

Community engagement with Melbourne's blue spaces before, during and after the COVID-19 pandemic



Healthy Waterways
Strategy 2018-2028
Port Phillip & Westernport, Victoria



Melbourne
Water



Strategic Alignment

Regional Performance Objectives (RPOs):

- RPO 20: The amenity, community connection and recreation values of wetlands are better understood. Performance objectives are developed to enhance these values.
- RPO21: The multiple benefits of waterways investment are tracked and understood.

Key Research Areas:

- Liveability, community engagement, and social research: Defining public health and wellbeing benefits of waterway, stormwater and urban cooling programs to support investment decisions.
- Liveability, community engagement, and social research: Understanding demographics, preferences, values and water awareness of our customers to inform waterway works planning and delivery.

Summary

Through a combination of desktop analysis of human movement data and online questionnaires, this project sought to understand how COVID-19 restrictions changed community awareness of and engagement with Melbourne's waterways and other blue spaces. There is a growing body of evidence for time spent in natural outdoor environments having positive impacts on physical and mental health and well-being as well as social cohesion (Wolf and Wohlfart 2014, Dadvand et al. 2016, Nieuwenhuijsen et al. 2017). Most studies in this field have focused on health benefits of green spaces in the urban environment (trees, grass, forests, parks, etc), however, a recent review of blue spaces (rivers, estuaries, wetlands, bays etc) also identified a positive association between greater exposure to blue spaces and benefits to mental health and well-being and increased levels of physical activity (Gascon et al. 2017).

In recognition of this, numerous planning strategies advocate for the accessibility of natural environments in urban settings for health outcomes (see, for example, City of Melbourne 2012, DHHS 2019). Melbourne Water, together with its stakeholders, recognises that its waterways, wetlands and estuaries are important for well-being. In response, they manage these blue spaces for their social values as well environmental values. The 2018 Healthy Waterways Strategy groups the values that people experience whilst visiting blue spaces into three types:

- Amenity – blue spaces are places where people can go to relax, escape normal life and the busy urban landscape, appreciate nature and feel better through a variety of multi-

sensory experiences. They also influence micro-climate, for example by providing shade and temperature moderation.

- Recreation – blue spaces provide settings and opportunities for people to pursue active and/or passive activities.
- Community connection – blue spaces provide settings for social interactions, learn from the environment, engage with art and culture and significant places.

The restrictions imposed on the residents of metropolitan Melbourne in 2020 and 2021 to contain the spread of coronavirus COVID-19 drastically changed where and how, individuals engaged with the city and its elements. In terms of blue spaces, the 2020 Community Perceptions Survey (Melbourne Water 2020) found that around 30% of survey participants reported visiting their local waterways less frequently since the first Stage 3 restrictions were introduced; this increased to 42% in the first weeks of Stage 4 restrictions. It is partially consistent with Google's COVID-19 Community Mobility Reports, which show variable increases and decreases in the number of visits to public open spaces around Melbourne, depending on local government area (Google 2020). However, the results of the Community Perceptions Survey are at odds with an analysis of geo-located digital data (i.e mobile phone location information), which reported a 112% increase in engagement with local natural spaces in Melbourne between February 2020 and May 2020 (Neighbourlytics 2020), together with informal observations made by the project team and other colleagues, who have consistently noted increased numbers of visitors to the waterways they personally engage with.

Recommendations:

- Blue and green public open spaces were already recognised as an important element of Melbourne's liveability but became even more important during the COVID-19 restrictions. Their value will continue to increase as our city becomes denser. It is recommended that Melbourne Water and its stakeholders look for opportunities to increase access to blue and green spaces, particularly to address inequity in parts of Melbourne with proportionally low public open space.
- Litter and safety were the most recurrent issues reported by survey respondents. With regards to safety, respondents frequently mentioned concerns around shared pedestrian and cycling paths. It is recommended that Melbourne Water and its stakeholders continue their efforts to improve litter management and consider ways to improve the safe use of shared spaces.
- Encouraging people to increase the time spent in blue and

