

The Value of Blue and Green Spaces

How nature can enhance physical activity and wellbeing in Aotearoa New Zealand



SPORT
NEW ZEALAND
IHI AOTEAROA

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Overview

As more people around the world live in urban areas and our lives are increasingly digitally connected, nature plays a vital role in supporting our health and wellbeing. Blue and green spaces like parks, bush and beaches offer enriching opportunities for activity, connection and wellbeing that are not easily matched in urban environments.

The World Health Organization highlights that health promotion should prioritise creating and preserving environments that enable people to adopt and maintain healthy lifestyles.¹ In Aotearoa, Sport New Zealand Ihi Aotearoa (Sport NZ) is dedicated to maintaining and improving the physical activity levels of tamariki and rangatahi, while ensuring more opportunities and better experiences for those who are less active.

This report consolidates findings from national and international research published in peer-reviewed journals and case studies. It aims to empower the play, active recreation and sport sector to advocate for the value of physical activity in blue and green spaces for the health and wellbeing of young people.

Our findings show that blue and green spaces and te taiao (the natural world) are critical aspects of quality physical activity for young people in Aotearoa. To make sure tamariki and rangatahi have fun, healthy and sustainable opportunities to be active, we need to protect and promote these natural environments.

Key findings

- Being in nature inspires people to be physically active and can lead to longer and more intense physical activity.
- Being active in blue and green spaces is important for supporting the hauora (health and wellbeing) of tamariki and rangatahi. It can be more beneficial than being active indoors or in grey spaces.
- For Māori, physical activity in te taiao supports cultural connection and wellbeing.
- Being active in blue and green spaces has a positive influence on mental and social development for tamariki and rangatahi.
- There are actions we can take to support all tamariki and rangatahi to benefit from being active in blue and green spaces and te taiao.



Who is this report for?

This report is intended for anybody who is interested in understanding or advocating for the value of blue and green spaces in supporting physical activity and the wellbeing of tamariki and rangatahi. This might include:

- those who provide and maintain blue and green spaces
- those working with tamariki and rangatahi who want to explore ways to incorporate physical activity in blue and green spaces into their mahi
- those who advocate for the value of quality physical activity opportunities for tamariki and rangatahi
- those who provide outdoor experiences for tamariki and rangatahi.

Definitions

Types of spaces

Spaces can vary greatly in their characteristics and level of human influence. They range from open, undeveloped wilderness spaces like national parks, rivers and lakes, to built urban spaces surrounded by grey space such as urban parks.

- **Blue spaces:** outdoor spaces with visible surface waters like lakes, rivers and coastal water.
- **Green spaces:** outdoor spaces that are partly or completely covered by vegetation of any kind like trees, grass, bush, parks and gardens.
- **Indoor spaces:** areas within a building or structure that are enclosed by walls and a roof like classrooms, offices, libraries and gyms.
- **Grey spaces:** urban, concrete, artificial, constructed spaces like roads, parking lots, civic squares and plazas, and industrial areas.

Physical activity

In this report, we use 'physical activity' to mean recreational physical activity, including play, active recreation and sport. It does not include physical activity carried out for transport or as part of a job.

The World Health Organization recommends the following.

- Children and adolescents (aged 5 to 17): at least an average of 60 minutes per day of moderate- to vigorous-intensity, mostly aerobic, physical activity. Activities that strengthen muscle and bone should be incorporated at least 3 days a week.
- Adults (aged 18 to 64): at least 150 to 300 minutes of moderate-intensity aerobic physical activity; at least 75 to 150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week, for substantial health benefits.

Read more about [**WHO guidelines on physical activity and sedentary behaviour.**](#)

Te reo Māori words used in this report are defined in the Glossary of kupu Māori on page 24.

Examples of blue and green spaces in Aotearoa



Te ao Māori perspectives: Te taiao and hauora

Tangata whenua (Indigenous people, people with bloodlines to the land) in Aotearoa have a deep, reciprocal and holistic relationship with te taiao, which emphasises interconnectedness, respect and responsibility for the wellbeing of both people and the natural world. The perspectives presented in this report about the relationships between te taiao and physical activity are not new but are historical teachings, passed down through generations.

Taiao encompasses the natural world: the environment, earth and nature.

