



greenminds

greenminds insight paper

Insights from an Analysis
of Social Media in
Three Urban Parks



Green Minds Model summary

The Green Minds Model aims to summarise the structure of the GM approach, to aid its transfer and replication to other urban areas and authorities.

Green Minds piloted new ways of implementing nature-based solutions within an urban environment. The project's central aim was to collaborate with stakeholders to recognise how humans, as part of nature, interact with nature in a complex system and to identify ways in which *systemic* change is brought about.

The model is presented as an integrated approach, where various nested elements are shown working together as a system. It reflects the particular challenges and scales of focus in urban areas - from individuals, to communities and neighbourhoods and at a citywide level. It focuses on particular leverage points for change (best practices) with regard to nature in cities, and is guided at its core by a set of underlying principles to inform practice.

At the centre of the model sits the system goal - *Urban Wilding. A set of guiding Principles have been created to inform the practice of Urban Wilding. These principles have emerged from our experiences designing and implementing Urban Wilding in Plymouth.

The eight Principles that have emerged from our programme of testing and development represent key leverage points to effect system change and to successfully integrate nature within urban place shaping. This includes exploring deeply held beliefs and values around our relationship to nature and to others, the creation of new organisational and digital infrastructures which empower citizens, and the development of new policy, planning and financial frameworks to support this.

Complex systems can behave differently at differing scales and so these are reflected too in the model to recognise the importance of understanding *who* needs to be engaged and *how*. This takes into account the need for multiple perspectives and the importance of equity (who participates), through an

inclusive process of engagement from individuals to groups and organisations, and at neighbourhood and citywide scales.

Finally, the model acknowledges the importance of an ongoing and iterative co-design process. This process recognises that resilience requires the ability to adapt as solutions emerge within a complex and constantly changing environment. It is delivered through a cyclical, action learning approach in which lessons learned influence the next cycle of implementation to ensure a progressive approach.

The model is brought to life through our suite of Insight Papers, Guides and Case Studies which aim to illustrate how the model was implemented and what we learnt.

Green Minds Urban Wilding Principles

The quality and quantity of nature has declined significantly in recent decades. Across the UK and Europe, nature recovery and restoration, rather than just preserving or conserving what remains, has become a high priority, as we have become more aware of society's dependence on nature[1].

We know that spaces that are more biodiverse can deliver multiple health and wellbeing benefits as well as other nature-based solutions such as improvements in water drainage, increased carbon sequestration, removal of air pollutants and increased pollination for food security[2]. 'Rewilding' has gained prominence as one approach to achieving such improvements in biodiversity, with a growing research body assessing its impact.

Urban (re)wilding, however, is still a new concept. We define Urban Wilding as 'any initiative, both human-aided and natural colonization, that aims to encourage biodiversity, ecosystem function and native species in urban settings'[3].

Urban Wilding is fundamentally different from wilding/rewilding/renaturing elsewhere. Cities and towns are dominated by human infrastructure and activity. Consequently, many natural ecosystem processes are significantly modified or constrained in urban areas. We rely upon ecosystem services for our health and wellbeing. Urban ecologies, which deliver these ecosystem services, are complex and poorly understood. However, we know that more biodiverse systems deliver more or better ecosystem services. We also know that we can mimic, or engineer, some specific ecosystem services such as storm water management. Whilst we don't know enough to design urban ecosystems to deliver all the services we need, we do know that more nature is good for people and urban living and that arranging it in certain ways can deliver certain specific benefits. We can't achieve this by doing nothing - positive interventions are required, which in turn demand enabling policy, community action and practical delivery mechanisms.

The Green Minds understanding of Urban Wilding recognises the need to shift from nature conservation to nature recovery - to focus on restoring much of what is rare or has gone and a recognition that we need to bring high quality Nature into places where people live.[4]

The Urban Wilding Principles below are designed as a set of prompts to help guide initiatives for nature to thrive in cities: to survive and reproduce, to expand, and to function as a system and so deliver more and better services to support urban environmental health, our economy, and human wellbeing.

*We have chosen to use the term 'wilding' instead of 'rewilding', as it better reflects the reality of nature in urban areas - to rewild implies a return to nature before urbanisation, which is not possible.

