

RESEARCH CONNECTIONS

AUSTRALIA AND NEW ZEALAND

THROUGH A LOCAL GOVERNANCE LENS: DIVERGENT AND CONVERGENT PERSPECTIVES OF EFFECTIVE URBAN GREENSPACE PROVISION (2019)

Authors C Boulton, A Dedekorkut-Howes & J Byrne

Abstract Internationally, scholars and activists frequently call for more greenspace. Recent research has identified a range of factors that contribute to, or inhibit urban greenspace provision. While municipal government is most often at the heart of local urban greenspace provision, delivery depends upon internal as well as external factors which can act as disruptors. In fast growing cities, these factors can be amplified by the pace of growth, a phenomenon not isolated in Australasian cities. Drawing upon two case studies, this paper examines which factors most affect urban greenspace in two fast growing cities of Australia and Canada, exploring how they manifest locally. Several questions are addressed: (1) is the current approach to greenspace provision in such cities effective, (2) how can we tell, and (3) what are the factors that influence urban greenspace provision in non-capital cities? Analysis reveals an increasing tension for local government between clinging to traditional planning standards for open space provision in the face of escalating expectations from business and residents alike. A dilemma for municipal greenspace planners globally is how to close the gap between the limited resources available, affordability and sustainability, and the increasing demands for urban greenspace to deliver social, environmental and economic outcomes and benefits. This paper offers insights using features of a grounded theory approach to help inform future urban policy and research directions for urban greenspace planning approaches.

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REUSING STADIUMS FOR A GREENER FUTURE THE CIRCULAR DESIGN POTENTIAL OF FOOTBALL ARCHITECTURE (2021)

Authors Hognestad, HK & Wergeland, ES

Abstract Since the turn of the new Millennium, there has been an increase in efforts to build environmental-friendly sports arenas around the world. Fuelled by large sporting events like

the 2000 Sydney Olympics, the 'Green Games', and the 2006 FIFA World Cup in Germany, stadium architecture has become a vehicle for this trend. So far, the emphasis has primarily been on new arenas, in line with the widespread belief in international architecture of the 2000s that older buildings are less energy-efficient by default. In addition to that comes a conviction that newness is needed to attract sponsors, investors and larger audiences — a position powered by commercial interest and the idea of the stadium as an 'urban generator'. While new stadiums may have a significant potential when it comes to green performativity, it does not necessarily mean that older stadiums are surplus to requirements, even from a climate perspective. In this paper, we look critically at the well-established strategy of replacing old stadiums with new ones by questioning the climate impact of new arenas and investigating the reuse potential of existing ones. We carry out in-depth analysis of two existing stadiums, Tynecastle Park in Edinburgh and Stadio Flaminio in Rome. One of them has already gone through renovation to remain in use while the other is vacant but currently under way to be renovated. We bring in fresh perspectives from sports science, preservation, architecture and circular design theory to explain why older stadiums become obsolete and to challenge the premise of that destiny. The aim is not only to scrutinize the general lack of reuse but also to highlight green strategies which could give existing stadiums a longer life.

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Download frontiersin.org/articles/10.3389/fspor.2021.692632/abstract

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TOURISM AND LITTLE PENGUINS: A COMPARATIVE STUDY OF SURVIVAL AND REPRODUCTIVE PARAMETERS (2020)

Authors Philippa Agnew & David M Houston

Abstract *Context:* Tourism operations that provide the opportunity for wildlife viewing can support conservation management through public education, habitat protection, population management, research activities and revenue generation. However, alongside these potential benefits there can be negative effects on the species that include the possibility of reduced breeding success, survival and, subsequently, population growth. *Aim:*

We sought to establish whether a tourism operation affected little penguins *Eudyptula minor* by comparing reproductive and survival parameters of two managed populations in Oamaru, New Zealand. One population was the focus of a tourism operation, whereas the other (located nearby) did not provide any public access. The tourism operation implemented strategies to reduce human disturbance, including the reduction of noise, light and movement from visitors during viewing, and by ensuring that visitors were restricted to designated viewing areas. *Methods:* Nesting boxes were installed at both colonies that facilitated weekly monitoring of the populations. The monitoring program (1993–2017) included weekly checks of every nesting box in the colony for the presence of eggs, chicks and adults. Chicks were weighed before fledging, and both fledglings and breeding adults were individually marked. *Key results:* Lay dates, breeding success, chick fledge mass and survival rates were not measurably different between the two populations, indicating that there was little evidence of negative effects on the penguins at the tourist site.

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POST-NESTING MOVEMENTS AND FEEDING GROUND DISTRIBUTION BY THE HAWKSBILL TURTLE (*ERETMOCHELYS IMBRICATA*) FROM ROOKERIES IN THE TORRES STRAIT (2021)

Authors Claire E Barr, Mark Hamann, Takahiro Shimada, Ian Bell, Colin J Limpus & Janine Ferguson

Abstract *Context:* Hawksbill sea turtles (*Eretmochelys imbricata*) are conservation-dependent species in many areas of the world. A key component to ensuring successful conservation initiatives for the species is understanding their distribution and habitat use, in particular, knowing the nesting sites, migration routes and foraging areas for each genetic stock, and how these might overlap with threats. *Aims:* Investigate the post-nesting movements of hawksbill sea turtles nesting in the Torres Strait, including migration movements and foraging ground size and distribution. *Methods:* Nine nesting hawksbill turtles of the north-eastern Australian genetic stock were satellite-tagged between the 2010 and 2019 nesting seasons for 182±143 days (mean±s.d.). *Key results:* Three turtles continued to nest on adjacent

islands before commencing their post-nesting migrations. From the nine tracked turtles, the following three migration movement strategies were identified: (1) direct migration between the nesting beach and foraging ground, (2) non-direct movements with a period of meandering, and (3) establishment of two foraging areas separated by direct movement pathways. Foraging grounds were distributed across the Torres Strait and north-eastern Australia and varied in size between 0.54km² and 3.31km² (95% UD). None of the turtles migrated outside of Australian waters.

