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The wellbeing potential of urban blue space

Lessons from Liverpool City Region

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The wellbeing potential of urban blue space: lessons from Liverpool City Region

Key takeaways

1. Blue space can be defined as outdoor environments – either natural or manmade – that prominently feature water and are accessible to humans.
2. In policy, blue space is often considered only in relation to green space (i.e. vegetated urban land such as parks). However, blue space offers distinct wellbeing benefits, which policy should seek to distinguish and enhance. These will vary between spaces but might include sound, a feeling of openness, aquatic wildlife, and maritime heritage features.
3. Liverpool City Region can better utilise its extensive blue space to help address its considerable health inequalities. In particular, blue space can play an important role in improving mental health and wellbeing.
4. The urban blue space in Liverpool City Region is more than its obvious leisure destinations. It can be considered as a series of neighbourhood assets – docks, canals, marine lakes and promenades, as well as natural features – that link to create a significant opportunity to improve wellbeing for all residents.
5. Realising this opportunity in Liverpool City Region requires a city-regional policy framework, supported by understanding of how people derive wellbeing benefits from urban blue space at local and hyper-local scale. Such a model can then be applied in other city-regions.

1. What are the wellbeing benefits of blue space?

The term 'blue space' is usually used as either a counterpart or adjunct to 'green space' and has become commonplace in urban design and public health. Whereas in green space, vegetation is dominant, blue space is an environment 'where water is at the centre' (Britton et al., 2020).

There is evident overlap between green and blue space in that many spaces contain both (Britton et al., 2020), which has resulted in them being blurred in some research and policy (Foley and Kistemann, 2015). In this briefing we focus on blue space, defined as (Brown, 2020: 2):

"Outdoor environments – either natural or manmade – that prominently feature water and are accessible to humans either proximally (being in, on or near water) or distally (being able to see, hear or otherwise sense water)."

Evidence for the health benefits of blue space is growing (Gray et al., 2023), and is strongest for benefits to mental health and wellbeing (Gascon et al., 2017). A systematic review on behalf of the Environment Agency (Brown, 2020) found that:

- There is some evidence in England that self-reported levels of mental health improve in proximity to the coast.
- Evidence from qualitative studies found coastal environments to be associated with the opportunity for restorative experiences.
- People who use blue space say they gain psychological benefits from the experience.
- There is some evidence of blue space increasing the opportunity for beneficial social interaction.
- Blue space can be important for people's attachment to place.

These social benefits are not experienced equally. Half the British population interacts with blue space at least once a month. However, people from minority ethnic groups are less likely to visit blue space than average, while in England older people are more likely to visit blue space and younger adults less likely (Brown, 2020).

Various conceptual models have been proposed to describe the processes linking blue space to wellbeing benefits. The model shown in Figure 1 was developed by White et al. (2020) and builds on several earlier models of green space and wellbeing. In this model, exposure to blue space leads to improved human and planetary health and wellbeing, by the mechanisms of:

- Mitigation: the reduction of negative external influences such as noise;
- Restoration: the replenishment of capacity for health and wellbeing, e.g. by reduction in anxiety;
- Instoration: the building of capacity for health and wellbeing, e.g. by physical exercise or social interaction.

These mechanisms are affected by modifiers, which may be situational or individual. Interventions, including policy interventions, can act on exposure and modifiers to influence outcomes.

2. The wellbeing potential of blue space in Liverpool City Region

There is substantial evidence that living close to the coast is associated with better health and wellbeing (White et al.,2020). And yet, in England, coastal communities are some of the most deprived across all domains including health (Whitty, 2021). There is both need and opportunity for coastal areas: while they may have greater health inequalities to address, their coastal location can be an asset in doing so.

According to the most recent English Indices of Deprivation (2019), all six Liverpool City Region (LCR) boroughs are within the 20% most health-deprived in England, reflecting issues from (healthy) life expectancy to obesity, exercise and mental ill health (Higgins, no date).

