of nature, increasing connectedness, and new ways of seeing and respecting nature. It has also been reported as influencing life paths like career choices.[6]

Emotions can charge the experience and amplify nature connectedness

Research indicates that while attitudes are informed by knowledge they are driven by affect, or emotion. This suggests the importance of park experiences that move beyond an activity opportunity or the transmission of knowledge, to those that nurture an emotional connection to the park environment. At the core of much of this research is an examination of the importance of the emotional or spiritual connections that people have with the place,[101] the natural environment, or other participants on the trip.[108,109,110] However, in spite of the emphasis among park agencies on encouraging meaningful and memorable experiences that foster nature connectedness, there is still little information available to guide management in successfully connecting visitors with nature.[111]

Emotions are critical in contributing to impactful or memorable experiences and in developing empathy towards the natural world, and thus are central to understanding nature connectedness and related outcomes such as support for parks.[78,112–114] A significant body of literature points to the emotional connections between humans and nature.[115,116] Empathy towards nature and sense of place is correlated with responsible environmental behaviours.[64] Development of empathy is facilitated by positive experiences, particularly those that occur over a length of time, and sharing these experiences with others.[115,117] So while there is a strong body of evidence that attributes significant benefits to visitors from even short visits to parks, longer visits that create opportunities for emotionally impactful experiences are more associated with nature connectedness and ultimately more likely to lead to environmentally responsible behaviours. And while frequency of time in nature and time in nature between the ages of 7-12 have been identified as the most significant predictors of attitudes towards nature[62,105] there is some suggestion that a meaningful nature experience itself can result in high nature connectedness.[6]

Knowledge may not be king

Although park interpretive and educational programs that focus on enhancing knowledge can be a valuable part of the park experience, information can but does not always affect attitudes or behaviours.[118,119] Some research has found that highly engaging, thought provoking and emotionally connected activities may both reinforce existing attitudes and have the potential to help develop new attitudes or promote changes to park behaviours.[120,121] Preliminary research suggests that interpretive programs can increase feelings of nature connectedness, particularly if they complement knowledge-based learning with emotional connections to nature or to place. However, research on the influence of interpretive programming on behaviours in natural areas is limited and lacks robustness.[7,122]

Maligne Lake, Jasper National Park, Alberta Photo: Photo: Christian Abend

AN OPPORTUNITY TO LEARN THROUGH PRACTICE

Park agencies, non-governmental organizations and others are engaged in a wide array of initiatives to try and better connect people to nature with, and within, parks. In Canada, outreach campaigns to new Canadians, the establishment of a new national urban park in Toronto, learn-to-camp programs and park volunteer programs are just some of the new strategies being employed. An excellent opportunity exists to advance the state of knowledge and ultimately, practice. There is an opportunity to learn from the management actions undertaken by protected area agencies and others if they are structured within an adaptive management framework to support evidence-based research.

Bloodvein River, Manitoba Photo: Ron Thiessen

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