RESEARCH CONNECTIONS

WORDS: JOHN WOOD, PLA FELLOW AND EDITOR OF RESEARCH CONNECTIONS

The November 2015 edition of Research Connections has abstracts about the following Australian and New Zealand research projects

- Tourism and Community Wellbeing: Social Impacts of Tourism in Australian Tropical Communities
- Opportunity or Orientation? Who Uses Urban Parks and Why
- Playing or Participating – Pursuing People's "Perfect Fit"
- Australian Girls Participation in Physical Activity – A Review of Current Literature
- Invitation for Supervisors, Managers and Risk Managers to Participate in UPLOADS Usability Test
- The Importance of Research to Parks and Leisure Practitioners and How Research Information is Sourced
- Health Benefits and Associated Economic Value of Parks and Park Use in Australia
- Young People's Survey Urban / Rural Reports
- Updated 2011 YPS Methodology Report (post 2012 Christchurch fieldwork) (2014)
- A Case Study of Best Practice in Tertiary and Community Partnerships (2015)
- Modelling progression of competitive sports performance (2014)
  Tackling NZ's growing obesity via rugby clubs

In addition, there is a comprehensive list of upcoming parks and recreation conferences and a number of links to some interesting websites.
The March 2016 edition (#12) of Research Connections focused on research underway in New South Wales. Researchers are welcome to submit project abstracts at any time and they will be included in the next newsletter. Templates for supplying information can be obtained from **jwcs@bigpond.net.au**

Editions of Research Connections can be viewed or downloaded from: **http://www.parksleisure.com.au/research-advocacy/research-connections**

CURRENT RESEARCH

The skycourt and skygarden : greening the urban habitat

Authors
Jason Pomeroy,
Book summary
"Population increase, advances in technology, and the continued trend towards inner city migration in relation to economic progress has transformed the traditional, low rise city of spaces into the modern, high rise city of objects. The continued depletion of the public realm through urbanization has necessitated the birth of alternative social spaces that have sought to replenish those environments that were once so intrinsic to our day to day interactions and communal activities. Such changes in the urban habitat have also contributed to the reduction in urban greenery and the consequent rise in temperatures. The need to readdress the balance of open space to high density development has therefore never been so important. The creation of more hybrid building forms and typologies that balance open space within the object in the interests of sustaining life and providing a forum for social interaction is increasingly being realised around the World and has started to redefine the tall building within the vertical city. Skycourts and skygardens are increasingly being incorporated into tall buildings and the urban habitat to reduce perceived densities and provide more habitable environments that promote a greener urban habitat. This highly illustrated colour book investigates the skycourt and skygarden as a social space that combats negative environmental impacts associated with urban densification and their socio-economic benefits as an alternative social space within the 21st century city"
Published
By Routledge, Abingdon, Oxon.; New York. 2014

Green walls green roofs : designing sustainable architecture

Authors
Mandy Herbert (editor)
Article abstract
Sustainable architecture is one of the most popular trends today. With dense urban living and less green space available, green walls and roofs are helping to fill that gap. These living structures can be created with vegetation, which helps to absorb rainwater, provide insulation, and lower temperatures while creating a habitat for natural flora and fauna.
Green Walls Green Roofs features projects from all over the world, showing how these elements work in various climates. Ranging from the tropical houses in Singapore to inner-city buildings in North America, this richly illustrated book will show you how living architecture can enrich our world.'
From Amazon.com
Published in
Mulgrave, Victoria The Images Publishing Group, 2014..

Principles of ecological landscape design

Authors
Travis Beck
Book summary
Today, there is a growing demand for designed landscapes-from public parks to backyards-to be not only beautiful and functional, but also sustainable. Sustainability means more than just saving energy and resources. It requires integrating the landscapes we design with ecological systems. With Principles of Ecological Landscape Design, Travis Beck gives professionals and students

the first book to translate the science of ecology into design practice. This ground breaking work explains key ecological concepts and their application to the design and management of sustainable landscapes. It covers biogeography and plant selection, assembling plant communities, competition and coexistence, designing ecosystems, materials cycling and soil ecology, plant-animal interactions, biodiversity and stability, disturbance and succession, landscape ecology, and global change. Beck draws on real world cases where professionals have put ecological principles to use in the built landscape. The demand for this information is rising as professional associations like the American Society of Landscape Architects adopt new sustainability guidelines (SITES). But the need goes beyond certifications and rules. For constructed landscapes to perform as we need them to, we must get their underlying ecology right. Principles of Ecological Landscape Design provides the tools to do just that.