Frequency of visits to blue and green spaces during the COVID-19 restrictions

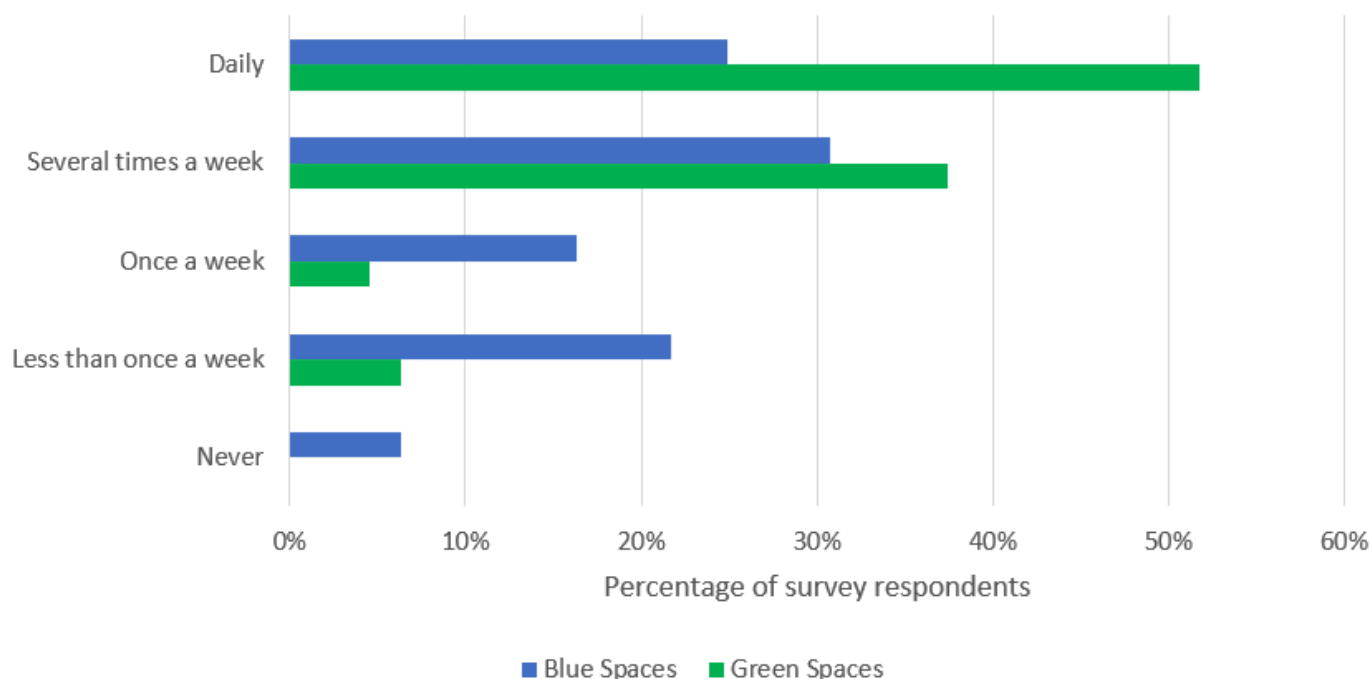


Figure 1. Reported frequency of visits to blue and green spaces during the COVID-19 restrictions

green spaces and foster nature nature are likely to result in greater health and wellbeing benefits, as well as pro-environmental behaviours that may lead to broader societal benefits. It is recommended that Melbourne Water and its stakeholders consider ways to encourage people to increase the time spent in natural outdoor spaces.

- People use blue and green spaces for a wide variety of reasons and there are sometimes tensions between different uses, as well as tensions between the environmental and social value of these spaces. It is recommended that Melbourne Water and its stakeholders think about how to balance environmental and social values, as well as different types of uses, and where to prioritise one over the other(s).

What did we do?

An online survey was conducted of Melbourne residents over the period November 2020 – January 2021 i.e. immediately following the easing of the second COVID-19 lockdown. The survey was hosted on the Qualtrics platform and participants were recruited through our university, professional and social networks. A total of 360 survey responses were received.

The purpose of the survey was to extend on the findings of the 2020 Community Perceptions Survey (Melbourne Water 2020) and ask more targeted questions about how the use and awareness of local blue spaces had changed during the COVID-19 restrictions. It also sought to understand why people engaged more or less, with blue spaces during the restrictions, how the use of blue spaces benefited people and the nature of engagement with blue spaces that participants might be expected to have once restrictions eased and/or removed altogether.

What did we find?

The residents of Melbourne are more aware of and have a greater appreciation for their local blue and green spaces as a result of the COVID-19 restrictions. They feel more connected to their local place and community and increasingly recognise that spending time in nature is beneficial for their physical and mental health.

