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THE ‘HEALTHY PARKS–HEALTHY PEOPLE’ MOVEMENT IN CANADA: PROGRESS, CHALLENGES, AND AN EMERGING KNOWLEDGE AND ACTION AGENDA

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ABSTRACT

In this article, we outline progress and challenges in establishing effective health promotion tied to visitor experiences provided by protected and conserved areas in Canada. Despite an expanding global evidence base, case studies focused on aspects of health and well-being within Canada’s protected and conserved areas remain limited. Data pertaining to motivations, barriers and experiences of visitors are often not collected by governing agencies and, if collected, are not made generally available or reported on. There is an obvious, large gap in research and action focused on the needs and rights of groups facing systemic barriers related to a variety of issues including, but not limited to, access, nature experiences, and needs with respect to health and well-being outcomes. Activation of programmes at the site level continue to grow, and Park Prescription programmes, as well as changes to the Accessible Canada Act, represent significant, positive examples of recent cross-sector policy integration. Evaluations of outcomes associated with HPHP programmes have not yet occurred but will be important to adapting interventions and informing cross-sector capacity building. We conclude by providing an overview of gaps in evidence and practice that, if addressed, can lead to more effective human health promotion vis-à-vis nature contact in protected and conserved areas in Canada.

Key words: protected areas, conserved areas, human health, well-being, promotion, policy, equity, inclusion, nature

INTRODUCTION

Human health and the health of nature are inextricably linked. Beyond the fundamental life-support services that ecosystems provide, nature contact supports human health and well-being across physical, psychological, cognitive, social, economic and spiritual spheres (Capaldi et al., 2017; Lovell et al., 2018). Among other benefits, contact with nature aids in recovery from stress and attention fatigue, encourages physical

activity, provides settings to enhance social networks, stimulates development in children, and fosters nature connectedness and a sense of place (Louv, 2008; Maller et al., 2009; Romagosa et al., 2015). Despite these recognised benefits, human actions continue to drive unprecedented declines in ecological integrity (Ceballos et al., 2017). Consequently, nature’s capacity to provide crucial health related benefits to humans is declining (Díaz et al., 2019), while both chronic non-

communicable diseases (NCDs) (e.g. cardiovascular disease, cancers and diabetes) and mental health disorders are on the rise (Frankish et al., 2018).

Along with ecosystem decline, recent research has demonstrated inequities in nature provision and visitation to protected areas (Finney, 2014; Stanfield et al., 2006). In the Canadian context, Black people report being seen as out of place in nature, report experiences of violence, and generally feel unsafe and unwelcome in natural areas (Conway & Scott, 2020). Indigenous Peoples in Canada and elsewhere have often had their lands expropriated and have been denied access to their traditional territories (Spence, 2000). This disconnection from the land and attempts to control movements of Indigenous Peoples have resulted in loss of language and culture and substantial health inequalities (King et al., 2009).

Just as environmental degradation and differential exposure to environmental harms are frequently the cause of poor human health, ecosystem protection can positively contribute to health and well-being outcomes (Millennium Ecosystem Assessment, 2005). The Healthy Parks–Healthy People (HPHP) movement recognises this, and the crucial role that protected and conserved areas (PCAs) across the nature continuum can play in nurturing linked human–ecosystem health (Camp et al., 2020). Backed by a growing body of empirical evidence (Lovell et al., 2018; Maller et al., 2009; Townsend et al., 2015), the movement was brought to global prominence in 2010 at the inaugural International HPHP Congress in Melbourne, Australia. The Promise of Sydney policy statement that arose from the 2014 IUCN World Parks Congress further elevated this agenda, marking an important milestone recognising protected and conserved area agencies as central actors in health partnerships and global health initiatives (IUCN, 2019).

Approached through various fields (e.g. psychology, recreation and leisure, economics and medicine), the HPHP framework is rooted in key human–nature theories (i.e. biophilia, attention restoration theory, place-based theories) (Townsend et al., 2015), and on the premise that nature is essential for human health. This view reflects the World Health Organization’s (WHO) recognition of health promotion as “the process of enabling people to increase control over, and to improve, their health” (World Health Organization et al., 1986). Effective HPHP policy therefore engages PCA and visitor management programmes to enable equitable access to human health outcomes and to build community awareness such that people will advocate

for, invest in and ultimately support conservation (Parks Victoria, 2017).

Set against the above context, this paper draws on our collective expertise and experience in nature–health interactions to assess programmes and research supporting the HPHP movement. Our goal was to understand current progress and challenges in establishing effective, equitable and inclusive health promotion tied to PCAs, areas conserved by Indigenous Peoples and local communities, and other relevant designations. Most of the research in this realm has focused on urban parks and very little is known about how Canada’s more than 9,000 PCAs contribute to human health and well-being. Considering this, we outline research needs in our discussion and supplementary online material (SOM). We argue that these needs must be addressed if evidence-based policy and planning is to continue to unfold in a manner that maximises both ecological and human health.

In the following sections we discuss three important domains of mounting evidence (drawn where possible from the Canadian experience) that are relevant to HPHP: 1) nature and health interactions; 2) nature connectedness; and 3) equity and social dimensions of health and nature. Following this, we review areas of implementation and action, where we describe efforts in building advocacy and awareness for PCAs and health, activating programmes and informing cross-sector policies. Finally, we discuss the challenging and complex, but necessary, work needed to mobilise the HPHP movement in support of desired socio-economic and conservation outcomes.

BUILDING KNOWLEDGE AND EVIDENCE: NATURE AND HEALTH INTERACTIONS

For reasons described above, PCAs are gaining global recognition for their role as a point of nature access and human health and well-being (Leung et al., 2018). Despite growing bodies of evidence in Australia, the United Kingdom (UK) and some parts of Europe (Lovell et al., 2018), as of 2022 few studies on nature and health interactions within PCAs have been conducted in Canada. Among these limited studies, research shows that anticipated human health and well-being benefits, such as physical, psychological, spiritual and social, are a major motivating factor to visit such areas (Lemieux et al., 2016). It is well known that specific attributes (i.e. environment type, quality) and experiences (i.e. swimming, hiking, etc.) can drive visits to parks. However, Lemieux et al. (2016) found visitors to Alberta Parks reported unique health and well-being benefits based on distinct, but broad ecosystem types (e.g. alpine

areas, boreal forest, coastal area). More recently, Reining et al. (2020) linked visitation to an Ontario provincial park to high restorative outcomes irrespective of finer-scaled ecosystems. Consistent with a study in the UK by Wyles et al. (2019), they also found a strong relationship between perceived ecosystem quality and restorative outcomes.

Although the Canadian evidence base is limited, a growing number of studies outside of Canada have similarly linked health and well-being improvements to visitation. Visits to protected coastal and rural environments have been associated with greater restoration than visits to unprotected sites (Puhakka et al., 2017; Romagosa, 2018), and in national parks across the US, Buxton et al. (2021) affirmed that natural sounds improve health, increase positive affect, and lower stress and irritation of visitors.

