4. Enriching experience through green space design

This is the fourth in a series of evidence report cards summarising what we know about: (a) natural environments and human health; and (b) opportunities for promoting human health and wellbeing through sensitive ‘green’ and ‘blue’ public open space management. This card focuses on the experiences sought out in diverse green spaces, and opportunities to promote such experiences through designing for the senses, connection and achievement.

Designing for the senses

Studies frequently highlight the ‘moments of extra pleasure’ gained through multisensory green and blue space encounters (Tilley, 2006), with users noting a desire to be able to ‘touch, smell, see and hear elements of the natural world’ in such settings (Burgess et al., 1988; Krenichyn, 2006; Pinder et al., 2009). The evocative sensory pleasures of seasonal change have been highlighted, including the scent of bluebell woods, the ‘crunch’ of fallen autumn leaves and the annual blossoming of cherry trees (Macnaghten and Urry, 2000). Opportunities for reminiscence through nature experience are particularly valued amongst older adults, enriching everyday life through connecting them to fond memories of earlier times and places (Orr et al., 2016).

Nature-based sensory pleasures contribute to experiences of immersion, allowing people to lose themselves, switch off and re-energise during times of stress and fatigue. The sights, sounds and movements of certain types of wildlife afford opportunities for relaxation in parks, woodlands, allotments and fields (Curtin, 2009; Bell et al., forthcoming), as well as the captivating motion and sounds of breaking waves at the coast (Ryan, 2012). Appreciating sensory experiences during outdoor physical activity (e.g. sea swimming, running, community gardening) has been linked to positive emotional transitions (Cosgriff et al., 2009; Phoenix and Orr, 2014; Bell et al., 2015) and feelings of both physical and cognitive release (Pitt, 2014).

Opportunities for such pleasurable sensory experiences could be promoted through efforts to design and manage even small urban green spaces for multiple senses, thereby also enhancing their enjoyment amongst individuals living with varying forms and severity of sensory impairment. This could include tactile planting or the inclusion of acoustic gardens and seasonal scented trails. The latter feature in various green spaces across the UK and more widely in Europe, for example the sensory garden and sensory trail within the Ryton Pools Country Park in Warwickshire, seasonal ‘time’ and ‘scented’ gardens in Carnfunnock Country Park in Northern Ireland, and a barefoot ‘Wake up your Feet’ trail and blindfolded pathway at Les Jardins de Brocéliande in France. Although produced in an Australian context, practical guidance in the design of diverse sensory spaces is available online.

Sensory design efforts could also be applied to nature-based settings designated for children’s play, offering opportunities for more tactile experiences and closer interaction with the natural world than otherwise encountered in their day-to-day lives (Tunstall and Penning-Rosse, 1998). These opportunities to connect with nature – combined with environmental education initiatives and learning outdoors – may be important in shaping the extent to which people experience a
sense of wellbeing during their adulthood green space interactions (Ward Thompson et al., 2005; 2008; Milligan and Bingley, 2007; Asah et al., 2012; Lin et al., 2014; Bell et al., In Press).

**Designing for connection**

A small but growing body of evidence highlights the role of green and blue spaces in enabling **positive but undemanding forms of human connection**. These may be one-off and momentary, for example commenting on the weather in passing, or more regular between frequent users who come to recognise each other over time (Peters et al., 2010; Dinnie et al., 2013). These types of friendly interactions tend to be most common amongst dog walkers, with dogs acting as ‘social catalysts’ (Gatrell, 2011; Plane and Klodawsky, 2013). However, they have also been identified amongst users of outdoor gym equipment (Chow, 2013), parents with young children in park playgrounds (Kaźmierczak, 2013), and retired older adults (Gardner, 2011).

Studies have noted the role of green and blue spaces in **promoting valued shared experiences** with friends and family, be it moments of quiet comfortable companionship with one or two like-minded others (Doughty, 2013) or more active family visits, seen as integral to the formation of lasting family bonds (Hebblethwaite, 2014; Harrington, 2015). Particular value has been placed on beaches, parks and woodlands for the latter, each **facilitating affordable days out**, depending on car parking and petrol costs (Ashbullby et al., 2013; O’Brien et al., 2014).