The majority (80%) of survey respondents said they spent more time in blue and green spaces as a result of the COVID-19 restrictions. Visits to blue and green spaces were frequent, with “daily” or “several times a week” the most commonly selected categories (Figure 1).

The five most common reasons for using public open spaces during the COVID-19 restrictions were the same across blue and green spaces (Figure 2). More than half of respondents (55%) said that their reasons for using blue and green spaces had changed as a result of the COVID-19 restrictions. Commonly reported reasons for this change included: it was the only way to (1) see friends and family, (2) escape the house and break up the monotony, and (3) exercise while gyms and formal sport was absent, (4) there was nothing else to do, and (5) adults needed a way to occupy children.

The words used to describe how participants felt after their last visit to a green or blue space were overwhelmingly positive (Figure 3). Consistent with this, 89% of respondents said they had a stronger appreciation for blue and green spaces as a result of the COVID-19 restrictions. Many respondents particularly appreciated having blue and green spaces in close proximity to their homes while others noted the lack or poor quality of blue and green spaces within their local area compared to the blue and green spaces they visited prior to the COVID-19 restrictions.

Q4. Top 5 reasons for using blue and green spaces during COVID-19 restrictions

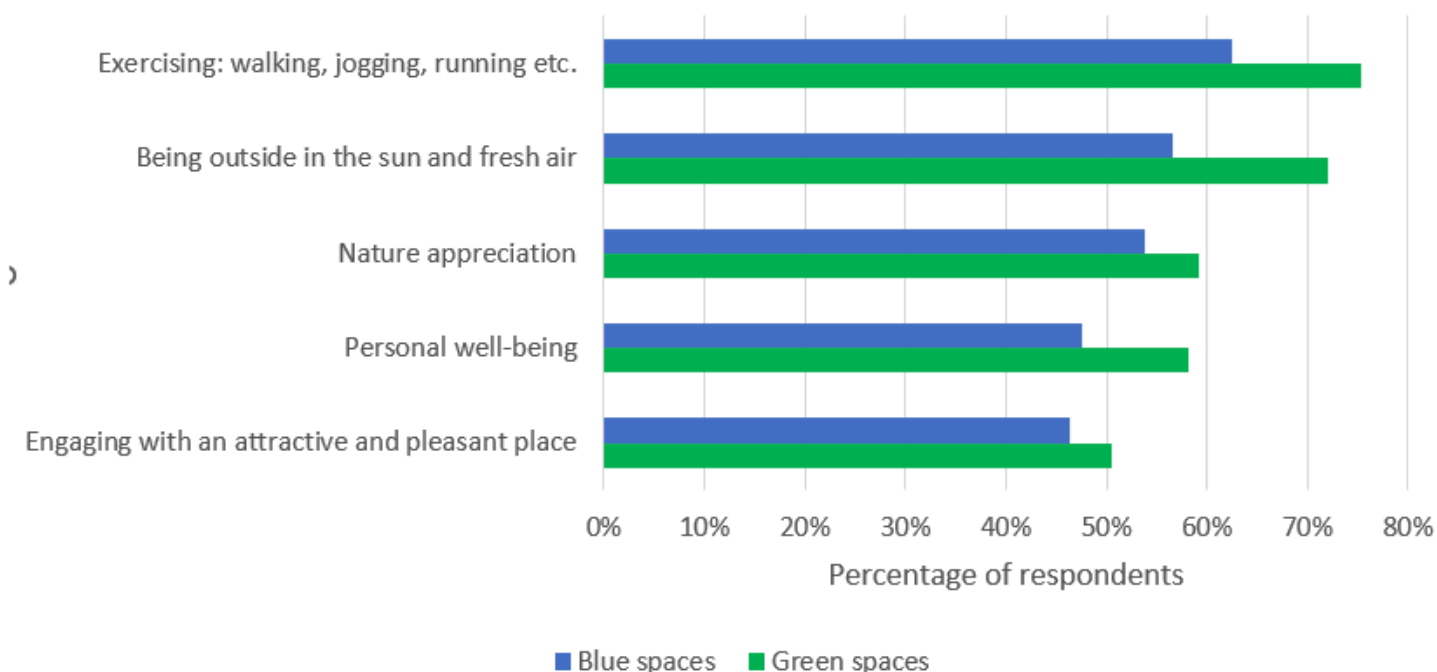


Figure 2. Top five reasons for using blue and green spaces during the COVID-19 restrictions

Respondents were divided in their thoughts about their use of blue and green spaces once the COVID-19 restrictions were lifted. Some (36-40%) thought they would use them less as their lives became busier and/or they were able to do other things. In contrast, others (27-31%) felt they had formed firm connections with their local blue and green spaces and habits that would continue beyond the lockdowns.