Building knowledge and evidence: Nature connectedness

Nature connectedness (NC) refers to the degree to which individuals include nature as part of their identity. NC can be thought of as a sense of oneness with the natural world and is correlated with increased happiness, greater concern for living things, sense of community and future generations, as well as heightened ecological awareness, attitudes and behaviours (Martin et al., 2020). As a construct and a tool, NC offers a means to operationalise a complex realm of people–place relationships that examines the ontological and phenomenological connectedness humans experience with the natural environment (Manzo, 2003). In many ways, the construct seeks to capture a sense of relationality long understood in Indigenous communities. Ignace and Ignace (2017), for instance, provide a view into an Indigenous perspective on the nature–identity relationship, stating that, “[t]he Secwépemc sense of landscape goes hand in hand with the way that the Indigenous landscape names and classifies, and thus shapes in the mind, the perception of landscape”.

In many regards, Canada has been a leader in revealing how NC relates to health and well-being benefits, with one of the most frequently cited assessment scales emanating from Canada (Nisbet et al., 2009). Research on visitation to Canadian protected areas has revealed that perceived health motivations and benefits are strongly correlated with NC, and are positively related to age, frequency of visits, life satisfaction, and perceived state of physical and mental health (Lemieux et al., 2016). Canadian research also shows that intentional nature contact (e.g. through hiking in the park) is pivotal for developing NC (Wright & Matthews,

2015), and studies outside of Canada have shown use of protected areas is associated with higher levels of NC compared to use of urban parks (Restall et al., 2021).

One notable limitation in the extant literature specific to PCAs is the predominant focus on adult populations, and comparatively few studies of childhood and adolescent NC. The implications of a widening disconnect from nature are regarded as more significant for children because they are still growing psychologically, physically and behaviourally (Chawla, 2020). It has been shown, for instance, that childhood participation with nature may set an individual on a trajectory towards pro-environmental behaviour in adult life (Wells & Lekies, 2012). While focused on an urban park context, a recent study by Piccininni et al. (2018) suggested a potential protective role of nature contact against the development of symptoms of poor mental health among Canadian adolescents. For female adolescents, the authors found that spending time outdoors may be a critical avenue for promoting mental well-being. Similar studies are required in PCAs in Canada and elsewhere.

Building knowledge and evidence: Equity and social dimensions of health and nature

The topic of equity, including access to PCAs and full participation in decision-making related to such areas, is complex. Evidence spanning decades has shown that use of such areas is highly differentiated, with overrepresentation by an affluent, young, white, male, able-bodied population (Frumkin et al., 2017; Scott & Lee, 2018). Beyond explanations of underrepresentation associated with socio-economic limitations (a marginality hypothesis), much of the literature examining barriers to visitation faced by groups exposed to systemic inequities refers to the ‘ethnicity’ or ‘subcultural’ hypothesis (Stanfield et al., 2006). As Weber and Sultana (2013) discuss, the ethnicity/subcultural hypothesis has been used within leisure scholarship to advance a view that the main barrier to greater equity in access and use of parks by Black, Indigenous and People of Colour (BIPOC+), and others, is the fact that members of these populations do not want to visit parks or wish to do so in different ways.

As a counterpoint to explaining health inequities based on the subcultural hypothesis, in many historical cases the establishment of Canadian PCAs such as national parks dispossessed and erased Indigenous Peoples from their land and fundamentally altered access to important areas, undermining healthy practices and connections with the land (Richmond, 2018). A growing number of scholars acknowledge that dispossession of Indigenous lands and forced relocation of Indigenous

Peoples to establish protected areas was a tool for expanding a white settler-colonial identity and capitalist enterprises like sport hunting and tourism (Artelle et al., 2019; Youdelis, 2016).

Barriers or constraints to visiting PCAs have been traditionally classified as structural (e.g. cost, lack of equipment) (Crawford & Godbey, 1987); intrapersonal (e.g. knowledge of parks, lack of available time, fear of nature); or, interpersonal (e.g. family demands, social group constraints) (Zanon et al., 2013). Although focused on an urban context, in their report *Race and Nature in the City*, Scott and Tennesi (2021) also identify language barriers and the “normalizing of whiteness as dominant culture”. They note that such normalisation leads to issues of under-participation and under-representation of racialised groups in nature-based recreation (see also: Long et al., 2014). For persons with a disability (PwD), barriers to accessing Canadian PCAs include the imposition of literal physical (i.e. structural) barriers that fail to recognise the full spectrum of functional competencies within the Canadian population (e.g. campsite designs, interpretive infrastructure). Barriers also include systemic barriers embedded within services and programming (e.g. guided tours) that can stigmatise and discriminate against segments of the populations on the basis of a disability (Groulx et al., 2021).

Captured to some extent under the banners of ‘attitudinal’ and ‘communication’ barriers in the recent Accessible Canada Act (S.C. 2019, c. 10), discussion of systemic barriers perpetuated by racism, sexism and ableism in the outdoors has been comparatively limited in relation to visitation to PCAs (see Stanfield et al., 2006 and Weber & Sultana, 2013 for discussions in the US context). While the differing contexts make generalisation challenging, such research is critical as overcoming social and equity barriers will require incorporation of public opinions and values at a decision-making scale. Where access is unequal, visitation becomes a matter of health equity, shaped by social and structural determinants of health (SDOH) that condition where people live, work and play (Rigolon et al., 2021).

MAKING POSITIVE STEPS: BUILDING ADVOCACY AND AWARENESS FOR HEALTHY PARKS—HEALTHY PEOPLE

Health promotion in PCAs in Canada has been spearheaded by several organisations working at multiple levels of government, as well as non-government organisations (NGOs). As one of the earliest known examples in Canada, the Canadian Parks Council (CPC) established a HPHP Working Group in

2005 to develop a working paper focused on identifying and understanding the health and well-being links between parks and people. This national initiative has sparked similar efforts, including the 2014 *Connecting Canadians to Nature* report, which established a broad case for individual, familial, neighbourhood, community, societal and environmental benefits of access to PCAs (Canadian Parks Council, 2014).

At a provincial scale, the Healthy By Nature Forum in British Columbia (BC) led to the development of a Healthy by Nature Charter in 2011. More recently, the Healthy Parks, Healthy People Forum was held in Ontario in 2019, and focused on exploring evidence-based ways that nature can improve human health and ways to inspire action to integrate nature into health programming. The forum included the participation of several Canadian provincial park agencies (e.g. BC Parks and Ontario Parks) and the broader health community, providing important training opportunities for PCA staff and others to understand emerging issues and initiatives related to conservation, health and well-being.

Building on the above work, Parks for All was initiated in 2017 to set priority directives under the shared goal of HPHP (Parks Canada, 2017). The *Parks for All* initiative was supported by a partnership with the Canadian Parks and Recreation Association (CPRA) and the CPC. The goal of this initiative was to enable national, provincial and territorial collaboration around a cohesive vision of effective health promotion in parks and protected areas. While Taff et al. (2019) note that HPHP initiatives globally have tended to promote human health more than ecosystem health, Canada’s *Parks for All* initiative focuses more equally on ecosystem and human health and was officially endorsed by all federal/provincial/territorial Ministers responsible for parks, protected areas, conservation, wildlife and biodiversity in 2018. The Parks for All report and action plan marked an important resource for furthering the health–nature agenda, considering a cross-sector approach to collaboration, connection, conservation and leadership.

