



Biodiversity and health

The Public Health Association of New Zealand (PHA) is a national association with members from the public, private and voluntary sectors. Our organisation's vision is 'Good health for all - health equity in Aotearoa', or 'Hauora mō te katoa – oranga mō te Ao', and our purpose is to advocate for the health of all New Zealanders. To achieve this, we provide a forum for information and debate about public health action in Aotearoa New Zealand. Public health action aims to improve, promote and protect the health of the whole population through the organised efforts of society. We recognise Te Tiriti o Waitangi as the founding document, defining respectful relationships between tangata whenua and tangata Tiriti, and are actively committed to supporting Te Tiriti values in policy and legislation.

The Public Health Association calls for urgent action to enhance native biodiversity and improve equitable access to nature. Doing so will deliver positive outcomes for the environment while simultaneously enhancing the health and wellbeing of people and communities.

Overview

The purpose of this advocacy brief is to highlight the relationship between biodiversity and mental and physical health. Access to, and meaningful connection with nature has been found to have significant benefits for human health and wellbeing (Cox, Shanahan, Hudson, Fuller, & Gaston, 2018). These benefits are further increased through access and connection to nature that is in good condition with high levels of native biodiversity (Donovan G, 2021; Donovan, Gatzliolis, Longley, & Douwes, 2018a). Yet in Aotearoa, access to nature in general, and especially access to nature with high biodiversity, is currently limited and inequitable. Examination of the evidence endorses the need for a robust policy to increase access to greenspace while enhancing the quality and native biodiversity of these spaces to improve mental health and wellbeing in society.

Background

Human wellbeing and nature's wellbeing are intricately interwoven. Improving the health of the environment improves the health of people (Richardson, Pearce, Mitchell, Day, & Kingham, 2010). Overwhelming evidence supports the importance of biodiversity to social and environmental determinants of health (Aerts, Honnay, & Van Nieuwenhuysse, 2018; Donovan, Gatzliolis, Longley, & Douwes, 2018b; Duarte-Tagles, Salinas-Rodríguez, Idrovo, Búrquez, & Corral-Verdugo, 2015; Hough, 2014; Lovell, Wheeler, Higgins, Irvine, & Depledge, 2014; Souter-Brown, Hinckson, & Duncan, 2021; Wood et al., 2018; World Health Organization, 2017). Yet Aotearoa New Zealand's biodiversity is in decline, (Environment Foundation, 2021) and human health and wellbeing continues to be at risk.

For Māori, mauri ora represents an integrative life force that connects all – rocks, rivers, trees and people. A Mauri ora approach to human wellbeing therefore takes an "all of life" approach that explicitly tackles biodiversity, mental health, and wellbeing together (Yates et al. 2021). A holistic approach for restoring nature while enhancing access and opportunities for meaningful connection is therefore critical for improving mental, social, cultural and ecological wellbeing together.

This evidence is used to rethink urban design to ensure equitable access to greenspace (Souter-Brown, 2015), develop health policies that enable meaningful connection to nature in people's everyday lives (World Health Organization & Government of South Australia, 2010) and redesign school and university estates to mainstream experiences in nature (Chawla, Keena, Pevec, & Stanley, 2014). Working within the interconnections of health and wellbeing, biodiversity and the state of the environment could inspire a range of new solutions that deliver positive outcomes for people and nature. Aotearoa needs greater focus on integrated policy and practice designed to improve biodiversity for human health and wellbeing, to deliver a future where people and nature thrive.

Nature and health during COVID 19

The COVID-19 pandemic resulted in unprecedented and rapid changes to people's day-to-day lives, impacting mental health and wellbeing. Access to nearby nature for people's daily exercise was shown to be especially important for increasing self-esteem, life satisfaction and happiness, while reducing loneliness, depression, and anxiety during lockdown (Soga et al. 2020). Urban nature was also found to be an important source of resilience during social distancing and lockdown (Samuelsson et al. 2020). Nature in and around the home is thought to play a key role in mitigating against potential negative mental health outcomes resulting from the pandemic. Immune function is known to be stronger in people who have regular access to natural environments (Haluza, Schönbauer, & Cervinka, 2014). However, unequal access to nature and the variable quality of nature experience available meant some people suffered disproportionately (Mell & Whitten, 2021).

Inequity in access to nature

Research has shown that living near more trees improves physical and mental health. The higher the density of trees in a neighbourhood, the lower the incidence of heart and metabolic disease (Kardan et al. 2015), the lower the rates of antidepressant prescribing (Taylor et al. 2015), and the higher an individual's mental and physical health (Kardan et al. 2015; Taylor et al. 2015; Van den Berg et al. 2010). People who move from less green neighbourhoods to more green neighbourhoods have also been reported to demonstrate significantly higher mental health with sustained mental health improvements (Alcock et al. 2014).

Greenspace, canopy cover, and biodiversity tends to be less available in less affluent socio-demographic neighbourhoods (Golubiewski et al. 2021). Urban green policies must go well beyond increasing the number of trees and access to greenspace. These policies must also consider the placement, elements, and quality of this nature – and opportunities for people to connect meaningfully to nature - to maximise people's experiences and mental health outcomes (Soga et al. 2020). Equitable access to high quality nature in people's day-to-day lives must be prioritized to resolve these inequities in Aotearoa.

The case for reform

Prescribing nature for mental health is a cost effective and affordable intervention for improving human health and wellbeing. Doctors and health professionals could immediately begin 'prescribing nature' to children and families. Such an approach could be coupled with the development of health policies specifically aimed at improving health and wellbeing of their population through enhancing nature. These health policies must acknowledge inequities in access

to nature and actively seek to overcome these inequities to deliver access to high-quality and biodiverse natural spaces for all.

Urban design needs to be reimagined so urban spaces become health-promoting havens for people and nature. A holistic mauri ora approach could be used to advance an integrative “all of life” approach that enhances mental, social, cultural, and ecological wellbeing together (Yates et al. 2021). Such approaches must be co-created to deliver place-based wellbeing outcomes aligned to the priorities and aspirations of the people who live there.

Opportunities to interact meaningfully with nature in everyday life are critical. These opportunities must extend beyond those prescribed by health professionals and designed into our urban environments. Subsidised experiences in nature should also be prioritised so that people can see and experience the abundance and diversity of life our natural environments can offer. Such experiences should be accessible for all so that no one is left behind and could range from subsidised trips to offshore islands, to guided walks through nature, to creative art projects and community open days. Opportunities to be active and connected to nature should also be embedded in the curriculum of every school and university to ensure all students have opportunity to experience and learn about the natural world while also receiving significant health and wellbeing benefits.

Priorities for action:

1. Develop health policies aimed at improving health and wellbeing through access to nature and biodiversity.
2. Redesign urban environments to increase opportunities for all people to connect meaningfully with nature in their day-to-day lives.
3. Co-create biodiverse areas that can deliver place-based social, cultural, and environmental outcomes aligned to the priorities and aspirations of the people who live there.
4. Embed opportunities for all children to meaningfully connect with nature through redesigned play spaces and through school curricula.
5. Link health policy to urban planning and design at local authority level.

PHA actions to support this policy

The Public Health Association, including its branches, will:

- Keep members informed of relevant research, key policy/legislative developments and consultations
- Influence local and central government policy-making through submissions and participation in policy development forums
- Strengthen relationships with researchers, aligned advocacy groups, and policy officials and decision makers at local, regional and national levels.

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