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OPPORTUNITIES AND CHALLENGES IN WATER SENSITIVE INDUSTRIAL DEVELOPMENT: AN AUCKLAND CASE STUDY, NEW ZEALAND (2021)

Authors Yuliang Wang, Marjorie van Roon & Stephen Knight-Lenihan
Abstract Internationally cities are increasingly applying Sustainable Stormwater Management (SSM) to mitigate urban stormwater problems caused by rapid urban sprawl and climate change. However, a gap exists in specific guidance and supporting case studies for SSM (termed Water Sensitive Design or WSD in New Zealand) at industrial sites. This paper uses a two-step New Zealand case study to identify priority issues to address when formulating guidelines for industrial SSM. The first step, in this paper, reports on semi-structured, in-depth interviews with Auckland's stormwater professionals to gain insight into the practice, motivation, and the benefits and barriers, of applying Industrial WSD (IWSD). The analysis showed that although IWSD could mimic and retain nature to mitigate impacts of changes to stormwater contaminants, flows and volume, as well as enhance aesthetic amenity, comfort level, and human health. The key challenges revealed reasons for these low levels of application were space shortage, lack of cognition and knowledge, lack of official regulations and compliance structure, and maintenance uncertainty. In conclusion, the successful application of IWSD is likely to be a slow process, that requires knowledge and awareness transformation, establishment of a sound regulation and governance structure, and the valuing of WSD in planning and design stages with specific consideration of industrial environments. These findings will inform a second step of this research, formulating guidelines on the application of WSD (and so SSM) to industrial sites and precincts.

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Sustainable Development & World Ecology, 28:2, p143-156
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CONNECTIVITY OF PUBLIC OPEN SPACE: ITS MEANING FOR DIFFERENT FUNCTIONS (2021)

Author G M Moore
Abstract Melbourne, Australia's fastest growing city, developed more rapidly to its south and east than to the north and west. This presents planning challenges where differences in the meaning of connectivity have emerged. To the north and west, there are demands to subdivide undeveloped land for housing, but there are also demands for connected public open space (POS). This paper defines connectivity in relation to its function and measured unimpeded connected POS for travel by foot, wheelchair, skateboard, scooter, rollerblades or bicycle. Distances ranged from 0.5 to 20 km. Connectivity was measured as distance travelled without retracing the course in the same direction.

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AN ARTIFICIAL SITE PROVIDES VALUABLE ADDITIONAL HABITAT TO MIGRATORY SHOREBIRDS IN A TROPICAL HARBOUR (2020)

Authors Lilleyman Amanda, Rogers Danny I, Jackson Micha V, Fuller Richard A, O'Brien Gavin, Garnett Stephen T
Abstract Migratory shorebirds are declining in all transequatorial flyways, most rapidly in the East Asian–Australasian Flyway. Population trends for shorebirds have been derived at a flyway and continental scale, but changes at the local scale are less well understood. Here we compare trends in migratory shorebird populations using natural and artificial roost sites within a tropical harbour, examine possible drivers of change, and identify appropriate conservation management responses. Counts of 19 migratory shorebird species from 2010 and 2018 showed that total abundance increased at an average annual rate of 3.3% (95% CI=1.3–5.4%, $P=0.001$) across five natural roost sites. This was driven largely by increases in great knot, with most other species declining. At an artificial site in an adjacent shorebird area, total abundance increased at an average annual rate of 14.5% (95% CI=10.5–18.6%, $P \leq 0.000$), with few species declining. These results suggest that there is a need to include both natural and artificial sites within shorebird conservation and

management planning and that trends in different species can be driven by a combination of local and external drivers.

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INTERNATIONAL

DESIGN WITH NATURE AND ECO-CITY DESIGN (2020)

Authors Yegang Wu, Robert E Swain, Nan Jiang, Mengying Qiao, Haihua Wang, Jialin Bai, Xi Zhou, Xuefeng Sun, Jing Xu, Meng Xu, Chen Hu, Yimin Xing & Jenny Z Wu
Abstract Designing with Nature is an approach linking design and ecology, which focuses on living with nature, caring for nature, and aiming for a sustainable society. China has made eco-city development, eco-restoration, and eco-civilization its legislative priority and its national strategy, investing a US\$618 billion in a 5-year period from 2011–2015 that could reach as high as US\$1,124 billion dollars in the period of 2016–2020. "Designing with nature" also means that we must, as we are dealing with resources, consider and understand all the impacting factors and ecosystem capacities. China's biggest challenge has been to restore water quality, aquatic ecosystems, and landscape patterns. Alongside its natural resources and eco-city development, China possesses a solar energy capacity higher than that of any other country in the world, reaching 174 gigawatts by 2018. Solar power is now cheaper than fossil fuels in hundreds of Chinese cities. In this review, we affirm that the nature-driven design put forth by McHarg's Design with Nature has withstood the test of time, and we aim to renew interest in McHarg's ideas by arguing for a design of Chinese cities that is, in keeping with Design with Nature, future-oriented, nature-oriented, and sustainability-oriented.

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CALL FOR ARTICLE ABSTRACTS

Abstracts of research projects of interest to PLA members are always welcomed on forthcoming themes, in particular research relating to Events, Tourism and the Arts.

Abstracts are required by 31 August 2021. Please forward material or enquiries to John Wood at jwcs@bigpond.net.au