While awareness building and advocacy efforts are underway, the programmes and related initiatives detailed above remain challenged by a lack of resources to support long-term implementation and metrics to track and assess outcomes. They also tend to be decentralised and, consequently, face ongoing challenges regarding broader health sector integration.

Making positive steps: Activating programmes

Several organisations in Canada have developed in-park programming focused on improving aspects of health

and well-being through nature contact. Ontario Parks joined the HPHP movement in 2013, launching two signature events in 2015 that continue to this day. This includes the HPHP Free Day event that raises awareness through provision of complimentary day-passes, and the HPHP 30x30 Challenge event inspired by the David Suzuki Foundation. The 30x30 Challenge encourages people to reconnect with nature by spending at least 30 minutes a day in nature for 30 days. Evaluations of the event suggest participants across Canada increased their nature contact along with levels of nature connectedness, positive emotions, vitality and fascination (Nisbet, 2015). In 2019, Ontario Parks also launched the First Day Hike initiative, modelled on the annual America's State Parks event. The objective is to promote visitation to a provincial park for a hike on New Year's Day, and to broaden HPHP programme offerings in winter. Success of the event has led to subsequent collaboration with the BC Parks Foundation (in 2020 and 2021) to extend the event to BC, then nationally.

While Ontario Parks can be considered one of the most active Crown agencies in the HPHP space, other organisations offer additional illustrative examples of programming that supports health and well-being – including through inclusion and accessibility initiatives. BC Parks' Future Strategy states that “[p]eople living with disabilities should be able to enjoy outdoor activities with no barriers” (Government of British Columbia, 2017). To this end, the agency has undertaken important first steps towards reducing exclusion by documenting barriers through accessibility audits and sharing photographs and descriptions of park sites and features on its website. Working with Power to Be, a non-profit focused on access to nature for all, BC Parks also hosted a workshop with rangers, operators and volunteers in the Omineca region on the use and experience of a TrailRider. Through its Healthy By Nature initiative, the BC Parks Foundation (the official charitable partner to BC Parks) has also



'First Day Hike' hosted by the BC Parks Foundation, Mount Seymour Provincial Park © Melissa Lem.



TrailRider is an adaptive single tyre 'wheelchair' designed to enable opportunities for outdoor recreation on trails that might otherwise be inaccessible to individuals with a disability © BC Parks.

partnered with: 1) MOSAIC BC, an immigrant and refugee settlement agency; 2) Foundry, an integrated province-wide network of health and social services centres for at-risk youth; and, 3) Parkbus, hosting guided hikes in provincial parks with health professionals for other populations with higher barriers to nature access.

Like BC Parks, Alberta Parks has centred efforts on accessibility and inclusion, implementing an inclusion plan; the only one of its kind in Canada (Government of Alberta, 2014). To activate the plan, initiatives like grief walking programmes and palliative care support for parks interventions have been developed as a collaboration among park managers, health and parks researchers, non-profit organisations and healthcare agencies (Jakubec et al., 2020). For people with a disease, disability or facing life-limiting illnesses, these HPHP initiatives have supported physical calm, a renewed sense of one's identity, enriched social relationships, and connections to greater meaning and purpose (Jakubec et al., 2020). Alberta's experience reflects the importance of non-park agencies and volunteers in activating HPHP programming. This includes efforts of the Friends of Kananaskis Country, who along with other volunteers contribute 25,000–35,000 hours of volunteer time annually to run events that inspire children and adults to get outside, pursue winter recreation, and achieve greater physical and mental well-being through physical activity in nature. Notably, several federal and provincial parks agencies across Canada have introduced 'Learn-to-Camp' programmes, often in collaboration with private sector and NGO partners (e.g. Scouts Canada). These programmes help new generations of Canadians develop



Father and son learning how to make a campfire at a Parks Canada Learn-to-Camp pop-up booth along the Rideau Canal (Source: Sophie Deschamps / © Parks Canada / Rideau Canal National Historic Site).

skills and knowledge that support nature-based recreation. They also support awareness of the health and well-being benefits of time outdoors while shaping a life-long appreciation for Canada’s protected areas. Since 2011, Parks Canada’s Learn-to-Camp programme has attracted over 100,000 participants (Parks Canada, 2020) (Figure 3), while in 2019 Saskatchewan Parks’ Camp Easy programme enabled over 900 visitor nights for people who do not own camping gear (SaskParks, personal communication). In Ontario, a similar Learn-to-Camp programme has educated over 26,000 people through overnight camping experiences and engaged more than 100,000 through community outreach events (Ontario Parks, personal communication). Evaluations suggest that 59 per cent of participants went on a camping trip after the programme, while 95 per cent of participants indicated they would likely go on a future camping trip (Ontario Parks, personal communication).

Despite the programmes noted above, there remains no inclusive, systematic framework for organisations across Canada to consistently activate HPHP programming. This is also very common across agencies outside of Canada (with the exceptions of the U.S.

National Park Service, Parks Victoria and a limited number of other agencies). Without such a framework, implementation of programmes has ultimately been ad hoc. This is likely because many protected areas agencies and organisations in Canada lack human and financial resources to implement education, interpretation and outreach programming. Notably, these functions are often the first to be cut during government cutbacks in funding. Despite often having knowledge of community needs, managers are unable to comprehensively plan and deliver sufficient programming and events as they are dependent on available funding across all levels of government (Dearden, 2008).

Activating health benefits through programmes like those discussed above requires managers to either provide opportunities for partnerships (permits for outside groups/organisations) or generate the agency expertise required to host events, develop community programmes and connect with the wider community. To do so equitably, a systematic framework with detailed national-level data revealing where protected and conserved areas may be underserving the health and well-being needs of key populations is needed.

Making positive steps: Informing cross-sector policies and plans

The range of health and well-being benefits that PCAs provide are often acknowledged in provincial/territorial law and policy. In some cases, recognition of health and well-being was present in some of the earliest protected areas laws in Canada. The importance of health remains enshrined in Ontario park legislation today, where provincial parks “are dedicated to the people of Ontario and visitors for their inspiration, education, health, recreational enjoyment and other benefits...” (Government of Ontario, 2006). Critically, the historical context in which legislation was established to open new areas of land to the benefit of colonial-settler populations across Canada coincides with the imposition of the Indian Act of 1876 to achieve precisely the opposite for Indigenous nations by restricting their movements and rights and title (Artelle et al., 2019). Conjointly, these pieces of colonial legislation, among others, contributed to a ‘green colonialism’ that was accomplished in Algonquin Provincial Park, and in parks across Canada, often prohibiting hunting practices within the park boundary (Baker, 2002).