Published

Washington : Island Press, 2013

Thermal assessment of extensive green roofs as passive tool for energy savings in buildings

Authors

Julià Coma, Gabriel Pérez, Cristian Solé, Albert Castell, Luisa F.Cabeza

Article abstract

Sustainability trends for buildings require new construction systems to foster energy efficiency and environmentally friendly buildings. Green roofs are interesting construction systems because they provide both aesthetic and environmental benefits. This paper continues a long-term research in order to evaluate and improve the thermal behaviour and sustainability of extensive green roofs. Simultaneously this research provides experimental data for specific Mediterranean continental climate conditions. The experiment consists in evaluating the energy consumption and thermal behaviour of three identical house-like cubicles located in Puigverd de Lleida (Spain), where the only difference is the roof construction system. The roof consists of a conventional flat roof with insulation in the reference case, while in the other two cubicles the insulation layer has been replaced by a 9 cm depth extensive green roof (comparing recycled rubber crumbs and pozzolana as drainage layer materials). The electrical energy consumption of a heat pump system was measured for each cubicle during 2012 and part of 2013. Both extensive green roof cubicles show less energy consumption (16.7% and 2.2%, respectively) than the reference one during warm periods, whereas both extensive green roof systems present a higher energy consumption (6.1% and 11.1%, respectively) compared to the reference cubicle during heating periods.

Published in

Renewable Energy, January 01, 2016, Vol.85, pp.1106-1115

Cultural Strategy for the Restoration of Urban Ecosystems

Authors

Catharina Sack

Article abstract

This paper presents a design strategy as a technique for increasing the ecological relevance of constructed (designed) landscapes. The paper focuses on Perth, Western Australia, a rapidly expanding settler-city located in an internationally recognized biodiversity hotspot. While uniquely endued in plant endemism and species richness, the city's fringes are smoothed over and bulldozed with little regard. Located in the Southwest Australian Floristic Region, the landscape's extreme age and stability, its isolation and Gondwanan botanical heritage, and the ability of its plants to thrive in old, leached stable soils are some of the factors that account for this botanical richness. While scientists continually strive to understand the specific, Perth's inhabitants persistently crave the verdant picturesque. Without an acute and novel approach to modifying current design and development practices, Perth's biodiversity is headed for extinction. The paper is developed in four sections: firstly, it asserts that designed landscape should be treated as potential novel ecosystems, allowing for a more robust cultural and ecological exchange. Secondly, it elaborates on the particularities of site and problems within the locale of Perth, Western Australia and, in doing so, briefly presents some considerations of Perth's OCBIL landscapes. The paper then introduces the Baroque as a potential cultural framework upon which to articulate a considered design strategy. This paper elaborates on how baroque design strategies can structure the creation of resilient and ecologically productive novel ecosystems grounded in a critical and local aesthetic of ecological complexity.

Published in

Landscape journal, 34(1), 2015, 34:57-78;

Access

Access - $17US

Designed Outdoor Spaces and Greenery in a Brownfield Inner City Area: A Case Study from Sydney

Authors

Mamun Rashid, Dilshad Rahat Ara

Article abstract

The concept of designed green outdoor spaces that can be included in inner-city Sydney residential areas has recently generated much interest among savvy developers and architects alike. Given the paucity of open park-like spaces in inner Sydney and the current drive for urban consolidation—though the concept has been endorsed—yet, the detailed implications of such green spaces in the design and layout of residential complexes have received less attention. Drawing on 'architect-user' interface for analysis, this article centres discussion around a study that was conducted at designed residential complexes with perimeter block configuration in an inner Sydney precinct. It uses a questionnaire survey, architects' interviews and observations. T -tests for equality of means are carried out on use variables of outdoor spaces to find out whether there is a significant difference between the dwelling height groups and complex groups. A narrative of space use is then drawn in with the responses of involved architects. Some of the questions that we probe are the following: Do the users in particular higher density residential settings value thoughtfully designed spaces? Are designers aware of the users' responses to the outdoor spaces? Given the fact that designers rarely revisit a completed project—is there congruence between the users' perceptions of the outdoor spaces and the designers' initial intentions? Results show that designed features and green spaces are equally effective in creating successful outdoor spaces.

Published in

Landscape Research, 03 October 2015, Vol.40(7), p.795-816

Access

Cost US$41

Greenbelts in Germany's regional plans—An effective growth management policy?

