



A spectacular and uplifting viewpoint over Plymouth Sound, UK
Photo: Simon Pittman

Transforming City Seascapes for Healthier People and Planet

By Simon J. Pittman & Katherine Moseley

The edge of the sea is a strange and beautiful place.
- Rachel Carson

Coastal cities sit on the edge of an immense and dynamic watery wilderness capable of generating great intensity of feeling and measurable benefits to our wellbeing. As societies increasingly turn to the ocean for solutions to sustainable living, the characteristics of urban seascapes that generate health services are also beginning to be considered an asset in

natural capital accounting. The therapeutic value of coastal seascapes, recognised for millennia, is now experiencing a resurgence in urban planning through the desire to improve city living and address health inequalities.

Health-enabling places and spaces where water (saltwater or freshwater) is central to promoting health and wellbeing have been termed “blue spaces” (Foley & Kistemann 2015). Creation of blue spaces is an

important role of blue urbanism. Public access to safe blue spaces is a key enabler of “blue health” and a characteristic that has been overlooked in modern urban environments.

Much of the seascape of cities has been obscured from view or made inaccessible for many. Engineered structures such as walls, buildings, private real estate, or exclusive zoning for industrial use and transport infrastructure such as harbours, ports and airports have limited



Regeneration of a city beach park in Plymouth, UK
Source: BlueHealth2020.eu

public access. The gentrification of waterfronts often forms barriers to inclusive access to the ocean and is a challenge for blue urbanism that seeks to create greater opportunities for positive ocean connections.

For many coastal cities with historic ports, however, deep maritime roots underpin their evolution through centuries of ocean-going trade and remain intertwined with the city’s cultural identity. At a meeting to discuss the establishment of the UK’s first National Marine Park, led by Plymouth, “Britain’s Ocean City”, the City Council leader Mr. Tudor Evans exclaimed: “Plymouth wouldn’t be a city of quarter of a million people this far west if it weren’t for the sea. The sea is in our DNA.” This feeling and maritime identity is likely echoed by many citizens of historic port cities.

Coastal cities, however, continue to have multifaceted and largely negative impacts on local ecosystems and the global ocean. A desire for healthier cities amid growing concerns over pollution requires that coastal cities develop innovative ways to inspire and empower communities and institutions to embrace, enjoy and better care for city seascapes. There is nothing on Planet Ocean more contested than the water and, despite the remarkable diluting and regenerative capacity of the ocean, increasing exposure to cumulative stress from human activity has brought us to a tipping point.

In an earlier article, we aimed to advance blue urbanism in coastal cities through an urgent global Call for Action (The Ocean Cities Pledge) (Pittman & Moseley 2019) to transition coastal cities into healthier Ocean Cities.

Becoming an Ocean City requires an active cultural shift through transformative steps along a blue urban pathway that both nurtures emotional connection to the ocean and its inhabitants and elevates civic pride ultimately leading to actions that create a healthier city seascape. As well as seeking a more harmonious relationship between city and ocean, these initiatives place special emphasis upon the need for safe and inclusive access to the seaside and water for the considerable benefits to public health and wellbeing. Ocean-focused and community-centred placemaking is a key activity in the implementation of blue urbanism and a nexus for urban transformation of coastal cities where considerable new creative energy is being directed worldwide (Beatley 2014). Here, we present our thoughts and some evidence for blue health benefits associated

with encounters with the ocean and highlight some city-led initiatives that show potential for transforming urban coastal space into blue space for greater community wellbeing.

Therapeutic City Seascapes

There is a growing body of evidence suggesting that time spent in, or in view of, the ocean can benefit mental health and enhance social cohesion and resilience. Although the ocean and coasts have long been valued as restorative places that promote vitality, it is only relatively recently that blue health has become a topic of growing interest among scientists, medical practitioners, and policy makers around the world. Several studies have confirmed that a view of the sea has mental health benefits such as lowering anxiety and the risk of depression. In England, a survey of 26,000 respondents found that adults from the most deprived areas closer (<1 km) to the coast experienced the greatest self-reported mental health benefits ([Garrett et al. 2019](#)).