At present, the Algonquins of Ontario (AOO) are in negotiation with the Governments of Ontario and Canada to establish a modern-day treaty (Government of Ontario, 2021). In the interim, their constitutionally recognised right to harvest moose and elk has since 1991 been exercised through an annually negotiated Harvest Management Plan (Ontario Parks, 1998). The AOO regained trapping rights in nineteen registered traplines within the park in 1958 (Ontario Parks, 1998). The proposed treaty would also increase their collaborative planning role for parks and protected areas within the settlement area. As part of this treaty, it has been proposed that Lake St. Peter Provincial Park be expanded, the Crotch Lake Conservation Reserve be expanded and renamed Whiteduck Provincial Park (after an Algonquin family that traditionally lived in the area), and Bell Bay, Foy and Westmeath provincial

parks be transferred to the AOO (Government of Ontario, 2021).

In recent years, several Indigenous groups have asserted their constitutional and treaty rights to the management of several protected areas throughout Canada (Finegan, 2018). This includes collaborative and cooperative management and governance arrangements established between Crown governments and Indigenous governments and organisations, and the establishment of Indigenous Protected and Conserved Areas (IPCAs) which are Indigenous led and elevate Indigenous rights and responsibilities. Canada’s most recent protected areas legislation, the North West Territories’ *Protected Areas Act* (SNWT 2019, c.11), emphasises that Indigenous culture and ecosystems are on equal ground, underscoring the importance of protecting biodiversity and ecological integrity to the traditional lifestyles and health and well-being of Indigenous Peoples (Government of NWT, 2019). Two recently announced examples of protected areas established under the new Act are Thaidene Nëné and Ts’udé Niljné Tuyeta. These protected areas include collaborative and cooperative management and governance arrangements established with Indigenous governments and organisations to respect Aboriginal and treaty rights, land claims and self-government agreements. The NWT’s related *Healthy Land, Healthy People* work plan further details why protecting biodiversity through a healthy conservation network can foster healthy families and create opportunities for healthy lifestyles (Environment and Natural Resources, 2016).

Although some organisations have begun mainstreaming the concept, there are only a few HPHP policy and planning initiatives underway in Canada specifically occurring within PCA organisations. The Made-in-Ontario Environment Plan (Ontario Ministry of Environment Conservation and Parks, 2018) has paved the way for the development of a draft Ontario Parks HPHP Strategic Plan that is expected to be Canada’s first such plan (Box 1).

Box 1. Ontario Parks Healthy Parks–Healthy People Strategic Plan (Draft)

In the fall of 2019, Ontario Parks launched a public consultation on HPHP, inviting Ontarians to share feedback on ways to improve access to, and raise awareness of, the health benefits of being in nature. The consultation received over 2,500 submissions from individuals, groups and organisations (i.e. researchers, health practitioners, Indigenous organisations and tourism organisations) (Ontario MECP, 2021).

Participants highlighted priority directives, namely long-term protection of regional and provincial parks, conservation of biodiversity and ecology within parks, increasing events and programming (i.e. nature hikes, health events and park prescriptions) including safe access to park facilities, and ongoing communication about the health benefits of nature. Based on the feedback from the public consultation, Ontario Parks is in the process of developing a strategic plan for the next phase of the HPHP programme, including new ideas for programmes, the development of new policies, and the building of both existing and new partnerships.

It is important that PCA organisations move beyond operating in isolation and ensure that biodiversity considerations are integrated into government-wide health promotion strategies (Cook et al., 2019). Healthcare provider-driven ‘Park Prescriptions’ programmes like PaRx, a pan-Canadian initiative powered by the BC Parks Foundation, illustrate this need by concentrating on curriculum and training for prescribing time in nature as a wellness intervention. Early reception has been promising, with over 700 prescribers registered in the first six months of the programme (and at the time of publication of this article, over 1,000 prescribers). Each ‘prescriber’ is supported with tools and customisable information to connect patients of all ages to nature contact opportunities. PaRx is also developing a mobile application to track and incentivise nature time. This application will collect accurate, widespread data to inform research on nature prescription efficacy and best practices (Kondo et al., 2020).

Overall, despite some successful policy integration, the HPHP movement in Canada has somewhat stalled in its ability to successfully transition to more widespread policy and planning development and integration. There have been limited efforts to build relationships between PCA organisations (e.g. operations and visitor experience programming) and health ministries or departments. Like other regions in the world, there remain significant gaps in awareness among health practitioners and policymakers (Barnes et al., 2019; Townsend et al., 2015).

DISCUSSION AND RECOMMENDATIONS

Despite some promising signs of progress, we can conclude from our review that the HPHP movement is very much in its infancy in Canada. While a fully representative national ‘stocktake’ of HPHP programming across all of Canada’s PCA agencies was beyond the scope of this review (but is very much needed), evidence synthesised here suggests that advancing this movement will require more effective engagement of the broader conservation and health communities. Key actors include governments working in conservation, planning and health at all levels, private organisations, civil-society groups representing equity-deserving groups, and non-governmental organisations. The necessary inter-sectoral work is highly complex, but so too are the barriers that must be addressed to ensure that all Canadians and Indigenous Peoples are empowered to achieve their health potential through the nature-based experiences available in protected and other conserved areas. Given the shifting demographics in Canada, especially in large cities where

People of Colour make up most of the population, the long-term survival and relevance of park agencies may depend on making their parks a welcoming and direct part of the lives of a more diverse population now and into the future.

To address this formidable challenge, we offer several recommendations with respect to research and programme/plan development for the diverse and growing PCA community. We build on these recommendations in our supplementary material to this article. First, to address the observations related to research gaps and needs stated above, agencies need to enhance their ability to collect relevant visitor demographic data through reservation and registration systems. While the collection of such data must be approached with care, we were unable to locate intersectional visitor data for any Canadian PCA agency. By comparison, the U.S. National Park Service (NPS) regularly reports on visitor demographics, race and ethnic diversity of visitors, enabling studies that have demonstrated the equity challenges of the parks system, including the fact that Hispanics and Asian Americans each comprised less than 5 per cent of visitors to national park sites surveyed, while less than 2 per cent of visitors were African American (Scott & Lee, 2018).

Second, synthesised evidence, as well as ecosystem service evaluations focused on quantifying cost savings to the health-care system, will be required to convince decision-makers of the value of public health benefits associated with PCAs. Data from a ‘green prescriptions’ pilot project implemented by the UK National Health System showed that for every £1 (\$1.74 CAD) invested, there was a £6.88 (\$11.94 CAD) return in social benefits (Bagnall et al., 2019). While sometimes in conflict with recognising the rights of non-human actors and the innate value of ecosystems, economic evaluations have helped illustrate why public investments in PCAs are clearly worthwhile.