Health inequalities are defined as ‘avoidable, unfair and systematic differences in health between different groups of people’ (The King’s Fund, 2022). In LCR, there is widespread commitment to addressing health inequalities based on a social model of health and wellbeing that recognises a range of determinants including access to green space (Marmot et al., 2022), but the potential for blue space to have a positive impact has been less appreciated.

3. Urban blue spaces: hidden assets?

To explore the potential wellbeing benefits of blue space we held a workshop in March 2024 with local researchers, policymakers, practitioners and community organisations. The workshop confirmed a desire for local collaboration on blue space issues and suggested many possible areas of focus for research, including who uses blue space and how, who is responsible for healthy place-making, and whether blue and green space should be treated the same in policy. To explore these questions, using the model (Figure 1) as a framework, we sought to gain a user perspective on the mechanisms and modifiers influencing wellbeing benefits from blue space in LCR, and to consider the policy implications of this.

Focusing on urban estuarine and coastal blue space, we conducted a survey in July 2024 at New Brighton Marine Lake (in Wirral) and Otterspool Promenade (in Liverpool), based on short, semi-

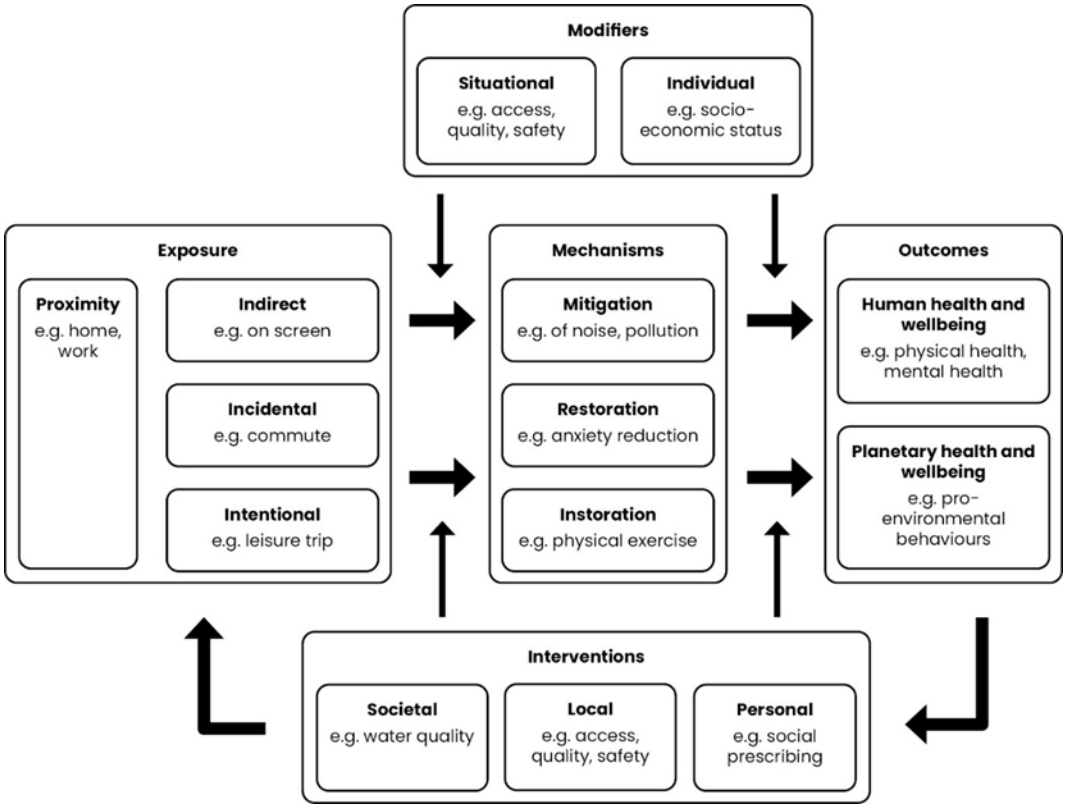

Figure 1: Conceptual model of the relationships between blue spaces and health and wellbeing, adapted from White et al. (2020)