Research suggests that activity-based ocean therapies applying principles of occupational therapy are effective for generating psycho-social wellbeing in participants ([Britton et al. 2020](#)). Wallace J. Nichols' "blue mind" concept captures the meditative state of mental wellbeing induced by some water-based activities. Wellbeing has been found to be linked to a diverse range of activities (e.g., kayaking, swimming,

walking) and feelings (symbolic, achievement-oriented, social and immersive experience) ([Bell et al. 2015](#)). Comparative studies across a range of environments have repeatedly shown that blue spaces are among the most restorative with people being happiest in coastal environments ([White et al. 2020](#)). Important progress has been made to strengthen the evidence base in the field of oceans and public health by researchers at the [European Centre for Environment and Human Health](#) through Projects such as BlueHealth and SOPHIE (Seas, Oceans and Public Health in Europe).

Blue Spirituality in Coastal Cities

Watery places have spiritual power that has been recognised throughout history by indigenous and ancestral cultures, with some sacred water sites becoming places of pilgrimage and remembrance. With the sacredness of this interconnected relationship comes understanding, respect, and a relatedness and reciprocity that is restorative. In contrast, coastal cities have rapidly departed from reverence for the ocean while building their relationship with the water upon economic and recreational needs that fail to adequately safeguard ecological integrity. Coastal cities as a global collective have become dissociated from the essential life-giving properties of clean water and air and increasingly struggle to accept the inevitable need to transition to a way of living that is more harmonious with the local and global living system.

The climate and biodiversity crises are shining the light on cities and catalysing change. Water carers of all kinds are emerging, from activists to scientists and city leaders, to acknowledge their kinship with watery places by pledging their commitment to its health and vitality. There is a movement towards a reconnection to the "ecological self" that is knowingly, or unknowingly, being manifested in pockets of activity in and around coastal cities. A step towards reconnection with our ecological self and an integration of spiritual environmentalism, rooted in animistic and biophilic philosophy, is unfolding and permeating into the legal system through frameworks such as Earth jurisprudence and the granting of legal rights of personhood to water bodies (e.g., Whanganui River in New Zealand). Although legal protection is welcome and necessary, ideally a new relationship to the rest of the natural world must be based on responsibilities rather than relying on legal rights.

Connecting to the Ocean through Experience

Direct experience provides opportunities to form an emotional connection with the ocean and its inhabitants and to build a healthy relationship. Enabling such opportunities should be an important function of blue urbanism. Encountering marine life, especially large charismatic species, is captivating, often joyful and creates great excitement whether a fleeting glimpse of a seal in



A popular bay for year-round swimming in Plymouth City, UK
Photo: Simon Pittman

Plymouth Sound, a rare visit from a pod of orcas in Vancouver's False Creek, the majesty of humpback whales breaching in New York Harbour, or manatees cruising along an urban canal in Miami. As a non-resident, terrestrial observer of the ocean, our visual experience is usually focused on the ocean surface with the vast three-dimensional fluid volume and seabed largely unperceived. Yet, with the help of technological innovation such as internet-linked underwater cameras we can livestream marine life worldwide. With immersive 3D virtual reality seascapes augmented with

images of real marine life we can become a virtual SCUBA diver to explore beneath the surface.

Greater connection is likely through participation in community-based restoration activities such as seagrass and saltmarsh planting, beach clean ups and citizen science projects including marine monitoring programmes. Enhancing ocean literacy is key to blue urbanism. City seascapes have great potential for ocean exploration yet are sometimes overlooked in terms of the potential for local education and outreach. The creation of ocean schools,

or beach schools, (both digital (e.g. [Ocean School](#)) and outdoor (e.g. [Beach School South West](#))) with regular school visits to the seaside to learn about marine life and the importance of responsible ocean stewardship will enrich coastal city living. In Plymouth, the National Marine Aquarium's Ocean Conservation Trust together with local marine science institutions and schools have created an Ocean Curriculum with a strong climate change component for primary schools. In the Maldives, the Parley Ocean School takes an immersive approach to inspire and empower the next generation of ocean guardians.

Some early evidence suggests that the emerging concept of marine citizenship is most strongly expressed through sensory experience of the sea and is associated with a marine identity. Marine citizenship recognises that individual behaviour can impact the health and management of the ocean and seeks to encourage personal environmental responsibility and action together with a commitment to learning more about the ocean. A major challenge in implementing marine citizenship is the need to understand the social drivers resulting in active participation with environmental stewardship, which can be complex with many different pathways to civic engagement shaped by sense-of-place, identity, empathy for nature and a range of social and emotional place meanings ([Enqvist et al. 2019](#)).