- **Tai:** the horizon where heaven and earth meet.
- **Ao:** the world around, above and below us.
- **Te taiao:** the natural world that contains and surrounds us.

One way the relationship with te taiao can be understood is through the concept of whakapapa (genealogy). Tangata whenua have whakapapa within spiritual and physical realms and see themselves as interconnected with te taiao, not separate from it. This understanding is inherent in te ao Māori and shapes interactions with the natural environment.

This interconnectedness means te taiao cannot be owned or controlled but rather must be respected and cared for. Tangata whenua have a reciprocal relationship with the natural world, where humans have a responsibility to protect and nurture the environment, just as it provides for them. This relationship can be understood as kaitiakitanga (guardianship).²

The enduring relationship between te taiao and hauora is reflected in whakataukī (proverbs) such as:

Ka ora te wai, ka ora te whenua. Ka ora te whenua, ka ora te tangata.

*If the water is healthy, the land will be nourished.
If the land is nourished, the people will be provided for.³*

Te toto o te tangata, he kai; te oranga o te tangata, he whenua.

While food provides the blood in our veins, our health is drawn from the land.⁴

Blue spaces are significant to Māori as wai (water) is culturally important and a fundamental part of identity, health and wellbeing. Waterways are regarded as a taonga (treasure) for their significance in relation to whakapapa, connection to place and spirituality. Many Māori pā (fortified villages) were, and still are, located near waterways as this provided easy access to critical food and materials.⁵

Hauora acknowledges that physical, mental, spiritual and social wellbeing are intertwined, and are intrinsically linked to the wellbeing of te taiao. Time spent in te taiao, caring for te taiao and the wellbeing of te taiao can all influence hauora. These relationships are commonly depicted through Te Whare Tapa Whā model of hauora developed by Sir Mason Durie, but they can also be understood through the Atua Matua framework, which is discussed later in this report.

Te taiao is intricately and inseparably linked with hauora and movement for tangata whenua. For many communities across Aotearoa, the natural environment – te taiao – plays an essential role in everyday wellbeing and cultural connection. It serves as a vital space for gathering kai, sourcing resources such as harakeke, pīngao and pounamu and practising traditions that strengthen whanaungatanga (human connection). This is especially true for communities whose lives are deeply intertwined with te taiao and who are more significantly impacted by environmental changes and events.



About the evidence and terms used in this report

Reflecting the bicultural foundation of Aotearoa

This report reflects the bicultural foundation of Aotearoa New Zealand, grounded in Te Tiriti o Waitangi. In recognition of this, both te reo Māori and English are used throughout. We refer to young people as tamariki and rangatahi, regardless of the terms used in the evidence. We generally use the term 'physical activity' to include play, active recreation and sport, unless specified otherwise in the evidence. We use both blue and green spaces and te taiao to refer to the natural environment, while recognising that te taiao has a unique meaning distinct from Western concepts of nature. We recognise that within te ao Māori, te taiao, hauora and physical activity are interconnected and holistic. This differs from Western research approaches, which often rely on categorisation and quantification.

Research limitations

Current research exploring the link between blue and green spaces and wellbeing is primarily cross-sectional. This means directional and causal conclusions cannot be made. For example, we cannot conclude that people who choose to live in environments with better access to blue and green spaces are more active to begin with. There is some systematic review and meta-analysis research available. These are the most trusted forms of evidence because they critically interpret the results from many published studies on the same topic. However, the systematic reviews and meta-analyses in this report are limited by the number, quality of evidence and diverse characteristics of the individual studies. This limits our ability to draw strong conclusions.

Characteristics of blue and green spaces

Blue and green spaces vary greatly in their defining characteristics and human intervention effects. This diversity is evident across urban parks, playgrounds, community gardens and urban farming locations, natural bush, oceans and rivers. One of the main challenges for our research is inconsistency in how blue and green spaces and their characteristics are defined. Where studies have named specific types of blue and green spaces, we have retained this when presenting the evidence in this report. If no specific type of blue and green space is named, this is because it was not named in the original source of information.

Research population

Several studies have been conducted in adult populations and the evidence suggests that the findings for adults would not be significantly different for tamariki and rangatahi. Where research has been carried out specifically with tamariki and rangatahi, this is noted in the report. Otherwise, the findings are from research with adults or the general population.