The most common suggestions by survey participants for increasing the value of blue and green public open spaces were:

- Increasing the extent of vegetation, particularly tree canopy cover for shade and habitat
- Providing information about plants, animals, cultural values and management activities
- Increasing the extent and quality of enjoyment facilities, especially toilets, bins and shaded seating
- Providing more community events, including opportunities for communities to be involved in management activities e.g. clean up days

These suggestions support the Healthy Waterways Strategy's performance objectives to increase vegetation cover and access to and along waterways, and highlight an opportunity to extend these objectives to strengthen connection to place through education and community facilities.

The results of this research also confirm and strengthen relationships between environment conditions and experiences in the HWS Conceptual Models for the Social Value of Waterways.

Future direction and Knowledge gaps

Whilst surveys are valuable for understanding relationships between respondent characteristics and attitudes, their

reliability can be limited by the degree to which they are representative of the broader population. Future research could seek to complement the findings of this survey by quantifying the number of visits to blue spaces and length of time spent there using resident-generated data – comparing visitation during and after the COVID-19 restrictions. This would enable us to better understand the importance of blue and green spaces during the restrictions as well as assess if and how visitor numbers have changed post-lockdown compared to before and during the pandemic. There might also be value in investigating spatial variability in the use of blue and green spaces across Greater Melbourne and using socio-demographic information to try to explain any variations found.

How are we sharing findings?

- Technical Report: 23.9 Community engagement with public blue and green spaces during the COVID-19 pandemic: A case study of Melbourne. Belinda Hatt, Peter Bach, Megan Farrelly and Stephanie Lavau.
- Hatt, B., P. Bach, R. Coleman, M. Farrelly and S. Lavau (2023). The benefits of urban blue and green spaces during a pandemic: a case study of Melbourne. [6th Symposium on Urbanization and Stream Ecology](#). Brisbane, Australia.

For more details on the research outcomes of this project, or other projects of the MWRPP, please contact:

Rhys Coleman

Waterways & Wetlands Research Manager (Applied Research)
rhys.coleman@melbournewater.com.au

Slobodanka Stojkovic

Knowledge Broker, Waterways & Wetlands Research
slobodanka.stojkovic@melbournewater.com.au

References

- City of Melbourne (2012), "Open Space Strategy", Melbourne, Victoria
- Dadvand, P., X. Bartoll, X. Basagaña, A. Dalmau-Bueno, D. Martinez, A. Ambros, M. Cirach, M. Triguero-Mas, M. Gascon, C. Borrell and M. J. Nieuwenhuijsen (2016). "Green spaces and General Health: Roles of mental health status, social support, and physical activity." *Environment International* 91: 161-167.
- DHHS (2019), "Victorian public health and wellbeing plan 2019-2023", State of Victoria, Department of Health and Human Services,
- Frumkin, H. (2001). "Beyond toxicity: Human health and the natural environment." *American Journal of Preventive Medicine* 20(3): 234-240.
- Gascon, M., W. Zijlema, C. Vert, M. P. White and M. J. Nieuwenhuijsen (2017). "Outdoor blue spaces, human health and well-being: A systematic review of quantitative studies." *International Journal of Hygiene and Environmental Health* 220(8): 1207-1221.
- Google. (2020). "COVID-19 Community Mobility Reports." Retrieved 10 September 2020, from <https://www.google.com/covid19/mobility/>.
- Hartig, T., R. Mitchell, S. d. Vries and H. Frumkin (2014). "Nature and Health." *Annual Review of Public Health* 35(1): 207-228.
- Lemieux, C. J., S. T. Doherty, P. F. J. Eagles, J. Gould, G. T. Hvenegaard, E. L. Nisbet and M. W. Groulx (2015), "Healthy Outside-Healthy Inside: the human health and well-being of Alberta's protected areas - towards a benefits-based management agenda", Canadian Council on Ecological Areas (CCEA), Ottawa, Ontario, Canada
- Melbourne Water (2020), "Community Perceptions of Waterways",
- Neighbourlytics (2020), "The New Local: Data Report",
- Nieuwenhuijsen, M. J., H. Khreis, M. Triguero-Mas, M. Gascon and P. Dadvand (2017). "Fifty Shades of Green: Pathway to Healthy Urban Living." *Epidemiology* 28(1): 63-71.
- Pasanen, T. P., L. Tyrväinen and K. M. Korpela (2014). "The