Third, it will be important for PCA agencies and organisations to continue to create an inclusive HPHP ethos from *within*. PCA agencies should consider hiring and/or more frequently engaging with health professionals and practitioners to advance the HPHP approach. For example, Scottish Forestry appointed a health professional to develop their health work, including the Branching Out programme (Scottish Forestry – Branching Out, n.d.). Furthermore, continued efforts to support a more inclusive environment, including shifts in behaviours, attitudes, traditions and interactions are required. This work must ensure diversity among employees and must ensure decisions made are informed by those with the lived

experience that decisions affect. The 2021 ECO Canada labour market profile for green jobs revealed a lack of diversity among staff within the growing environmental industry, including PCAs (ECO Canada, 2021). A focused assessment of diversity within PCA organisations could help identify gaps in the workforce and barriers that must be eliminated to recruit and retain a generation of leaders who reflect Canadian society. The first, crucial step is non-tokenistic hiring of staff that reflects Canada's diversity in terms of ethnicity, gender, ability and so on. This involves a commitment to the resources (staff, time, money, etc.) necessary to spearhead change. 'Guardian' programmes in the NWT offer an encouraging example linking land-based connections, employment opportunities and environmental stewardship (Indigenous Leadership Initiative, 2020).

Fourth, building solidarity between groups and movements by finding common ground and aligning goals can push forward action in creating healthy PCAs for all. Within this, it is important to understand the histories of specific groups, particularly Indigenous and People of Colour in Canada, and to centre these perspectives. It is also paramount to avoid pitting groups against one another in the push for equity, as this divisiveness only further upholds systems of oppression and social injustices. These lessons learned come from other approaches like Critical Race Theory and can be used to take an evidence-informed approach to justice, equity and inclusion within the HPHP movement (Delgado & Stefancic, 2017).

Finally, a pan-Canadian HPHP promotion strategy, with buy-in from all federal, provincial/territorial PCA

agencies and organisations is needed. This strategy must be pan-Canadian so it can provide the opportunity to coordinate HPHP programming with jurisdictions across Canada, Indigenous Peoples, national to local public health units, and other government departments (e.g. education), private organisations, and relevant social, environmental and health organisations. The U.S. National Park Service has a strategic plan, science plan, community engagement guide and active transportation guidebook that supports its HPHP efforts (U.S. National Park Service, 2018). HPHP initiatives offer immense opportunity to improve both ecological and social health, but the lack of a cohesive vision for health promotion across Canada's PCAs, as well as the absence of 'best practice' guidelines for integration has limited this potential to date. Policy and programme evaluation frameworks will need to be developed to assess effectiveness. A national health promotion strategy that recognises the need to both protect and experience nature seems a logical and strategic way forward for more effective nature–health integration.

CONCLUSIONS

Since its inauguration in 2000 by Parks Victoria in Australia, the HPHP movement has expanded to places such as New Zealand, Korea, Finland, the United States, South Africa, Scotland and Canada. While evidence is strong globally and continues to grow, further research is needed on many aspects of PCAs and human health specific to Canada. This includes research ranging from more formal longitudinal studies examining health impacts (or outcomes) along with social-ecological considerations, to strategies for effective conservation–health policy integration and promotion. In Canada's HPHP movement, many aspects of the relationships between groups facing systemic barriers (including Indigenous Peoples, Black and People of Colour, LGBT2SQ+ communities, and others), self-determination of one's health and well-being, and parks and protected areas access also remain poorly developed.

While the HPHP movement remains in its infancy in Canada, there are several promising signs of progress, including the recent introduction of *PaRx* programmes in BC (2020), Ontario, Saskatchewan and Manitoba (2021). The launch of *PaRx* in Ontario occurred with support from major health partners such as the Ontario College of Family Physicians, the Nurse Practitioners' Association of Ontario, the Association of Family Health Teams of Ontario, and doctors, nurses and other healthcare professionals. This collaborative effort represents a significant milestone in collaboration between the parks and health sectors. Furthermore, Parks Canada's recent announcement in February 2022



Ts'udé Niljné Tuyeta, a newly established Indigenous Protected and Conserved Area covering 10,000 square kilometres near Rádeyjljkóé, northwest of Yellowknife, NWT. Guardian programmes have an emphasis on healing, health, wellness and connecting with traditional ways for the youth who are becoming Guardians © Julien Schroeder

to partner with *PaRx* in national parks, national historic sites and national marine conservation areas, as well as expand national urban parks to every province and territory in Canada (with a target of 15 new urban parks by 2030), has the potential to increase awareness, expand public access to nature-based health resources and ultimately improve public health. Additionally, the emergence of IPCAs promotes by design a holistic approach to cultural and environmental health. The Indigenous Circle of Experts (ICE) Report describes IPCAs as conservation economies that protect biodiversity interwoven with the well-being of Indigenous people and communities. The ICE report explicitly states that such areas “...benefit all Canadians in the form of clean air and water, improved human health, and the mitigation of risks from climate change and disease” (Indigenous Circle of Experts, 2018). Engaging in Ethical Space, which provides a venue for knowledge systems to interact with mutual respect, kindness, generosity and other basic values and principles, will be key to creating conditions for effective collaboration between Indigenous and non-Indigenous partners (Indigenous Circle of Experts, 2018).

Harnessing the power of nature as a health resource for all will not be easy. More effective collaborations with government health/public health ministries or departments would provide access to far greater financial and human resources, an increased capacity to communicate and engage with the public and, quite possibly, an enhanced ability to use the best available evidence to inform decisions that affect both ecological and human health and well-being. Relatedly, several studies have projected that there will likely be significant and lasting mental health impacts from the COVID-19 pandemic (Pfefferbaum & North, 2020), presenting an opportunity to further promote the role of PCAs in Canada in sustaining human health and well-being. A robust and inclusive pan-Canadian HPHP programme, across the nature continuum and inclusive of Canada’s diverse PCAs, is a unique opportunity to tackle these mounting issues. Within this, equitable and self-determining opportunities for nature-based experiences and learning should be at the core of such an approach to ensure that access to nature is made available to all through a focus on eliminating systemic economic, physical, social and cultural barriers.

DISCLAIMER

The views and opinions expressed in this paper are those of the authors and do not necessarily reflect the official policy or position of any agency, organisation or employer.