Overall

While the evidence presented in this report generally upholds the value of blue and green spaces in supporting quality physical activity and wellbeing for tamariki and rangatahi, more research is required to strengthen our claims. Incorporating kaupapa Māori methodologies in future research is essential to authentically understanding relationships between te taiao, hauora and physical activity, and supporting mātauranga Māori and Māori-led initiatives in this field.

Blue and green spaces promote physical activity

What does the evidence tell us?

Being in nature inspires people to be physically active and can lead to longer and more intense physical activity. It is associated with increased physical activity, intensity of physical activity and the intention to be physically active in the future. Studies highlight that living near blue and green spaces has a positive impact on physical activity and overall wellbeing.

Summary of evidence

Nature encourages people to be active

Nature itself may act as an incentive to visit blue and green spaces, and physical activity may be a deliberate or an incidental outcome of this. Experiencing nature is a commonly stated reason for visiting green spaces, which can lead to physical activity in these spaces.^{6,7,8}

For tamariki, blue and green spaces can promote more physical activity through play. Studies suggest tamariki enjoy outdoor open spaces where they can challenge themselves, take risks, explore, create and manipulate objects. Blue and green spaces afford these opportunities more than manufactured spaces, which are often created with a specific purpose in mind.⁹



Blue and green spaces are associated with more time spent being active

Systematic review and meta-analysis evidence indicates that living close to a blue space, and more blue spaces within a geographical area, is associated with significantly higher physical activity levels.^{10,11,12,13,14,15}

A cross-sectional study in New Zealand found that green space exposure was positively associated with moderate to vigorous physical activity in tamariki.¹⁶

A study of 1,780 rangatahi in Dunedin, New Zealand found that the participants who met physical activity guidelines resided in areas with better access to health-promoting environments (which included blue spaces, green spaces and physical activity facilities) compared to those who did not meet the guidelines.¹⁷

A study among 10 to 12-year-old tamariki found that every hour spent outdoors was linked to an increase in weekly physical activity by 27 minutes for girls and 20 minutes for boys during cooler months. While this study did not focus on blue and green spaces specifically, it suggests time outdoors more generally could be beneficial for increasing physical activity in tamariki, particularly in cooler months where the effect of weather and less daylight impact on physical activity participation.¹⁸

Blue and green spaces are associated with varied and higher-intensity physical activity

A study of school children in England found that green spaces such as gardens, parks, grassland and farmland supported more vigorous and longer-duration activity when compared to grey spaces such as buildings, roads and pavements.¹⁹

One study reported that during a 30-minute walk at a self-selected pace, the participants covered a greater distance when walking in natural environments compared to walking indoors or in outdoor urban environments.²⁰

From an ecological dynamics viewpoint, blue and green spaces offer a broader range of opportunities for physical activity compared to indoor spaces. The unpredictability and irregularity of natural environments allow and encourage a variety of movements and flexibility in behaviour.²¹

People who are active in nature report greater intention for future activity

A systematic review found that participants had greater intention to do the activity again when they exercised outdoors compared to indoors.²²



Physical activity in blue and green spaces is associated with important health and wellbeing benefits

What does the evidence tell us?

Being active in blue and green spaces is important for supporting health and wellbeing. It contributes to mental and emotional, social, physical and hedonic wellbeing, while also enhancing wellbeing resilience. Sometimes, being active in blue and green spaces has greater benefits than being active indoors or in grey spaces.^{23,24}



Mental and emotional health and wellbeing benefits

Exposure to blue and green spaces is linked to a wide range of mental and emotional wellbeing benefits

These benefits include decreased psychological distress, depressive symptoms and overall fatigue, as well as increased positive mood, emotional wellbeing, stress relief and perceived mental health.^{25,26}

Blue spaces and large (>30ha) urban and recreational forests are associated with greater benefits for stress reduction and relaxation compared to built or maintained green outdoor settings.²⁷

Being active in blue and green spaces is associated with enhanced mental and emotional wellbeing compared to being active indoors and in grey spaces

It's important to note that physical activity in any setting can be beneficial for mental health. However, physical activity in blue and green spaces may have benefits above and beyond those gained from being active indoors or in grey spaces.