It has also been noted, however, that individuals suffering from stress or more severe mental and emotional illness may **seek refuge in the ‘social quietness’** afforded by particular green settings (Pálsdóttir, 2014). These individuals can find it increasingly difficult to understand, empathise with or tolerate other people (Cropley and Millward, 2009; Grahn and Stigsdottir, 2010). Forging simple connections to plants and wildlife can enhance rehabilitation (Ottosson, 2001; Ottosson and Grahn, 2008; Burls, 2008), offering the comfort and stability that less stressed individuals are able to experience through social relationships.

Catering for this diversity of social needs and preferences creates challenges for green space design and management, particularly in urban areas where space is limited. Where possible, there is value in **choreographing** **green spaces in a way that separates potentially competing activities** in order to minimise preference conflicts, user tensions or perceptions of overcrowding (Peters et al., 2010). Efforts may be needed to create a range of inclusive environments enabling people to linger and share in friendly and mutually comfortable interactions in nature, whilst also recognising the need to preserve areas of tranquillity, both for those seeking social quietness and for the sake of more ‘flighty’ animal species.

‘Social’ areas incorporating small, naturalistic shelters or appropriately located café and picnicking sites could be located in less ecologically-sensitive areas, perhaps **interspersed with quieter, reflective zones**, allowing for more tranquil setting immersion. In smaller-scale settings (for example, pocket parks or informal green spaces in and around residential developments), clear behavioural ‘cues’ could be included, such as bird feeding stations and bird hides within intended quiet areas, and ‘parklet’-like structures or play equipment in more social areas.
Designing for achievement

Despite the large and growing body of research into green space presence and physical activity (Bowler et al., 2010; Thompson Coon et al., 2011), few studies have examined how people deliberately use different green and blue space features to progress towards long-term activity goals. The benefits of having access to marked trails of different lengths and circuits have been touched upon (Qviström, 2016), together with the creative incorporation of parks, woodlands, beaches and off-road trails within people’s self-devised (often circular) local activity routes. Through tailoring chosen routes to personal energy levels, mood and time available (taking into consideration diverse terrains within these settings and potential sources of challenge, such as hills, steps, ramps, muddy off road paths etc.), people can proactively build stamina, strength and skills over time (Bell et al., 2015).

As noted in Evidence Card 2, this emphasises the value of linear parks, green ways and safe pedestrian infrastructure in supporting walking and wider physical activity participation within the living environment (Brown et al., 2014; Sugiyama et al., 2014a,b).

A desire for a sense of purpose and achievement through green space interaction is frequently identified amongst environmental volunteers (Townsend, 2006; O’Brien et al., 2008; Dinnie et al., 2013) and community gardeners (Milligan et al., 2004; Middle et al., 2014). The longer-term satisfaction gained from gardening tasks with delayed outcomes, such as tree planting, has been distinguished from those bringing a more immediate sense of gratification and cathartic release, for example taking down fences or felling a diseased tree (Muirhead, 2012). The enjoyment of community food growing in particular is evident in the widespread growth of ‘Incredible Edible’ community growing initiatives; originally started in 2007 in the market town of Todmorden, West Yorkshire, the idea subsequently evolved into the Incredible Edible Network. This was established in 2012 to promote ‘the power of small actions’, inspiring and enabling communities across the UK to unlock money, land and skills in support of local food growing initiatives.

The positive health impacts of opportunities to contribute to a community or to increasing knowledge through environmental citizen science have also been highlighted (Koss et al., 2010; Lovell et al., 2015), with local citizens often the first to notice instant or gradual changes in their immediate environments (Fradera et al., 2015). Participants’ efforts generate increased understanding for coordinating bodies, and result in feelings of personal satisfaction, pride, enjoyment and an increased desire to protect their environments. Cautions have been raised, however, about the risks of volunteer burnout, and the need to protect them from becoming fatigued or overwhelmed by participation requests (POST Note, 2014). Fradera et al. (2015) suggest that the most empowering citizen science initiatives are those that are co-created with communities (where scientists and volunteers conduct and design projects together). The Open Air Laboratories (OPAL) Network provides a useful resource for understanding how and where environmental citizen science projects are taking place.