SUPPLEMENTARY ONLINE MATERIAL

Supplemental Online Material: Evidence Gaps and Recommendations

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REFERENCES

- Artelle, K.A., Zurba, M., Bhattacharyya, J., Chan, D.E., Brown, K., Housty, J. and Moola, F. (2019). Supporting resurgent Indigenous-led governance: A nascent mechanism for just and effective conservation. *Biological Conservation*, 240: 108284. <https://doi.org/https://doi.org/10.1016/j.biocon.2019.108284>
- Bagnall, A.-M., Freeman, C. and Southby, K. (2019). *Social Return on Investment Analysis of the Health and Wellbeing Impacts of Wildlife Trust Programmes*. <https://www.wildlifetrusts.org/>
- Baker, J. (2002). Production and consumption of wilderness in Algonquin Park. *Space and Culture*, 5(3): 198–210. <https://doi.org/10.1177/1206331202005003001>
- Barnes, M.R., Donahue, M.L., Keeler, B.L., Shorb, C.M., Mohtadi, T.Z. and Shelby, L.J. (2019). Characterizing nature and participant experience in studies of nature exposure for positive mental health: an integrative review. *Frontiers in Psychology*, 9. <https://doi.org/https://doi.org/10.3389/fpsyg.2018.02617>
- Camp, E., Spencer-Smith, T., Chapple, R., Eccles, S., Spindler, R. and Varcoe, T. (2020). *Healthy People in a Healthy Environment: Key Directions Statement* (Issue May). Sydney: Australian Committee for IUCN. <https://www.aciucn.org.au>
- Canadian Parks Council (CPC). (2014). *Connecting Canadians with Nature: An Investment in the Well-being of our Citizens*. Ontario: Parks Canada. 36 pp. <https://doi.org/978-0-9809372-4-4>
- Capaldi, C., Passmore, H.-A., Nisbet, E., Zelenski, J. and Dopko, R. (2017). Flourishing in nature: A review of the benefits of connecting with nature and its application as a wellbeing intervention. *International Journal of Wellbeing*, 5(4): 1–16. <https://doi.org/10.5502/ijw.v5i4.449>
- Ceballos, G., Ehrlich, P.R. and Dirzo, R. (2017). Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines. *Proceedings of the National Academy of Sciences of the United States of America*, 114(30): E6089–E6096. <https://doi.org/10.1073/pnas.1704949114>
- Chawla, L. (2020). Childhood nature connection and constructive hope: A review of research on connecting with nature and coping with environmental loss. *People and Nature*, 2(3): 619–642. <https://doi.org/10.1002/pan3.10128>
- Conway, T. and Scott, J. (2020). *Urban Forests in a Changing Climate*. Greenbelt Foundation. https://www.greenbelt.ca/forests_in_a_changing_climate
- Cook, P.A., Howarth, M. and Wheeler, C.P. (2019). Biodiversity and Health in the Face of Climate Change: Implications for

- Public Health. In M. Marselle, J. Stadler, H. Korn, K. Irvine and A. Bonn (Eds.), *Biodiversity and Health in the Face of Climate Change* (pp. 251–281). Springer Open. https://doi.org/https://doi.org/10.1007/978-3-030-02318-8_11
- Crawford, D.W. and Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences*, **9** (2): 119–127. <https://doi.org/10.1080/01490408709512151>
- Dearden, P. (2008). *Progress and Problems in Canada's Protected Areas: Overview of Progress, Chronic Issues and Emerging Challenges in the Early 21st Century*. <https://doi.org/http://dx.doi.org/10.11575/PRISM/10148>
- Delgado, R. and Stefancic, J. (2017). *Critical Race Theory*. New York University Press.
- Díaz, S., Settele, J., Brondizio, E.S., Ngo, H.T., Agard, J., Arneeth, A., Balvanera, P., Brauman, K.A., Butchart, S.H.M., Chan, K.M.A., Garibaldi, L.A., Ichii, K., Liu, J., Subramanian, S.M., Midgley, G.F., Miloslavich, P., Molnár, Z., Obura, D.O., Pfaff, A., ... Zayas, C.N. (2019). Pervasive human-driven decline of life on Earth points to the need for transformative change. *Science*, **1327** (December). <https://doi.org/10.1126/science.aaw3100>
- ECO Canada. (2021). *Nature Conservation Sector Profile (2021)*. <https://www.eco.ca/research/report/nature-conservation-sector-profile/>
- Environment and Natural Resources. (2016). *Healthy Land, Healthy People: Government of the Northwest Territories Priorities for Advancement of Conservation Network Planning 2016-2021*. Yellowknife: Government of the Northwest Territories. <https://www.enr.gov.nt.ca/en/services/conservation-network-planning/healthy-land-healthy-people>
- Finegan, C. (2018). Reflection, acknowledgement, and justice: A framework for Indigenous-Protected Area Reconciliation. *International Indigenous Policy Journal*, **9** (3). <https://doi.org/10.18584/iipj.2018.9.3.3>
- Finney, C. (2014). *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors*. UNC Press Books.
- Frankish, H., Boyce, N. and Horton, R. (2018). Mental health for all: a global goal. *The Lancet*. [https://doi.org/http://dx.doi.org/10.1016/S0140-6736\(18\)32271-2](https://doi.org/http://dx.doi.org/10.1016/S0140-6736(18)32271-2)
- Frumkin, H., Bratman, G.N., Breslow, S.J., Cochran, B., Kahn Jr, P.H., Lawler, J.J., Levin, P.S., Tandon, P.S., Varanasi, U. and Wolf, K.L. (2017). Nature contact and human health: A research agenda. *Environmental Health Perspectives*, **125** (7): 75001. <https://doi.org/10.1289/EHP1663>
- Government of Alberta. (2014). *Alberta Parks Inclusion Plan: Everyone Belongs Outside*. Alberta's Plan for Parks: Inclusion Plan. Alberta Parks, Edmonton. <https://www.albertaparks.ca/media/5143694/everyone-belongs-outside.pdf>
- Government of British Columbia. (2017). *Protecting our Legacy Together – BC Parks' Future Strategy: Securing our natural legacy through innovation, sustainability and partnership*. <https://bcparks.ca/future/docs/BC-Parks-Future-Strategy.pdf>
- Government of NWT. (2019). *Protected Areas Act, SNWT 2019, c.11* (p. 58).
- Government of Ontario. (2006). *Ontario Provincial Parks and Conservation Reserves Act, S.O. 2006, c. 12*.
- Government of Ontario. (2021). *The Algonquin Land Claim*. <https://www.ontario.ca/page/algonquin-land-claim>
- Groulx, M.W., Lemieux, C.J., Wright, P. and Healy, T. (2021). Participatory planning for the future of accessible nature. *Local Environment*, **27** (7): 808–824. <https://doi.org/https://doi.org/10.1080/13549839.2021.1933405>
- Ignace, M. and Ignace, R.E. (2017). *Secwépemc People, Land, and Laws: Yeri7 re Stsq'ey's-kucw*. Montreal: McGill-Queen's University Press.
- Indigenous Circle of Experts (ICE). (2018). *We Rise Together: Achieving Pathway to Canada Target 1 through the creation of Indigenous Protected and Conserved Areas in the spirit and practice of reconciliation*. https://publications.gc.ca/collections/collection_2018/pc/R62-548-2018-eng.pdf
- Indigenous Leadership Initiative. (2020). *Indigenous-Led Conservation: Job and Economic Opportunities that Work for Nature*. <https://www.ilinationhood.ca/publications/job-and-economic-opportunities>
- IUCN. (2019). *IUCN World Commission on Protected Areas: Health and Well-being*. <https://www.iucn.org/commissions/world-commission-protected-areas/our-work/health-and-well-being>
- Jakubec, S.L., Den Hoed, D.C., Ray, H. and Krishnamurthy, A. (2020). Grieving Nature – Grieving in Nature: The Place of Parks and Natural Places in Palliative and Grief Care. In K. Zywert and S. Quilley (Eds.), *Health in the Anthropocene* (pp. 241–250). University of Toronto Press. <https://doi.org/doi:10.3138/9781487533410-016>
- King, M., Smith, A. and Gracey, M. (2009). Indigenous health part 2: The underlying causes of the health gap. *The Lancet*, **374** (9683): 76–85. [https://doi.org/10.1016/S0140-6736\(09\)60827-8](https://doi.org/10.1016/S0140-6736(09)60827-8)
- Kondo, M.C., Oyekanmi, K.O., Gibson, A., South, E.C., Bocarro, J. and Hipp, J.A. (2020). Nature prescriptions for health: A review of evidence and research opportunities. *International Journal of Environmental Research and Public Health*, **17** (12): 4213. <https://doi.org/10.3390/ijerph17124213>
- Lemieux, C.J., Doherty, S.T., Eagles, P.F.J., Groulx, M.W., Hvenegaard, G.T. and Romagosa, F. (2016). Policy and management recommendations informed by the health benefits of visitor experiences in Alberta. *Journal of Park and Recreation Administration*, **34** (1): 24–52. <https://doi.org/https://doi.org/10.18666/JPra-2016-V34-I1-6800>
- Leung, Y., Spenceley, A., Hvenegaard, G., Buckley, R. and Groves, C. (Eds.). (2018). *Tourism and Visitor Management in Protected Areas: Guidelines for Sustainability* (Best Practice Protected Areas Guidelines Series, No. 27). Gland, Switzerland: International Union for the Conservation of Nature (IUCN). <https://doi.org/https://doi.org/10.2305/IUCN.CH.2018.PAG.27.en>
- Long, J., Hylton, K. and Spracklen, K. (2014). Whiteness, blackness and settlement: Leisure and the integration of new migrants. *Journal of Ethnic and Migration Studies*, **40** (11): 1779–1797. <https://doi.org/10.1080/1369183X.2014.893189>
- Louv, R. (2008). *Last Child in the Woods: Saving our children from nature-deficit disorder*. Algonquin Books.
- Lovell, R., Depledge, M. and Maxwell, S. (2018). *Health and the Natural Environment: A Review of Evidence, Policy, Practice and Opportunities for the Future for DEFRA*. Department for Environment, Food and Rural Affairs (DEFRA) and European Centre for Environment and Health, University of Exeter. https://beyondgreenspace.net/2018/09/07/defra_health_review/
- Maller, C., Townsend, M., St Leger, L., Henderson-Wilson, C., Pryor, A., Prosser, L. and Moore, M. (2009). Healthy parks,