A survey of 179 people over the age of 18 in Aotearoa found there was a positive association between physical activity in nature and physical and psychological wellbeing. Each instance of physical activity in nature was associated with a 3.13 increase in physical wellbeing score and a 5.62 increase in psychological wellbeing score. Physical activity indoors was also associated with physical and psychological wellbeing, but not to the same extent as physical activity in nature.²⁸

An observational, population-level study in Scotland found that physical activity in blue and green spaces is better for mental health than physical activity in indoor and grey spaces. Each additional use of blue and green spaces per week is associated with approximately 6% lower risk of poor mental health.²⁹ Other studies have found enhanced benefits of being active in blue and green spaces compared to indoor and grey spaces including:

- greater feelings of revitalisation
- increased subjective health
- increased emotional wellbeing
- more relaxation
- more stress reduction
- increased energy
- decreased tension
- decreased depression.^{30,31,32,33,34,35}

These benefits can be felt after only 5 minutes

Research indicates that the restorative effects of being active in nature can be felt in as little as 5 minutes.³⁶

Being active in blue and green spaces can contribute to a sense of purpose and meaning

A survey of 262 physically active adults in Aotearoa found a strong association between being physically active in nature and eudaimonic wellbeing (sense of meaning, purpose, flourishing, self-discovery and reaching one's potential).³⁷

The benefits of being active in nature can be felt in as little as 5 minutes.

**Social health and wellbeing benefits****Active recreation in blue and green spaces is associated with more social connection**

Outdoor spaces play an important role in facilitating physical activity and social connectedness for tamariki and rangatahi.³⁸ Research indicates that people who exercise in blue and green spaces have greater social interaction time compared to those that exercise indoors.³⁹

A systematic review and meta-analysis of outdoor recreation's role in youth development found significant improvements in social connectedness for participants. Youth who engaged in outdoor camps, group hikes or adventure programmes showed better interpersonal relationships and teamwork skills as a result. In this review, the evidence for social benefits was rated high, which means that many studies in the review consistently observed positive social outcomes.⁴⁰

Outdoor sports provide opportunities and places for social interaction and relationships, leading to increased social connectedness among families, groups and communities. They may promote active citizenship, such as volunteering and community services. This in turn builds and maintains involvement in local community life, identity and pride.⁴¹



Physical health and wellbeing benefits

Benefits of being physically active in nature for physical health and wellbeing

- **Reduced burden of non-communicable diseases.** National data from England suggests that nature-based recreational physical activity results in reduced burden of disease through prevention of an estimated 12,763 cases of priority non-communicable diseases such as ischaemic heart disease, ischaemic stroke, type 2 diabetes, colon cancer, breast cancer and major depressive disorder. Disease prevention through nature-based physical activity was estimated to save £108.7 million annually.⁴²
- **Breathing cleaner air.** Vegetation can directly improve air quality by filtering pollutants, so people who are active in these spaces are breathing cleaner air.⁴³



Hedonic wellbeing

Benefits of being physically active in nature for hedonic wellbeing (experience of enjoyment and happiness)

Adults report greater enjoyment and satisfaction with outdoor activity in natural environments compared to indoor activity.^{44,45,46}

In a study of people's motivation for adhering to green exercise, the statement, "because it makes me happy" was the highest ranked motivation.⁴⁷



Wellbeing resilience

A cross-sectional study in the United States showed that rangatahi with high participation rates in outdoor play activities prior to the COVID-19 pandemic had smaller decreases in their subjective wellbeing. Those who continued to participate in outdoor play and nature-based activities during the pandemic were buffered against declines in subjective wellbeing.⁴⁸

Case study

Breaking barriers to accessing nature

An Australian initiative, Active in Nature, supported over 100 young people who faced barriers to being active by offering a range of activities, such as kayaking, canoeing, bush walking, mountain biking and abseiling. The programme included educational activities to learn about Indigenous culture, safety practices and respect for the environment. The outcomes show how outdoor activities can promote health, wellbeing and community connection.

- 86% of participants felt happier after participating.
- 72% felt more connected to other people.
- 83% intended to stay active beyond the programme.