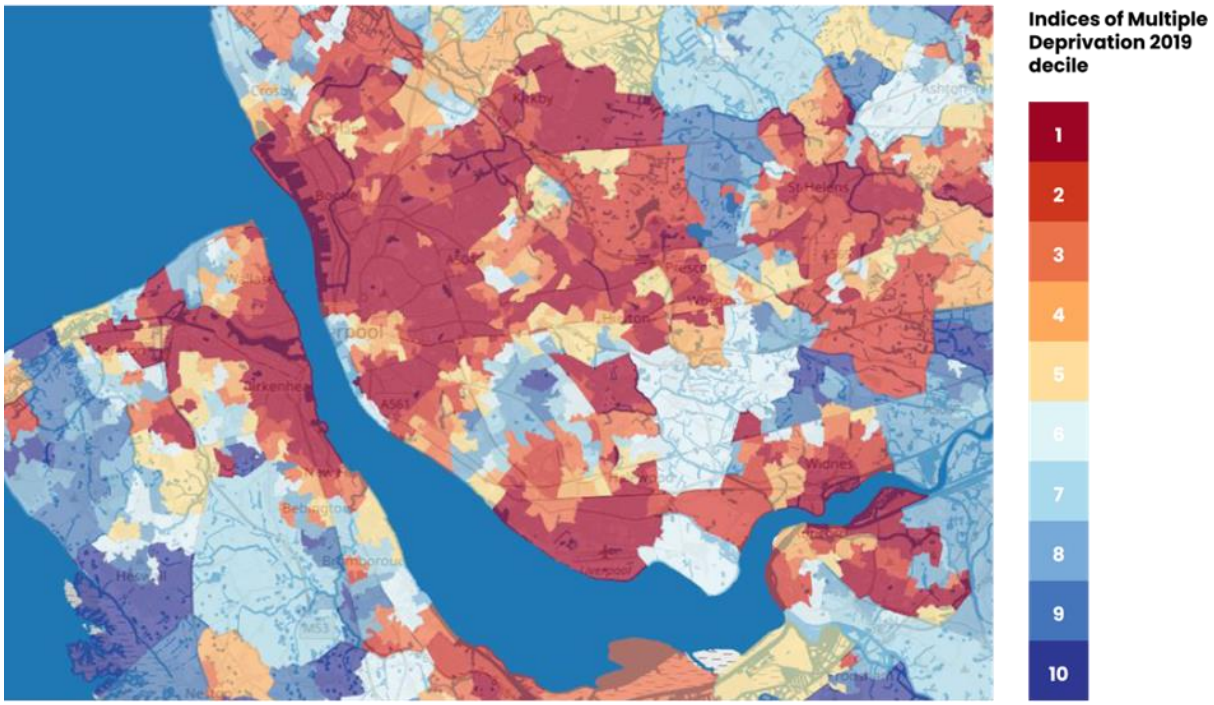

Figure 2: Deprivation and blue space in urban areas of Liverpool City Region (Natural England, 2024)

structured interviews of people who were visiting. These are locations that are outside the city centre, in urban but largely residential areas. Although they are adjacent to beaches or green space, both survey locations – the promenade and marine lake – are 'hard-edged' blue spaces, i.e. they are "modified [or] artificially constructed spaces that still contain natural surface water" (Britton et al., 2020: 51).

Of the 138 survey respondents, 51% were women (the same as in LCR as a whole), 93% were from a White ethnic group (compared with 92% in LCR) and 70% were in age groups from 55 to 84 (compared with 30% in LCR). The age profile may have been influenced by the timing of the survey (which was carried out during weekdays), although, as mentioned above, older people in England are more likely to visit blue space.