- healthy people: The health benefits of contact with nature in a park context. *The George Wright Forum*, **26** (2): 51–83.
- Manzo, L.C. (2003). Beyond house and haven: toward a revisioning of emotional relationships with places. *Journal of Environmental Psychology*, **23** (1): 47–61. [https://doi.org/10.1016/S0272-4944\(02\)00074-9](https://doi.org/10.1016/S0272-4944(02)00074-9)
- Martin, L., White, M.P., Hunt, A., Richardson, M., Pahl, S. and Burt, J. (2020). Nature contact, nature connectedness and associations with health, wellbeing and pro-environmental behaviours. *Journal of Environmental Psychology*, **68**: 101389. <https://doi.org/10.1016/j.jenvp.2020.101389>
- Millennium Ecosystem Assessment. (2005). *Ecosystems and Human Well-being: Synthesis*. Washington, D.C.: Island Press. <http://www.millenniumassessment.org/documents/document.356.aspx.pdf>
- Nisbet, E.K. (2015). *Answering Nature's Call: Commitment to Nature Contact Increases Well-Being. Results of the 2015 David Suzuki Foundation's 30x30 Nature Challenge*. <https://david-suzuki.org/wp-content/uploads/2017/09/results-2015-david-suzuki-foundation-30x30-nature-challenge.pdf>
- Nisbet, E.K., Zelenski, J.M. and Murphy, S.A. (2009). The nature relatedness scale: Linking individuals' connection with nature to environmental concern and behavior. *Environment and Behavior*, **41** (5): 715–740. <https://doi.org/10.1177/0013916508318748>
- Ontario MECP. (2021). *Consultation: Healthy Parks Healthy People*. <https://www.ontario.ca/page/consultation-healthy-parks-healthy-people>
- Ontario Ministry of Environment Conservation and Parks. (2018). *Preserving and Protecting our Environment for Future Generations: A Made-in-Ontario Environment Plan*. <https://www.ontario.ca/page/made-in-ontario-environment-plan>
- Ontario Parks. (1998). *Algonquin Provincial Park Management Plan*. https://algonquinpark.on.ca/pdf/management_plan.pdf
- Parks Canada. (2017). *Parks for All: An Action Plan for Canada's Parks Community*. <https://cpa.ca/policy/parks-for-all/>
- Parks Canada. (2020). *2020–21 Parks Canada Departmental Plan*. <https://www.pc.gc.ca/en/agence-agency/bib-lib/plans/dp/dp2020-21/index>
- Parks Victoria. (2017). *A Guide to Healthy Parks Healthy People Approach and Practices*. https://www.iucn.org/sites/dev/files/content/documents/improving-health-and-well-being-stream-report_0.pdf
- Pfefferbaum, B. and North, C.S. (2020). Mental health and the Covid-19 pandemic. *New England Journal of Medicine*, **383** (6): 510–512. Mental health and the Covid-19 pandemic. DOI: 10.1056/NEJMp2008017
- Piccininni, C., Michaelson, V., Janssen, I. and Pickett, W. (2018). Outdoor play and nature connectedness as potential correlates of internalized mental health symptoms among Canadian adolescents. *Preventive Medicine*, **112** (October 2017): 168–175. <https://doi.org/10.1016/j.ypmed.2018.04.020>
- Puhakka, R., Pitkanen, K. and Siikamaki, P. (2017). The health and well-being impacts of protected areas in Finland. *Journal of Sustainable Tourism*, **25** (12): 1830–1847. <https://doi.org/http://dx.doi.org/10.1080/09669582.2016.1243696>
- Reining, C.E., Lemieux, C.J. and Doherty, S.T. (2020). Linking restorative human health outcomes to protected area ecosystem diversity and integrity. *Journal of Environmental Planning and Management*, **64** (13):2300–2325. <https://doi.org/10.1080/09640568.2020.1857227>
- Restall, B., Conrad, E. and Cop, C. (2021). Connectedness to nature: Mapping the role of protected areas. *Journal of Environmental Management*, **293**: 112771. <https://doi.org/10.1016/j.jenvman.2021.112771>
- Richmond, C. (2018). The relatedness of people, land, and health: stories from Anishinabe Elders. pp.167–186. In M. Greenwood, S. de Leeuw and N.M. Lindsay (Eds.). *Determinants of Indigenous Peoples' Health: Beyond the Social*. Toronto: Canadian Scholars.
- Rigolon, A., Browning, M.H.E.M., McAnirlin, O. and Yoon, H. (2021). Green space and health equity: A systematic review on the potential of green space to reduce health disparities. *International Journal of Environmental Research and Public Health*, **18** (5): 1–29. <https://doi.org/10.3390/ijerph18052563>
- Romagosa, F. (2018). Physical health in green spaces: Visitors' perceptions and activities in protected areas around Barcelona. *Journal of Outdoor Recreation and Tourism*, **23**: 26–32. <https://doi.org/10.1016/j.jort.2018.07.002>
- Romagosa, F., Eagles, P.F.J. and Lemieux, C.J. (2015). From the inside out to the outside in: Exploring the role of parks and protected areas as providers of human health and well-being. *Journal of Outdoor Recreation and Tourism*, **10**: 70–77. <https://doi.org/10.1016/j.jort.2015.06.009>
- Scott, D. and Lee, K.J. (2018). People of color and their constraints to national parks visitation. *The George Wright Forum*, **35** (1): 73–82. <http://www.georgewright.org/351scott.pdf>
- Scott, J. and Tennesi, A. (2021). *Race and Nature in the City: Engaging Youth of Colour in Nature-Based Activities*. Nature Canada. <https://naturecanada.ca/race-and-nature-in-the-city/>
- Scottish Forestry – Branching Out. (n.d.). Retrieved 26 January 2022, from <https://forestry.gov.scot/forests-people/health-strategy/branching-out>
- Spence, M.D. (2000). *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195142433.001.0001>
- Stanfield, R., Manning, R., Budruk, M. and Floyd, M. (2006). Racial Discrimination in Parks and Outdoor Recreation: an Empirical Study. In J.G. Peden and R.M. Schuster (Eds.); *Proceedings of the 2005 Northeastern Recreation Research Symposium. 2005 April 10–12*.
- Taff, B.D., Peel, V., Rice, W.L., Lacey, G. and Pan, B. (2019). Healthy parks healthy people: Evaluating and improving park service efforts to promote tourists health and well-being introduction. *Travel and Tourism Research Association: Advancing Tourism Research Globally*, 7.
- Townsend, M., Henderson-Wilson, C., Warner, E. and Weiss, L. (2015). *Healthy Parks Healthy People: The State of the Evidence 2015*. <https://www.iucn.org/sites/dev/files/content/documents/hphpstate-evidence2015.pdf>
- U.S. National Park Service. (2018). *Healthy Parks, Healthy People 2018–2023 Strategic Plan*. https://www.nps.gov/subjects/healthandsafety/upload/HP2-Strat-Plan-Release-June_2018.pdf
- Weber, J. and Sultana, S. (2013). Why do so few minority people visit National Parks? Visitation and the accessibility of “America's Best Idea”. *Annals of the Association of American Geographers*, **103** (3): 437–464. <https://doi.org/10.1080/00045608.2012.689240>