[!\[\]\(339a16584d5da0f0a3ca4e9ec17bf6a1_img.jpg\) Read the full case study](#)[!\[\]\(a870788d6ed9b8fd294b7654a8c8526b_img.jpg\) Visit Active in Nature website](#)

Physical activity delivered in te taiao supports Māori cultural connection and wellbeing

Physical activity that is designed and delivered by tangata whenua is driven by Māori values. These values include a reciprocal and holistic relationship with te taiao, which emphasises interconnectedness, respect and responsibility for the wellbeing of both people and the natural world. Opportunities led by tangata whenua for tamariki and rangatahi to be active in te taiao can support their cultural connection and wellbeing.

This section presents concepts, models and case studies that show the value of te taiao and physical activity in creating opportunities for tamariki and rangatahi Māori to learn about, participate in, value and celebrate their unique cultural customs and ways of living.

Concepts and models

The Atua Matua Framework

This framework is a health system that uses traditional Māori environmental knowledge to understand health from an Indigenous perspective. Developed by Dr Ihirangi Heke, it provides a set of environmentally-based Māori concepts that aim to help Māori move from the current deficit-based mainstream model of health to a Māori ancestral framework, with te taiao at its centre.

[Read more about the framework](#)[Watch a video about the framework](#)

Hauora benefits of being active in te taiao

Māori who are active in te taiao may experience benefits for their hauora including:

- reaffirming and connecting with whakapapa
- acknowledging and connecting with various Atua, such as Tangaroa, Tāne Mahuta, Tāwhirimātea, Papatūānuku. This connection supports te ao wairua (spiritual wellbeing), which is essential for balance and wellbeing within te ao Māori
- reaffirming and enacting their role as kaitiaki (guardians)
- engaging in traditional methods of growing, harvesting and collecting kai
- developing their knowledge of mātauranga Māori.⁴⁹

This quote from a Māori university student reflecting on an experience in blue space demonstrates the concept:

“I would consider this experience both an adventure and a spiritual journey. I know my ancestors dived in these same locations long before me and I cherish that dearly. Through diving, I gain an appreciation and connection for the ocean and where I’m from. My hapū (subtribe) in the far north is called Te Whanau Moana (people of the ocean, or family of the ocean). I feel a sense of connection to the ocean because of that, and I feel I have a responsibility to my people to feel like I belong to the ocean.”⁵⁰

Te Whetū Rehua: Supporting participation ‘as Māori’

Being physically active in te taiao is core to Māori participating as their most authentic selves. Te Whetū Rehua is Sport NZ’s guiding framework that helps play, active recreation and sport providers design or adapt activities to be culturally responsive to Māori.

When we say ‘as Māori’, we mean creating opportunities where tangata whenua can participate in ways that reflect their identity, values and connection to te ao Māori.

1 of the 5 key values of Te Whetū Rehua is kaitiakitanga, which emphasises the importance of guardianship and connection to places of whakapapa significance – such as marae, whenua, awa and maunga. By embedding these values, Te Whetū Rehua supports tangata whenua to participate in physical activity in ways that affirm their cultural identity, which is vital to wellbeing and supports access to wider society.



Watch the video and find out more about Te Whetū Rehua



Case studies

Inspiring rangatahi to explore and connect with the ocean

Developed by a hapori (community) led organisation, Hokianga Sports Club in Northland, Te Whare o Tangaroa is a Hokianga-centric, multifaceted water programme. It helps rangatahi to play and engage safely with the diverse moana (ocean, sea) environments in the Hokianga.

The programme aims to inspire rangatahi to explore and connect with the ocean environment, as their tūpuna (ancestors) did. It embeds local narratives and whakapapa, tikanga (custom) Māori and connection to te taiao into the delivery of the programme.

Water safety and play is nurtured through water activities such as surfing, paddle boarding, waka ama, kayaking, fishing and collecting kaimoana (seafood). Rangatahi build skills, confidence and connection with the moana. Whakapapa is interwoven through the activity, which takes place in sites of significance, spoken to and supported by kōrero tawhito (old stories). A Māori lens of knowledge transmission is fostered through understanding and learnings from iwi-specific narratives and karakia. These are broken down and understood by participants using real-world activities, so that their connection to te taiao and cultural rituals become deeper.