Understanding would be enhanced by further research with people who do not currently tend to visit blue space in LCR. A further limitation to note is that the model we have used focuses on benefits, whereas there may also be wellbeing risks associated with blue space, such as flooding (White et al., 2020).

Most visits were for leisure-related purposes and over half of participants (56%) said that being by water was a main factor in their choice of location. It was the most cited reason, closely followed by being convenient or easy to get to (54%). Through analysis of the responses to open questions, we identified six themes relating to the wellbeing benefits that people perceived from visiting these locations and other blue spaces. These can be categorised as passive and active or, as in the model, restorative and instorative mechanisms.

Passive (restorative) mechanisms:

- Rest and relaxation – A strong theme was of water being relaxing, offering respite from life's stresses and strains. A 'sense of space' was a factor for many: people linked it to a 'sense of freedom' and 'space to think'.
- Sensory experience – Sensory qualities were mentioned as invoking positive feelings. These included the 'changing vistas' created by tides, weather and port-related activity; the rhythmic sounds of the water and the feel of 'fresh air'.
- Sense of identity – Many people linked the water to their sense of self, their daily lives and habits, their memories, or their feelings about home: 'it wouldn't be Liverpool without it'. For some it was symbolic of a wider human identity, or a connection between all life on earth.

Active (instorative) mechanisms:

- Leisure destination – Blue spaces are somewhere to go, whether for a coffee, a day out, or a holiday: 'it's nice to come somewhere different'. They are settings for hobbies and exercise. Many people were out with friends or family.
- Accessible outdoors – 'To get out', 'for fresh air' and 'for a walk' were frequently cited reasons for visiting. Over 65% of participants mentioned some form of movement or exercise, and several highlighted the suitability of the straight route or flat surface. At the same time, blue spaces were seen as natural places: 'it's the closest nature to home'.
- Focus for community – Blue space was a focus not only for spending time with loved ones, but also for connecting with a wider community. We heard about various groups, organised around caring for the environment, water-based activities or other hobbies such as photography.

For visitors from outside LCR, the obvious blue space destinations might be the beaches of Wirral and Sefton, and the

famous Liverpool city waterfront. But our survey shows the value of neighbourhood blue spaces, especially to local people (over 60% of respondents had travelled for less than 15 minutes). Despite the visibility of the Mersey and its importance to the city-regional identity and economy, its role as a wellbeing asset remains somewhat hidden.

4. Realising the potential of urban blue space

Figure 1 shows that policy interventions influence other aspects of the model and therefore the wellbeing outcomes that might be available from urban blue space. A combination of policies may be required to fully realise the potential. For example, planning and transport policies can affect exposure, nature and environment policies can affect situational modifiers, and health and social care policies can affect individual modifiers. Some examples are given below.

Planning and transport policy

Planning and transport policy can increase exposure to blue space by protecting and enhancing the quantity of blue space and people's access to it.

The National Planning Policy Framework (NPPF) requires local planning authorities to have an up-to-date Local Plan (adopted within the last 5 years). The review process is an opportunity to strengthen blue space protection.

Most Mayoral Combined Authorities have the power to produce a Spatial Development Strategy (SDS) to deal with planning matters that are of strategic importance to their city-region. It must have regard to health, sustainable development, and climate change, as well as the NPPF. LCR's draft SDS (LCRCA, 2023) contains specific policies relating to 'green and blue infrastructure' and 'the Mersey River and coast', which expressly recognise the benefits of blue space. The Local Plans within LCR will be required to align with the SDS.

The extent of public access to blue space depends on ownership, access rights, and any restrictions such as safety restrictions that may be in force. The picture is complex and sometimes contested, particularly inland. Access to the coast has been boosted by the creation of the King Charles III England Coast Path, a new national trail. There are places where the route diverts away from the water (e.g. around derelict dockland) and there may be opportunities to remedy this in future, as well as to link with local walking and cycling routes. Parking and public transport are also relevant; in our survey, it was striking that nearly 40% of all visits were by car journeys of less than 15 minutes.

