

Sun-shading at the water's edge

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Abstract. In New Zealand, the enjoyment of summer days at the water's edge is a popular past-time. Riversides, lakesides, the seaside and swimming pools are often open flat sites with little shade resulting in high UV exposure and sunburn. Firstly, this presentation reports on a 2017 shade audit of three summer pools in the Hutt Valley, Wellington. Existing sun-shading was found to be inadequate. Alternative design approaches for creating better sun-safe environments were explored and illustrated. Secondly, other strategies were gathered from overseas. In May to July 2017, the author visited several waterside venues in Europe and surveyed sun-shading and its use. Although most UV levels were under UVI 7 in the open, sun-shade customs identified were noteworthy. In Oslo, sun-bathers populated pontoons in the harbour and danced the salsa. In Copenhagen, large waterfront geodesic domes, clad in clear polycarbonate, captured the heat but shielded UV. In Switzerland, a bathing pavilion positioned over Lake Lucerne provided a rich variety of shady spaces for all ages. On the outskirts of Riehen, the Naturbad pool, included deep decked verandas as well as large umbrellas. Children were drawn to shade to play table tennis, read to book or have an ice-cream. On the Adriatic coast, beaches were lined with mature trees. At Mulini beach resort in Croatia, loungers and generous umbrellas were able to be leased and cool drinks enjoyed from a well-shaded and cool beach pavilion.

At all sites, some people chose to sunbathe in the open, but many chose to use the shade provided. In New Zealand, perhaps our public waterfronts could be 'furnished' with more shade, to create vibrant gathering spaces protected from UV, which could be enjoyed throughout the day.

Introduction

New Zealand has high rates of skin cancer due to a significant proportion of fair skinned people, relatively high UV levels, a temperate climate and an outdoors lifestyle. Recreation at the water's edge is a popular past-time. Riversides, lakesides, the seaside and swimming pools are often open flat sites with little shade resulting in high UV exposure and sunburn.

Shade planning guide '*Undercover*' (Greenwood, Soulos & Thomas 2000) recommends shade at swimming pools should be provided over all spectator areas, toddlers' pools and surrounds, popular pool areas, staff stations, kiosks and picnic tables. At beaches, trees and occasional scattered shade structures are suggested for adjacent reserves. Previous research into New Zealand summer pools found that the laminated glass canopies over the terraces successfully created permanent warm shade at Thorndon pool, Wellington (Mackay 2006). At the outdoor Lido Pool in Palmerston North, a series of shade sails over terraces were found to have insufficient area and protection factor (PF) to shelter spectators at high school swimming sports days (Mackay 2017).

Hutt City Summer Pools

In order to understand current New Zealand summer pool shading practice, in December 2016, three pools in Petone, Eastbourne and Wainuiomata, Hutt City, Wellington were reviewed. In this region, summer maximums are 18-24°C and UVI 7-12. The surveys revealed that small areas of shade had been installed in line with '*Undercover*' principles but there was not enough shade over sitting or lounging areas or warm shade over the toddlers' pools. Speculatively, each pool was re-envisioned with warm shade and green planting to create a sun-safe pool paradise.



Figure 1. McKenzie Pool, Petone re-envisioned with warm shade and green landscaping.

European case studies

In the European summer of 2017, the author surveyed sunshade practice at five swimming venues. In order to provide a climatic context, summer maximum temperatures and UV levels are provided for each location (accessed from www.weatheronline.co.uk). In Oslo, after a long winter, the public flocked to *Sjørenga Sjøbad* public bathing venue. Pontoons were positioned off an artificial beach on a harbour promontory near to the central city. The water was too cold for swimming but the locals sunbathed and danced salsa on the boardwalk. Young deciduous trees behind the beach provided little shade. With summer maximums of 18-25°C and UVI 4-6, transparent roofing could be useful in providing warm sun protection but this strategy was not common in Norway.



Figure 2. Norwegians enjoy a late spring day sun-bathing on pontoons in the harbour. (6 May 2018)

In Copenhagen, architects Kristoffer Tejgaard and Benny Jepsen used clear polycarbonate to clad a large relocatable geodesic dome on the harbour front. Although the 'Dome of Visions' (Figure 3) was a well-used summer venue, the architects were unaware that it was beneficial in providing sun protection for skin cancer prevention when summer maximums are 18-25 °C and UVI 4.5-6.5.



Figure 3. 'Dome of Visions' on the harbour front, Copenhagen 2014. ©Jorge Lascar

In land-locked Switzerland, the public enjoy summer (when maximums reach 20-30°C and UVI 6-9) at the water's edge of lakes and rivers. Situated over Lake Lucerne is the bathing pavilion *Seebad Luzern*, where reception, changing rooms, verandas and a café surround two 'pools' of lake water. The roof is a deck with expansive mountain views. The public had a choice of shade (verandas, a roof canopy and umbrellas) as well as sunbathing.



Figure 4. A 'lake pool' at *Seebad Luzern* (5 June 2018)

Riehen Naturbad, is a public swimming pool which uses water from an adjacent river. The water quality is maintained by using reed-beds. Architects Herzog and De Meuron designed ample shade including deep verandas along the perimeter fences and over café and recreation areas. Management provided umbrellas in a variety of sizes. While the main pool was open, a large shade sail covered the toddlers' pool and surrounds. Provision of table tennis, library books and toys attracted children to shade.



Figure 5. *Naturbad*, Riehen, Switzerland. (6 June 2018)

On the Adriatic Sea, Croatia's beaches experience summer maximums of 25-33°C and UVI 7-9. The resort at Mulini beach leased large and medium sized loungers and umbrellas to the general public as well as the hotel guests. A beach pavilion provided drinks and a well-designed passively cool bar space and pool amenities. Trees at the other end of the beach offered free shade.



Figure 6. Mulini Beach, Rovinj, Croatia (24 June 2018)

Discussion

Swimming venues have been presented from a wide range of latitudes and summer intensities of heat and UV. Sun bathing in Oslo illustrates the springtime pull of the sun's heat. In this case, 'warm' shade could have a role in reducing UV overexposure. On 27°C days, the Swiss examples demonstrate how summer swimming venues can be places where families and young and old people can swim, relax and socialise but also enjoy the restorative environment of a natural setting. A wide range of shade (trees, verandas, shade sails and umbrellas) effectively shaded a range of activities (lounging, reading, computer work, enjoying refreshments, playing table tennis and other games). While short swims are in the open, the quantity and quality of shade allow for all day recreation in a sun-safe environment. In 30+°C, at Mulini Beach on the Adriatic coast, a beach pavilion and large umbrellas provided high UV protection suitable for all day use by staff or holiday makers.

Conclusions

The New Zealand summer pools surveyed had limited shade, especially comfortable places for relaxing and socializing with friends and family. The following strategies, observed at European swimming venues, could be considered to create more attractive shade for UV protection and skin cancer prevention at the water's edge.

- Greater area and variety of shade for relaxation, using trees and planting, verandas, canopies and umbrellas.
- Introduction of activities (games, toys, play equipment, tables and chairs) to encourage children to play in the shade.
- Use of 'warm' shading materials (transparent roofing which transmits heat but blocks UV), especially over toddlers' pools and their surrounds.
- The provision of seating, loungers and umbrellas (especially at popular swimming venues).

References

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Acknowledgements

Thank you to Health Promotion Agency of New Zealand (HPA) and Victoria University of Wellington – Health and Wellbeing for the funding of background research and also to research assistants David Coetzee and Charlotte Hughes-Hallett, School of Architecture, Victoria University of Wellington.