Te Whare o Tangaroa also demonstrates an important component of Māori culture, which is the collectivised nature of Māori communities and the motivating factor this plays in participants' enjoyment of the programme as described in these quotes from past participants. They emphasise the interconnection of whenua, whānau and whakapapa, and the potential of physical activity in te taiao to enhance, reaffirm and strengthen these connections.



Read the full case study

“We get to see our cousins and our friends, and we get to surf.”

Marino (8 years)

“Everyone loves to do it and comes to do it together.”

Ngātai (10 years)

“It’s amazing, bringing families together... and it is all year round.”

B Davis (parent)



Photo: Ben Whitaker.

Empowering rangatahi to embrace traditional practices

The Kai Ruku programme, run by Community Healthcare Ltd and supported by Tū Manawa Active Aotearoa, is making a meaningful impact in the Porirua community. Originally focused on rangatahi tāne (young men), the programme has since expanded to include 25 kōhine (young women).

Kai Ruku combines recreational diving and water safety training, equipping participants with the skills to harvest kaimoana while learning to become kaitiaki of the ocean. Over time, the programme has evolved to include a wider hauora approach. The focus is not only on building technical skills but also on the holistic wellbeing of participants, especially for those facing social challenges.

Weekly sessions begin with classroom and pool-based learning to build confidence in a safe environment before venturing into the ocean. Participants learn

to dive and gather kaimoana and develop skills in preparing and cooking it. This culminates in an event at the marae where the young divers prepare kai for their whānau and other guests, showcasing their newly developed skills.

Feedback shows participants have a profound sense of pride in their ability to collect and prepare food for themselves and their whānau. Participants not only acquire valuable life skills but also strengthen ties to traditional practices, in turn bringing these skills back to their whānau and iwi.

This programme is an example of a holistic, culturally grounded initiative that fosters skill development and personal growth.



Read the full case study



Physical activity in blue and green spaces fosters tamariki and rangatahi development

What does the evidence tell us?

Physical activity in blue and green spaces often involves elements of challenge, exploration, risk, imagination and divergent thinking which can improve the psychosocial and cognitive development of tamariki and rangatahi.

Summary of evidence

Physical activity in blue and green spaces fosters psychosocial and cognitive development

Natural elements in blue and green spaces offer countless possibilities for play. Natural elements encourage creativity, problem solving and imagination more so than artificial toys. Playing in blue and green spaces often involves elements of risk and challenge, which can help tamariki develop skills related to persistence, self-awareness and entrepreneurship.⁵¹

A systematic review in Europe and the United Kingdom indicated that outdoor sports have developmental and behavioural benefits. In the context of this review, outdoor sports were activities such as hiking, trekking, swimming in the natural environment, cycling, snowshoeing, cross-country skiing, canoeing, surfing and climbing. Sports and activities that take place outside but not in a natural environment (eg. football, tennis) were not included.

Developmental qualities that outdoor sports were associated with include improved:

- motor skills
- self-efficacy
- self-actualisation
- self-motivation
- endeavour and readiness to face challenges
- assertion and inner strength.

Furthermore, 6 studies in the review showed an association between outdoor sport programmes and improved cognitive function such as:

- attitude towards learning
- attention and memory span
- intellectual flexibility
- problem-solving skills
- brain structure, function and connectivity.⁵²



Factors influencing tamariki and rangatahi physical activity in blue and green spaces

In this section, we examine factors that influence how tamariki and rangatahi are active in blue and green spaces. We highlight the actions we could take to support them being active, along with some examples of great practice.

Factor: Access to or within blue and green spaces

Key points

Due to increasing urbanisation and population density, many people live in residential areas which have poor access to green space.

A study in Tāmaki Makaurau Auckland found that some neighbourhoods with higher populations of Māori, Pacific or Asian people can have less access to green spaces.⁵³

People with disabilities can experience a range of physical, social and institutional barriers to accessing and being active in blue and green spaces.⁵⁴

Marginalised groups, such as disabled youth or youth who identify with the rainbow community, often feel unsafe in and excluded from blue and green spaces.⁵⁴

Less access limits the opportunities people have to engage in and benefit from physical activity in blue and green spaces.⁵⁵