Authors

Stefan Siedentop, Angelika Krehl, Stefan Fina

Article abstract

Greenbelts are the best-known growth management policies in Germany. As part of its regional plans, they attempt to keep undeveloped areas permanently open, thus avoiding sprawling, i.e., land consumptive forms of urban development. However,

the effectiveness of such land use designations in terms of guiding and limiting urban growth has rarely been the subject of in-depth research. This is the first study to present a GIS-based analysis of the restrictiveness of greenbelt designations in Germany and their impact on urban spatial structure and land use. The key question is to what extent greenbelts actually limit urban growth, both individually and in combination with other policy instruments of open space conservation. Key indicators are the tightness of greenbelts around urban areas and their effect on the regional patterns of urban growth, measured by the increase of built-up areas in contained (the inbound area) and uncontained (outside the greenbelt) communities. Our empirical results for four case study regions suggest that greenbelts are an effective means of open space preservation. The impact of greenbelts on spatial urban structure, however, seems to be limited due to a relatively low degree of tightness.

Published in
Landscape and Urban Planning, January 01, 2016, Vol.145, pp.71-82
Access
Open access – no cost

Reconceptualizing green infrastructure for climate change adaptation: Barriers to adoption and drivers for uptake by spatial planners

Authors
Tony Matthewsa, Alex Y. Lob, Jason A. Byrnec

Article abstract
Urban green infrastructure can help cities adapt to climate change. Spatial planning can play an important role in utilizing green infrastructure for adaptation. Yet climate change risks represent a different sort of challenge for planning institutions. This paper aims to address two issues arising from this challenge. First, it defines the concept of green infrastructure within the context of climate adaptation. Second, it identifies and puts into perspective institutional barriers to adopting green infrastructure for climate adaptation, including path dependence. We begin by arguing that there is growing confusion among planners and policy makers about what constitutes green infrastructure. Definitional ambiguity may contribute to inaction on climate change adaptation, because it muddies existing programs and initiatives that are to do with green-space more broadly, which in turn feeds path dependency. We then report empirical findings about how planners perceive the institutional challenge arising from climate change and the adoption of green infrastructure as an adaptive response. The paper concludes that spatial planners generally recognize multiple rationales associated with green infrastructure. However they are not particularly keen on institutional innovation and there is a tendency for path dependence. We propose a conceptual model that explicitly recognizes such institutional factors. This paper contributes to the literature by showing that agency and institutional dimensions are a limiting factor in advancing the concept of green infrastructure within the context of climate change adaptation.

Published in
Landscape and Urban Planning
Volume 138, June 2015, Pages 155–163
Access
Open access – no cost

Cycleways and footpaths: What separation is needed for equivalent air pollution dose between travel modes?

Authors
Stuart K. Grange, Kim N. Dirks, Seosamh B. Costello, Jennifer A. Salmond

Article abstract
Active mode commuters travelling on a road receive larger doses of CO than motorists. •A method is presented for estimating the appropriate separation of cycleways and footpaths. •Even a modest increase in separation can result in considerable reductions in dose. •Distances from the road centre to cycleway or footpath ranged from 5.8 to 14.2m. Cycling and walking are being promoted in many urban areas as alternatives to motorised transport for health, environmental, and financial reasons. The reduced congestion and resulting decrease in the overall amount of pollution reduced can be expected to result in health benefits for the community. However, active commuters, due to their increased respiration rates and often increased travel times can expect to receive larger doses of air pollution compared with those using motorised forms of transport. However, given the large dropoff in concentrations away from a road, it can be expected that significant reductions can be achieved even with relatively small increases in separation between the path of cyclists/pedestrians and motor vehicles. This study presents a simple methodology for calculating the separation needed for cyclists and pedestrians to experience the same air pollution dose as car commuters. An example is given based on carbon monoxide (CO) data collected in a field campaign consisting of a car driver, a cyclist and a pedestrian travelling on a 2600 metre loop of road in Auckland. For this case study, the estimated distance from the centreline needed for cyclists and pedestrians to receive an equivalent dose of CO as motorists was found to range from 5.8 to 14.2m depending on the commuting mode and the dispersion state of the atmosphere at the site. This was equal to a CO concentration reduction of 0.1–0.14ppm per metre. Recommendations on facility modifications and route selections have been made to make active mode commuting safer.

Published in
Transportation Research Part D, 2014, Vol.32, pp.111-119
Access
Open access – no cost ■