- Wells, N.M. and Lekies, K.S. (2012). Children and Nature: Following the Trail to Environmental Attitudes and Behavior. In J. Dickinson and R. Bonney (Eds.). *Citizen Science: Public Collaboration in Environmental Research* (pp. 201–213). Cornell University Press. <https://doi.org/https://doi.org/10.7591/9780801463952-021>
- World Health Organization, Health and Welfare Canada, and Canadian Public Health Association. (1986). *Ottawa Charter for Health Promotion: An International Conference on Health Promotion: The move towards a new public health*. <https://www.who.int/teams/health-promotion/enhanced-wellbeing/first-global-conference>
- Wright, P.A. and Matthews, C. (2015). Building a culture of conservation: Research findings and research priorities on connecting people to nature in parks. *PARKS*, **21** (2): 11–24. <https://doi.org/10.2305/IUCN.CH.2014.PARKS-21-2PAW.en>
- Youdelis, M. (2016). “They could take you out for coffee and call it consultation!”: The colonial antipolitics of Indigenous consultation in Jasper National Park. *Environment and Planning A: Economy and Space*, **48** (7): 1374–1392. <https://doi.org/10.1177/0308518X16640530>
- Zanon, D., Doucouliagos, C., Hall, J. and Lockstone-Binney, L. (2013). Constraints to park visitation: A meta-analysis of North American studies. *Leisure Sciences*, **35** (5): 475–493. <https://doi.org/10.1080/00140139.2013.828888>

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RESUMEN

En este artículo describimos los avances y retos que se plantean al tratar de establecer una promoción eficaz de la salud en las experiencias de los visitantes en las áreas protegidas y conservadas de Canadá. A pesar de la ampliación de la base de datos mundial, los estudios de casos centrados en aspectos de la salud y el bienestar dentro de las áreas protegidas y conservadas de Canadá siguen siendo limitados. Los datos relativos a las motivaciones, los obstáculos y las experiencias de los visitantes no suelen ser recogidos por los organismos gubernamentales y, si se recogen, no se ponen a disposición del público ni se informa sobre ellos. Es evidente que existe un gran vacío en la investigación y la acción centrada en las necesidades y los derechos de los grupos que se enfrentan a barreras sistémicas. Las cuales se pueden relacionar entre otras cuestiones, con el acceso, las experiencias en la naturaleza o los resultados de salud y bienestar. La activación de programas a nivel de sitio sigue creciendo, y los programas de Prescripción de Parques, así como los cambios en la Ley de Accesibilidad de Canadá, representan ejemplos significativos y positivos de la reciente integración de políticas intersectoriales. Todavía no se han realizado evaluaciones de los resultados asociados a los programas de HPHP, pero seguramente serán importantes para adaptar las intervenciones e informar sobre la creación de capacidades intersectoriales. Concluimos proporcionando una visión general de las lagunas en la evidencia y la práctica que, si se abordan, pueden conducir a una promoción más eficaz de la salud humana frente al contacto con la naturaleza en áreas protegidas y conservadas en Canadá.

RÉSUMÉ

Dans cet article, nous décrivons les progrès et les défis liés à l'établissement d'une promotion efficace de la santé liée aux expériences des visiteurs offertes par les aires protégées et conservées au Canada. Malgré l'élargissement de la base de données mondiale, les études de cas axées sur les aspects de la santé et du bien-être dans les aires protégées et conservées du Canada restent limitées. Les données relatives aux motivations, aux obstacles et aux expériences des visiteurs ne sont souvent pas recueillies par les agences gouvernementales et, si elles le sont, elles ne sont pas mises à la disposition du public ou ne font pas l'objet de rapports. Il existe une lacune évidente et importante dans la recherche et l'action axées sur les besoins et les droits des groupes confrontés à des obstacles systémiques liés à une variété de questions, y compris, mais pas limité a, l'accès, les expériences de la nature et les besoins en matière de santé et de bien-être. L'activation des programmes au niveau des sites continue de croître, et les programmes de prescription de parcs, ainsi que les modifications apportées à la Loi canadienne sur l'accessibilité, représentent des exemples significatifs et positifs de l'intégration récente des politiques intersectorielles. Les évaluations des résultats associés aux programmes HPHP n'ont pas encore eu lieu, mais elles seront importantes pour adapter les interventions et informer le renforcement des capacités intersectorielles. Nous concluons en donnant un aperçu des lacunes dans les données probantes et la pratique qui, si elles sont comblées, peuvent mener à une promotion plus efficace de la santé humaine vis-à-vis du contact avec la nature dans les aires protégées et conservées au Canada.