[1] Nature Recovery for Our Survival, Prosperity and Wellbeing: A Joint Statement by the Statutory Nature Conservation Bodies of the UK. jncc.gov.uk/our-role/the-uk/nature-recovery-joint-statement

[2] Dasgupta, P. (2021). The Economics of Biodiversity: the Dasgupta Review. London (HM Treasury); Maller, C. (2018) Healthy Urban Environments. Routledge

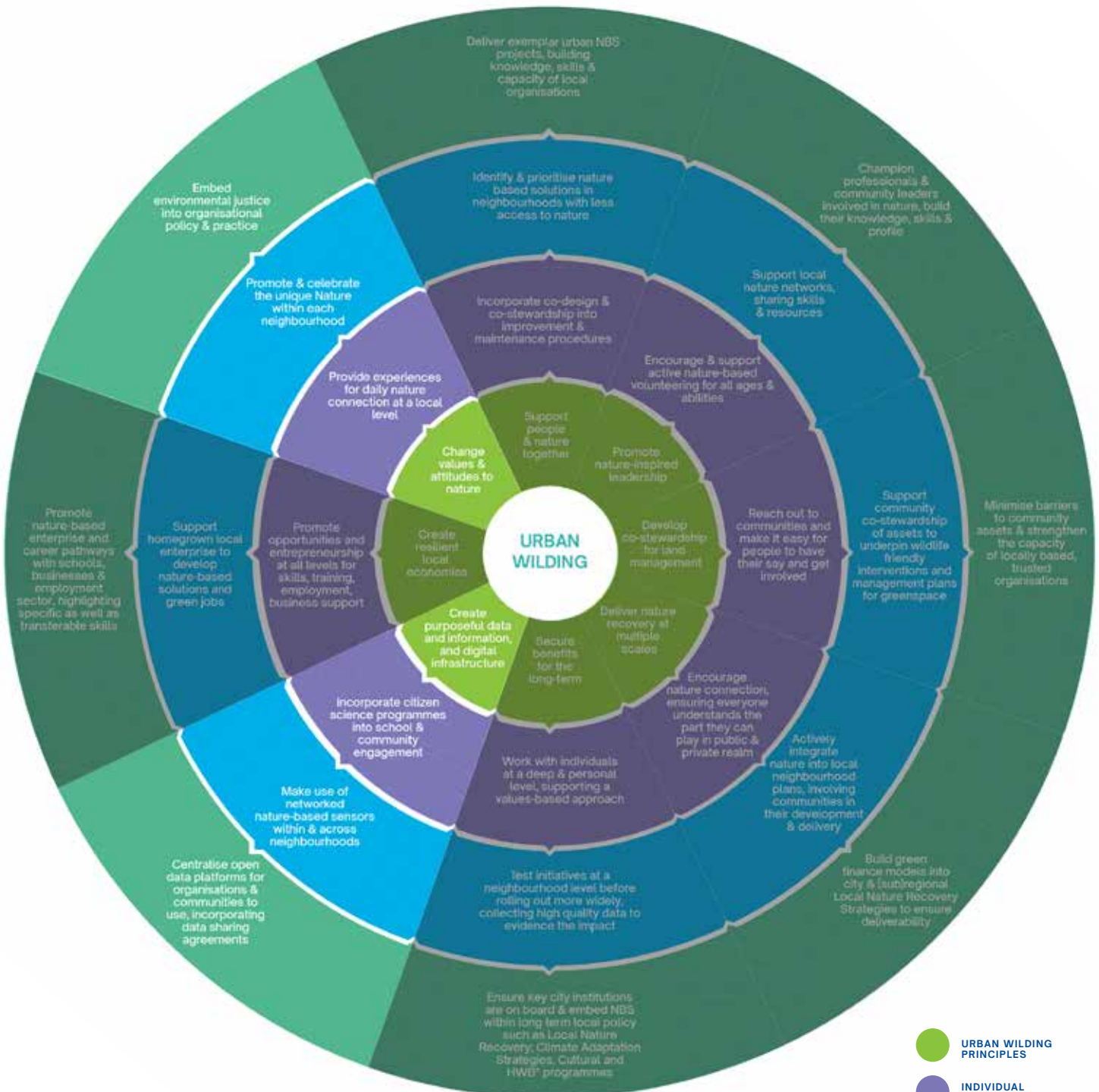
[3] Maller, C., Mumaw, L., & Cooke, B. (2019). Health and social benefits of living with 'wild' nature. Ch 9 in Rewilding. Pettorelli, N., Durant, S., and du Toit, J. (eds). Cambridge University Press