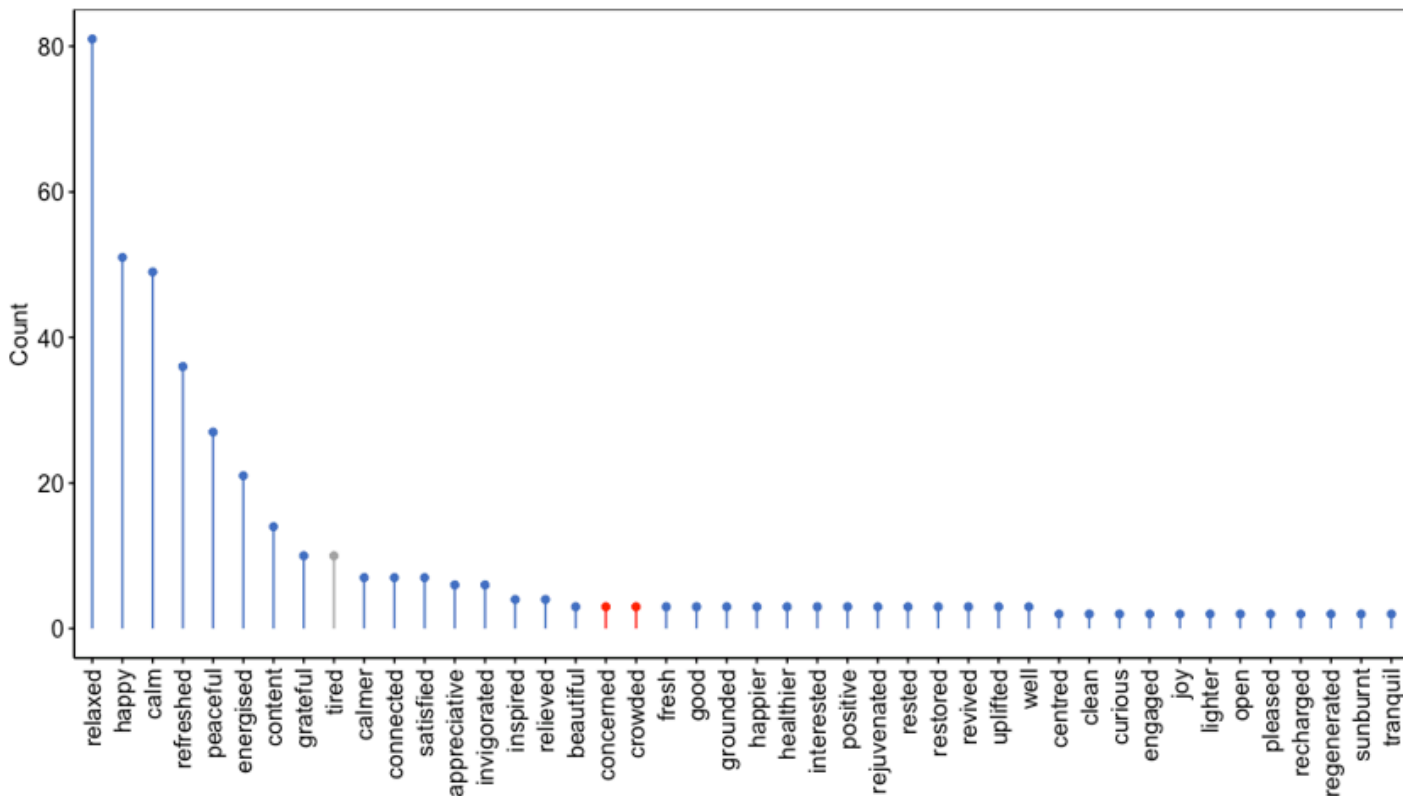


Figure 3. Frequency of words used by survey respondents to described how they felt