Actions you could take

- ▶ Offer affordable, accessible transportation.
- ▶ Provide accessible information and resources.
- ▶ Develop multi-use nature spaces.
- ▶ Work with communities to create inclusive spaces.
- ▶ Increase safety and maintenance efforts.
- ▶ Use **Universal Design** guidance for amenities and facilities to ensure they are practical for everyone.
- ▶ Check out the **Accessibility and Inclusion in Outdoor Education and Recreation Guide** for advice on facilitating activity in the outdoors for young people with disabilities.
- ▶ Read the **Outdoors Accessibility Design Guidelines** for improving accessibility in outdoor recreation spaces.
- ▶ Adapt physical safety features such as lighting and pathways.
- ▶ Ensure blue and green spaces are welcoming for people with disabilities or people from the rainbow community.
- ▶ Use **Crime Prevention Through Environmental Design** when designing public open spaces.

Great practice examples

- ▶ [Making the outdoors more inclusive and accessible for all with First Step Outdoors](#)
- ▶ [Empowering Young Amputees in the Great Outdoors with Whenua Iti](#)
- ▶ [Active in Nature programme helps young people try new outdoor experiences](#)
- ▶ [Paekākāriki's Campbell Park celebrates LGBTQ+ community with new rainbow signs](#)
- ▶ [The Venture Out Project leading outdoor adventurers for the rainbow community](#)

Factor: Parent, caregiver or mentor support to be active in blue and green spaces**Key points**

Support from parents, caregivers and mentors is important to foster positive experiences of physical activity. These early experiences encourage a lasting appreciation for both physical activity and the natural world and can instil positive habits and attitudes that carry into later life.^{56,57}

Actions you could take

- ▶ Children are more likely to engage in physical activity in nature if they see adults doing the same. You could role-model this through whānau activities such as building sandcastles at the beach or walks in the local park.
- ▶ Embrace the weather and the risks. The outdoors can be less predictable than indoor physical activity, but this enables tamariki and rangatahi to adapt, challenge themselves, learn and grow.

Great practice examples

- ▶ [How a bushcraft programme helped turn a 13-year-old life around](#)
- ▶ [Enjoying the outdoors - Immune Deficiencies Foundation of New Zealand | The Kids Foundation](#)
- ▶ [Exciting outdoor adventures to keep kids motivated this spring](#)

Guides to support health and safety in outdoor and adventure recreation activities

- ▶ [Engaging young children \(0-5 years\) in nature play](#)
- ▶ [General Guidance for Organised Outdoor Activities](#)
- ▶ [Outdoor Activity Guides](#)

Factor: Quality of blue and green spaces

Key points

The quality of blue and green spaces has been found to affect how they are used as well as the level of wellbeing experienced. Factors such as land disputes and loss of land through colonisation, pollution and use of waterways can influence individual and community use and wellbeing.^{3, 58}

When blue and green spaces are available and welcoming, people tend to use them for physical activity.

Actions you could take

- ▶ Partner with local iwi to identify sites of cultural significance. Discover preferred ways of commemorating and telling their stories.
- ▶ Organise or participate in your local park or beach clean-up events – a great way to care for the environment and be physically active. **Organise a clean up – Keep New Zealand Beautiful**

Great practice example

- ▶ **Restoring nature in Hamilton City**

Factor: Features of blue and green spaces

Key points

Wellbeing outcomes from blue and green spaces can vary, as different types of blue and green spaces serve different accessibility, safety and wellbeing needs. Offering a range of blue and green spaces with a variety of features helps support the wellbeing of everyone. This includes diversity of play features in blue and green spaces for tamariki and rangatahi, increased biodiversity and open spaces with different functions, such as community parks, sports parks and wild blue and green spaces.^{59,60,61}

Actions you could take

- ▶ Consider features of blue and green spaces when planning natural space design and development.
What natural features are available?
- ▶ What amenities are required to make it a safe, fun and easy place for people to be active?
The quality of blue and green spaces is more important than quantity.

Great practice example

- ▶ **Planning for nature play Guidelines**

Factor: Sense of connectedness to blue and green spaces

Key points

Nature connectedness is the “extent to which a person identifies with and feels connected in the natural world”. Encouraging connectedness to nature through physical activity may enhance mental and emotional wellbeing benefits from being active in nature. Higher levels of nature connectedness are associated with more physical activity in adults.^{37, 54, 62, 63, 64, 65}

Actions you could take

▶ **A guide to connecting with nature | Mental Health Foundation**

Here are some activities you could do with tamariki and rangatahi to encourage nature connectedness through physical activity.