[4] Juniper, T. (2022) Tony Juniper: Green Paper - an opportunity for an integrated approach to Nature recovery - Natural England

greenmindsmodel

The model illustrates the three system levels at which the Urban Wilding principles are applied to drive action: the individual, with neighbourhoods, and within organisations.

Permeability, both within and between segments, reflects the need for adaptability through local learning gained through an action learning approach, in which lessons learned influence the next cycle of implementation.



Urban Wilding Principles

Support people and nature together

Promote a just transition to wilder cities through equitable access to nature, socially just policy and involvement in the co-creation and co-stewardship of nature-based solutions that are adapted to climate change, biodiverse and support nature connection.

Promote nature-inspired leadership

At all levels of management (individual, community/neighbourhood, city administration, business, etc) enable nature positive actions to enhance urban liveability through education, training, and policy.

Develop co-stewardship for land management

Democratise land management and ownership through the development of co-stewardship solutions with user communities, introducing inclusive and empowering processes for engagement, creating community assets, and utilising diverse governance structures.

Deliver nature recovery at multiple scales

Make the most of the local built environment and its scale, acknowledging that no space is too small to be valuable whilst at the same time recognizing that larger green spaces and high degrees of connectivity are key for nature recovery.

Secure benefits for the long-term

Develop integrated policy instruments that embed urban wilding in development practice, led by communities and advised and supported by public administrations to create resilient cities and a population connected to nature.

Create purposeful data and information supported by digital infrastructure

Develop new digital infrastructures to generate community-owned and insightful knowledge of urban nature to support nature connection, and nature-positive policy and practice.

Create resilient local economies

Promote and empower nature-related careers, cooperatives and social enterprise across all sectors, to create new jobs and new value in green and blue infrastructure.

Change values and attitudes to nature

Promote nature connection amongst citizens, to enhance individual and community wellbeing and to foster nature-positive choices.



Introduction

Plymouth aspires to be a ‘green city’¹ and hosts the UK’s first National Marine Park in Plymouth Sound. In the city landscape of Plymouth, blue (the sea and rivers), and green (the parks) spaces intersect to form a network of nature.

Within a city, urban parks are an essential aspect of local infrastructure and are often a large source of natural space allocation. Whilst providing residents with improved access to green and blue spaces, urban parks also contribute additional benefits associated with spending time in nature, such as promoting social interaction², improving physical health^{3,4}, and enhancing wellbeing⁵. Therefore, it is crucial to ensure that urban parks are adequately provisioned, connected, managed, and promoted for city residents and visitors.

Cohesive management of these spaces can be informed by understanding how people value natural landscapes, such as urban parks. Assessing the value that people attribute to an urban park, as well as the varied motivations of those seeking these spaces, provides an opportunity to integrate this information into traditional management approaches to better serve the city of Plymouth and those that visit its urban parks.

This research was undertaken during Covid lockdowns. Traditional means of surveying, such as interviewing people in person, were not possible. Therefore, we developed a novel methodology to review social media posts from three urban parks throughout Plymouth where the landscape provides access to both blue and green spaces.

This analysis of photographs posted on social media allowed us to gain a new perspective on how people value and interact with the natural landscapes in Plymouth.



‘Some people may not like Plymouth but I for one love it here, especially when you get views like this.’

INCEN659

1. Plymouth and South West Devon Joint Local Plan 2014-2034 In. 2017. 1-316. Produced by West Devon Borough Council, South Hams District Council and Plymouth City Council.

2. De Bell, Sian, Hilary Graham, Stuart Jarvis and Piran White. 2017. ‘The importance of nature in mediating social and psychological benefits associated with visits to freshwater blue space’, *Landscape and Urban Planning*, 167: 118-127.