Nature and environment policy

Situational modifiers of wellbeing outcomes include a wide range of environmental qualities of blue space. For example, for the restorative and instorative mechanisms we identified, we found that the following were relevant:

- Rest and relaxation – low noise levels, open aspect, not too busy;
- Sensory experience – views, sounds, smells, air quality;
- Sense of identity – port-related activity, maritime heritage features;
- Leisure destination – amenities, signage, cleanliness;
- Accessible outdoors – parking, public transport, flat and straight surfaces, traffic-free, shelter, water quality, wildlife;
- Focus for community – organised groups, opportunities for people to come together and care for the environment, safety.

Some of these qualities are distinct to blue space, or more heightened in blue space relative to green space. Assessment tools such as BEAT (Mishra et al., 2020) and

the Green Infrastructure Framework (Natural England, 2023b) provide checklists to assist policymakers in assessing the qualities of blue space; however, local knowledge is required to understand their relative importance. To date, "the potential to use urban blue space regeneration as a community-based health intervention has yet to be realised" (Hunter et al., 2023:e737). Meanwhile, the essential role of day-to-day management and maintenance should not be neglected.

Health and social care policy

Individual modifier effects such as poverty, disability, age, or ethnic group may mean people are less likely to visit blue space (Gray et al., 2023). Targeted policy interventions might aim to reduce this inequality of access. Evidence-based guidance on inclusive blue space is being developed, e.g. by GroundsWell (2023) and Natural England (2023a).

The NHS Long Term Plan (NHS, 2019) commits to more action on avoiding preventable illness, promoting wellbeing, and reducing health inequalities. Social prescribing enables healthcare professionals to refer people to a range of local, non-clinical services, typically provided by organisations in the voluntary, community, faith and social enterprise (VCSFE) sector. Both green and blue social prescribing have been found to be effective and cost-efficient at improving wellbeing (Britton et al., 2020; Haywood et al., 2024).

Policy gaps and conflicts

Policy at national, city-regional and local level has begun to recognise blue space as distinct from green space. However, this is currently inconsistent, which could lead to opportunities for wellbeing benefits to be missed, particularly in some urban locations where blue and green space do not overlap. A wide range of factors interact to enable these benefits, which may give rise to policy conflicts. Potential challenges include:

- Increasing housing density and maintaining a sense of openness;
- Promoting economic use and protecting heritage features;
- Providing amenities and allowing opportunity for peace and quiet;
- Encouraging active travel and retaining accessibility.

Coordination is required between different levels of government, between different policy areas, and with key local partners such as the NHS and VCFSE sector.

5. Conclusions

The concepts identified in the model, illustrated in Figure 1, can be used to improve understanding of how urban blue space is linked to wellbeing, and therefore to develop and implement policy interventions to improve wellbeing outcomes. Given that many of the factors are highly place dependent, a local or hyper-local scale for interventions may be most appropriate. However, these should be supported by a city-regional policy framework, which recognises that:

- Blue space has a role in providing wellbeing benefits, which is distinct from and complementary to that of green space.
- Terms relating to open space should be clearly defined. Using 'green infrastructure' as a catch-all term could obscure the role of 'hard-edged' blue space, for example.
- Multiple policy areas will be relevant to achieving these wellbeing benefits, requiring consideration of potential policy conflicts, and coordination between policy actors.
- Policy interventions should be tailored to priorities at neighbourhood level, determined collaboratively with local people, both who do and do not currently use blue space.

- Priorities will be subject to change; for example, climate change is likely to impact on both risks and benefits associated with blue space.

City-regional policy in turn requires support at national level. Joined-up national policy can help balance competing requirements and strengthen the ability to deliver local priorities; for example, by shaping a planning system that embeds consideration of health and wellbeing (Bird et al.,2024; Newman, 2024).

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