- ▶ Tune into your senses. What can you hear? What can you smell? What can you feel?
- ▶ Observe the landscape. What features of the natural environment stick out to you?
- ▶ Take time to notice ngā tohu o te taiao, the cultural and environmental signs and indicators of the natural world. What do they tell you about what to expect where you are going?⁶⁶

Great practice example

▶ **Whenua Iti Outdoors nature connection activities for tamariki aged 7+**

From insight to action: Supporting physical activity in blue and green spaces

This report highlights the importance of blue and green spaces and te taiao in supporting quality physical activity for tamariki and rangatahi. These are important because they:

- encourage more and greater intensity of physical activity, supporting tamariki and rangatahi to meet physical activity guidelines
- provide a wide range of health and wellbeing benefits
- enable tamariki and rangatahi Māori to participate in physical activity as Māori, as described in Te Whetū Rehua
- foster positive psychosocial and cognitive development for tamariki and rangatahi.
- improve the quality of blue and green spaces
- ensure psychological and physical safety for tamariki and rangatahi
- foster nature connectedness through physical activity in nature
- protect and create a variety of blue and green spaces
- grow our understanding of the value of blue and green spaces and te taiao for physical activity and wellbeing, specifically for tamariki and rangatahi in Aotearoa and within te ao Māori.

More work is needed to support all tamariki and rangatahi to have quality opportunities to be active in nature and for these experiences to be beneficial to their health and wellbeing. Based on the findings in this report, some actions we can take are:

- improve equity in access to blue and green spaces for priority communities

Together, with increased awareness and collaboration, we can support and nurture the hauora of young people through better opportunities for physical activity in blue and green spaces.



Glossary of kupu Māori

Atua (a god, a deity)

awa (river, stream)

hapori (community)

harakeke (New Zealand flax, a native plant)

hauora (mental, physical, emotional and family health and wellbeing)

iwi (tribe, people)

kai (food)

kaimoana (seafood)

kaitiakitanga (guardianship)

karakia (prayer)

kōrero tawhito (old stories)

Māori pā (fortified village)

marae (courtyard – the open area in front of a traditional Māori meeting house, also known as wharehū)

mātauranga Māori (Indigenous Māori knowledge)

maunga (mountain)

moana (ocean, sea)

pīngao (golden sand sedge, a native plant)

pounamu (greenstone)

rangatahi (teenager, youth)

tamariki (children)

tangata whenua (Indigenous people, people with bloodlines to the land)

taonga (treasure)

te reo Māori (the Māori language)

te taiao (the natural world and connection to self)

Te Whetū Rehua (a Sport NZ framework that guides play, active recreation and sport organisations in creating opportunities for Māori to participate in physical activity 'as Māori')

tikanga (custom)

tūpuna (ancestors)

wai (water)

whakapapa (genealogy)

whakataukī (proverb)

whānau (family)

whanaungatanga (human connection)

whenua (land)

Visit **Te Aka Māori Dictionary** to explore further meanings of these words.

Appendix for international readers

New Zealand's unique mix of geography and demographics creates strong opportunities for physical activity, especially through its blue and green spaces. Although 86% of the population lives in urban areas, our cities and towns have plenty of parks, reserves and green spaces. These areas make it easy for people to be active outdoors, whether that's walking, running, biking or playing sport.

Beyond the urban environment, New Zealanders have access to natural wilderness areas, including the bush, mountains, lakes, rivers and beaches. New Zealand's compact size means that even those living in large cities are usually only a short distance from these blue and green spaces. This makes it easier to take part in activities like hiking, kayaking, mountain biking and swimming.

New Zealand is an ethnically diverse country, with different cultures bringing unique perspectives and traditions related to nature and physical activity. Māori, as tangata whenua (Indigenous people, people with bloodlines to the land) in Aotearoa, have a deep, reciprocal and holistic relationship with te taiao which emphasises interconnectedness, respect and responsibility for the wellbeing of both people and the natural world.

Visit **Stats NZ** for more information, insights and data about New Zealand.



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