3. Coombes, Emma, Andrew P. Johnes, and Melvyn Hilldon. 2020. ‘The relationship of physical activity and overweight to objectively measured

green space accessibility and use’, *Social Science and Medicine*, 70: 816-822.

4. White, Mathew P., Benedict W. Wheeler, Stephen Herbert, Ian Alcock, and Michael H. Depledge. 2014. ‘Coastal proximity and physical activity: Is the coast an under-appreciated public health resource?’ *Preventive Medicine*, 69: 135-40.

5. Mackerron, George and Susana Mourato. 2013. ‘Happiness is greater in natural environments’, *Global Environmental Change*, 23: 992-1000.
Photograph: Asa K from Pixabay

What we did

This research focused on three urban parks within Plymouth – Central Park, Saltram Park, and Hoe Park – each comprising urban green spaces with views of and/or access to the sea. We used a social media approach in which all Instagram posts geotagged to any of these parks during a period of nine months were reviewed.

Landscape gaze & user activity

These posts were used to determine and quantify the specific views that people captured through their photographs, essentially their ‘landscape gaze’. Landscape gaze was used to represent ‘value’ by the belief that what people take photographs of, and later post to social media sites such as Instagram, reflects the views and aspects of urban parks that they value. The landscape gazes at each site were displayed on a map to identify the predominant views from each park.

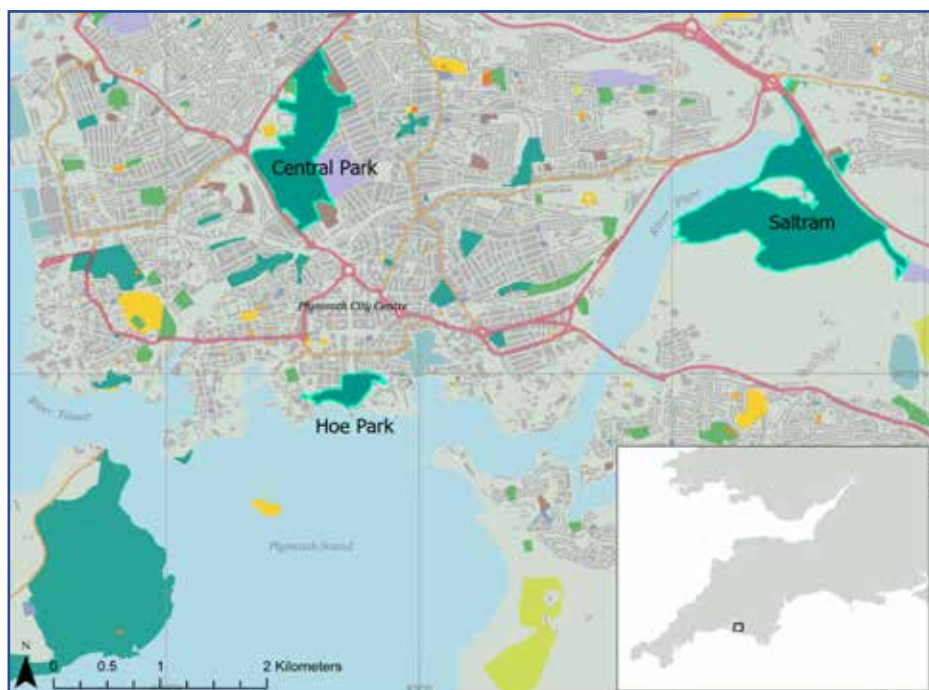
Through review of these posts, it was also possible in some cases to determine the user’s activity and therefore this categorisation was also included in the analysis.

Hot spot & discourse analysis

In addition to visualising landscape gaze and categorising user activity, we also conducted a hot spot analysis of the geotagged posts to determine the specific areas of high use and pathways through the parks. Lastly, we analysed the discourse accompanying the posts to understand what was said about the parks and better explain the content of the photographs.