Urban Blue Acupuncture

Strategic placemaking techniques have a hugely important enabling role in blue urbanism by shaping experiences of blue space and promoting connectivity between people and the ocean. Placemaking of blue spaces in coastal cities occurs at a range of spatial scales from large-scale urban regeneration projects (e.g., Baltimore's Inner Harbor, USA or the new coastal city park "Hellinikon Project" in Athens, Greece) to small hyper-localised treatments through urban acupuncture. This strategy views cities as living, breathing organisms and pinpoints areas in need of healing through the creation of finely tuned small-scale (and relatively inexpensive) interventions that are interwoven into the urban fabric. Co-designed with community, these interventions can create spaces for mingling, observing, lingering, educating, and celebrating, as well as quiet places for private solitary contemplation. The intention is that small changes can have disproportionately large impacts on experience and wellbeing, for example, through changes to lighting, seating, access to sea views, safe and inclusive access over water via boardwalks and slopes/steps/lifts, biophilic design, art installations, educational material, and synergies with connected neighbouring areas.

Thresholds and boundaries where contrasting habitats meet and create edge effects are places of heightened fascination. In coastal cities, where grey meets blue, placemaking can

create safe, gentle, and accessible spaces for encountering and connecting with the ocean.

In Plymouth (UK), an urban acupuncture approach was used to encourage people to use blue space at an inner-city beach and coastal park in a collaborative project involving the local community, Plymouth City Council, Devon Wildlife Trust, and local researchers (BlueHealth project) who observed visitors and conducted wellbeing questionnaires before and after the intervention. The project, which focussed on creating perceivable possibilities for action, built an **open-air amphitheatre on the water's edge at Teats Hill** with direct access to the foreshore together with improvements to increase safety, inclusive access, attractiveness, and information on the site's cultural and biodiversity (Bell et al. 2020). Structures such as the amphitheatre provide a suitable seaside venue to celebrate with play, storytelling, ritual, art, dance, and song and indeed the regeneration resulted in an immediate positive uplift in life satisfaction, a measure of wellbeing. Transdisciplinary research involving communities, urban planners, social scientists, health practitioners and policy makers will be needed to shape health-promoting city seascapes.

City Marine Parks

The city marine park concept is a collaborative community-led marine park that celebrates a city's connection to the marine environment and encourages communities to

participate in activities that deepen understanding, value, care, and enjoyment of the city seascape. A city marine park is a holistic concept more closely aligned with urban social policy than conventional marine conservation measures and was designed to support blue urban transformation addressing multiple sustainable development goals through the development of healthy interconnected land-sea ecosystems. Regarding blue space, a city marine park seeks to enhance inclusive access and responsible use of the city seascape for the diverse wellbeing benefits for people and ocean. A core aspiration of the city marine park vision is to create a positive feedback circle that seeks to build and strengthen positive relationships between people and the city seascape through initiatives (e.g., educational, recreational, commercial), campaigns and park-friendly commerce.

The city marine park concept and the declaration of the UK's first city-led National Marine Park has stimulated interest from coastal communities in South Africa, Brazil, and Canada. It is still early days in the evolution of the Plymouth Sound National Marine Park, which since its declaration at the end of 2019 has been stalled by COVID-19 and has now entered a two-year development phase where stakeholders will help to shape the future goals and activities. Projects have already commenced to restore seagrass beds in the park and, with support from the Blue Marine Foundation, to track

fishing gear from satellites to retrieve nets and pots lost at sea. The park designation has helped to highlight Plymouth's commitment to the ocean and perhaps forms a kind of city-ocean reconciliatory process and the beginnings of a way of giving back.

In recent decades, cities have turned their backs on the ocean as industries and supply routes diversified and bathing water quality declined but are now turning to face the ocean once again with new curiosity and appreciation and are looking for new meaning and belief. Our coastal cities must transition now, with some urgency, to become responsible ocean-loving cities forging a healthier relationship with the ocean, receiving inspiration from the ocean, and working in harmony with the ocean, recognising that we can only truly thrive if the global ocean thrives first.

It is a wholesome and necessary thing for us to turn again to the earth and in the contemplation of her beauties to know the sense of wonder and humility.
- Rachel Carson, *The Sense of Wonder*

Resources

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