‘Low winter sun as it catches its own reflection in the estuary. With midsummer’s day half a year away the warm bright days seem like a distant memory. But even now the tide has turned and the North is, day by day, making its way back towards Spring’ - [SAL104](#)

Study Sites



What we found

We reviewed 3,897 Instagram posts from Central Park (n=822), Saltram (n=333), and the Hoe (n=2742) and gleaned the following insights.

Most popular views

Hoe Park was the most popular park with nearly three times the number of photographs posted. The predominant landscape gaze at Hoe Park was overwhelmingly towards the blue space, **Plymouth Sound** (72%, shown in Figure 1 below). At Saltram Park the predominant feature in the photographs was **trees** (23%) while at Central Park it was a combination of **flowers and blossoms** (21%).

Nature

Nature was shown to be valued by those visiting urban parks. **Green gazes, such as trees, woods, grass, or flowers**, were visible in 65% of Central Park posts, 73% of Saltram Park posts, and 17% of Hoe Park posts. Alternatively, **blue gazes such as rivers, the sea, or a pond** were visible in 1% of Central Park posts, 25% of Saltram Park posts, and 72% of Hoe Park posts. Posts showing specific biodiversity, such as flowers or wildlife, comprised 23% of the posts at Central Park, 20% at Saltram Park, and 3% at Hoe Park.

‘Take a moment
to take in the sights
and sounds of
your surroundings. In
nature, you will find
beauty everywhere’
- HOE1635

Spatial analysis

Results from the hot spot analysis indicate that **most of the activity, in terms of taking photographs, at Hoe Park was found along the foreshore**. At Saltram Park, 90% of the activity was along a walking path known locally as ‘**Riverside Walk**’. Lastly at Central Park, the predominant footfall was along the **eastern side of the park, across meadows, and at the skate park**.

Activities

The most popular activity at both Central and Saltram parks was **dog walking** (21% and 20% respectively) followed by **socialising with friends and family** (12% and 19% respectively). Conversely, at Hoe Park the most popular activity was socialising with friends and family (23%) followed by dog walking (6%).

Sentiments and wellbeing

Positive words were featured in the discourse of the social media posts at each site (Central Park 35%, Saltram 33%, Hoe 52%). Negative words were featured notably less (Central Park 2%, Saltram 2%, Hoe 13%), and were often associated with Covid fears and lockdown. Positive impacts on physical health was explicitly mentioned at each of the sites (Central Park 2%, Saltram 1%, Hoe 2%), as was mental health (Central Park 2%, Saltram 2%, Hoe 6%).

Figure 1: Estimated directional gazes from Hoe Park. Arrow size correlates to clusters of directional gazes.

Conclusion

These parks are important for both recreation and appreciation of nature.

Results

Whilst social media has been used in other research areas, this study contributes to an emerging subset of research using social media to understand the sentiment of those visiting urban parks.

The results demonstrate that these parks are important for both recreation and appreciation of nature. In addition, this research provides evidence of the key spaces where people interact with the urban park, the activities they participate in, and the aspects of nature that they enjoy and therefore value. Importantly, the results demonstrate that the value of the park extends to the view and the surrounding landscape. Also, that people link their mental health status to spending time in nature and this is most reported from social media posts from the Hoe.

For Green Minds, this research provided useful additional information (alongside more traditional consultation and engagement methods), to support design and maintenance of natural spaces for relevant land managers, that promotes health, happiness and wellbeing.

The results have helped Green Minds justify and shape interventions that support more wildlife friendly management, design spaces for 'vistas', and develop areas within greenspaces with physical and mental health in mind.

The delivery team also recognised the potential to repeat the analysis over time to see how sentiment changes. This could act as a form of evaluation post intervention.

'I can't believe that full summer is here yet again. Saltram House park land next to the river Plym estuary. A National Trust gem.' - SAL316



Photograph: Saltram House (Green Minds)

**“We decided to venture onto
Plymouth Hoe this morning for
an early morning walk.**

**We couldn’t get over how
blue the sky and water was”**

**PLYMOUTH RESIDENT
ON SOCIAL MEDIA**





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#GreenMindsPlymouth

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McGrath, E., Muller, T., Rees S., 2021. Social Media Report: methodology, framework, maps and findings. A report by research staff at the Marine Social Science Unit, University of Plymouth, pp.1-139



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