

**Geographical Society of NSW Inc.
The 7th Annual Honours Conference
Friday 21 November, 2003**



**The University of Sydney
Madsen Building
Geography Conference Room**

Provisional Program

8.45-9.00 Registration and coffee
9.00-9.05 Welcome by Prof John Connell
9.05-9.10 Arrangements – By Phil McManus

Session 1 Chair: Gordon Waitt (Wollongong)

9.15 Rebecca Curtis (Sydney)
9.40 David Lord (Sydney)
10.05 Lachlan McQuire (Sydney)
10.30 Tim Hewitt (Wollongong)

MORNING TEA

Session 2 Chair: Wendy Shaw (UNSW)

11.15 Stephen Smith (UNSW)
11.40 Emma Sheppard (Sydney)
12.05 Emma Power (Macquarie)
12.30 Patrick Lebon (Sydney)

LUNCH (provided)

Session 3 Chair: Pauline McGuirk (Newcastle)

1.30 Indrie Miller (Sydney)
1.55 Alastair Jaffray (Sydney)
2.20 Jack Aisbett (UNSW)
2.45 Rowena Butland (Sydney)

Drinks and nibbles

Rebecca Anne Curtis (Sydney)

Japan inside out. Agricultural multifunctionality and trade negotiations: the Japanese experience.

This thesis seeks to understand how the multifunctionality of agriculture is used in international trade negotiations by countries to justify their agricultural support policies. The multifunctionality of agriculture refers to the non-crop objectives of agriculture including domestic food security, the preservation of rural landscapes, and the enhancement of environmental quality. Most current scholarship on multifunctionality derives from neoclassical traditions in agricultural and trade economics. Geographers and wider social science analysis of the concept is generally weak. This thesis contributes to geographical consideration of the multifunctionality of agriculture by situating the concept within a broader geo-political lens, and considering its specific applications within Japan. The thesis argues for the need for scholars to consider how nature, society and place form the basis of agricultural multifunctionality. It is concluded that while multifunctionality has been seen by scholars as a feature of the landscape of European Agriculture, it is in relation to cultural values that the concept has been mobilised in Japanese Agriculture. The unique contribution of this study is its exploration of what these cultural values mean for the design of agricultural policy in domestic and international arenas.

David Lord (Sydney) (see the back of the book for this abstract)

Lachlan McQuire (Sydney)

The Use of Index Modelling to Analyse the Spatial and Temporal Trends in the Water Quality of the Namoi River Catchment

The spatial and temporal trends of water quality in the Namoi Catchment, located in northwest New South Wales, were assessed by the utilisation of an index based model. The index results allowed for a qualitative and quantitative assessment of riverine health. The model operated by comparing water quality data against criteria levels for healthy waterways, established by the Australian and New Zealand Environmental and Conservation Council (ANZECC). The model was used to detect the spatial and temporal changes for both agrochemical and basic parameters over the past eleven years within the Namoi Catchment. The detection of trends was evaluated to determine if a Best Management Practices (BMP) program, undertaken by the cotton industry, impacted on the quality of the waterways. Temporally, improvements in certain sites were observed for some agrochemical indices. The spatial variance of the agrochemical indices suggested that the distance between poorly performing sites and cotton growing areas is closely related, whilst no defined spatial relationship was identified for the basic parameter indices.

Tim Hewitt (Wollongong)

The geographies of young people in socio-economically disadvantaged cities: A case study of cool places in Utica and Warrawong.

The cultural turn has brought with it a rising interest in the geographies of young people. In these emerging geographies a great deal of attention has focused on the construction of place, culture and bodies of young people associated with urban space. Few studies have explicitly focused on the young people of marginalised urban localities resulting from socio-economic restructuring and deprivation commonly associated with western metropolitan regions. This thesis begins to address this issue by reporting on a comparative study undertaken within Utica, New York State, USA and Warrawong, New South Wales, Australia. This study examines the sociospatial construction of young peoples cool, safe and dangerous places to determine whether they actively participate in the adult landscape or carve out spatial localities with their own cultural identity. It is concluded that the young people of Utica and Warrawong actively form and reform place, through the performances and discursively meanings embedded within spatial structures, as progressive localities that are both social and secure. By making this comparison this thesis seeks to inform the debate of young people's participation and representation in the sociospatial urban landscape.

Stephen Smith (UNSW)

Electoral Support for Australians Against Further Immigration, One Nation and Unity at the 1999 & 2003 New South Wales State Elections

The research undertaken in this project analysed the electoral and voter support bases of Australians Against Further Immigration (AAFI), One Nation (ONP) and Unity (UNI) using the 1999 and 2003 NSW State elections and 2001 Census data focussing on Greater Sydney based electorates. The project investigated different social and geographical patterns of electoral support, impacts of voting systems and changing electoral laws on electoral performances of minor parties, changes in electoral support for minor parties and the influence of constructions of nationalism and contemporary debates on immigration and multiculturalism on their political strategies.

This project has expanded our knowledge on the electoral performances of minor parties in the Greater Sydney political landscape. The supporter bases of AAFI, ONP and UNI were analysed through the use of different socioeconomic and demographic variables to distinguish the voters who have supported these parties in Greater Sydney. This project has contributed insights into how AAFI, ONP and UNI have used national identity constructions as part of strategies to locate and attract voter support and the difficulties that are faced in presenting national issues to voters within a state political landscape.

Emma Sheppard (Sydney)

Local Exchange Trading Systems: Empowering economic spaces for women?

Local Exchange Trading Systems (LETS) are community currency schemes that have grown in number and significance throughout Australia since 1987. Scholars have seen their emergence as a local response to recent economic and social change in the industrialised 'West', and have examined their potential as tools to address various issues of social, economic and environmental justice. While women are consistently found to dominate membership of LETS, there have been few studies to investigate the potential of LETS to address female economic disadvantage in Australia.

This study draws upon the epistemological traditions of feminist geography and ethnographic fieldwork to investigate this issue. A case study of HunterLETS, located in the Hunter region of NSW, was employed to explore the multiple geographies of female participation in LETS. Fieldwork techniques consisted of questionnaires and interviews with members of the scheme, participant observation and textual analysis of HunterLETS publicity and information materials.

Essentially, this thesis argues that LETS have a significant potential to empower women by providing spaces that subvert the gendered structure of orthodox economics, increase opportunities for economic activity and encourage personal development. However, this potential was found to be currently limited in practice. It was concluded that LETS could benefit from increased resources in the form of government or business sponsorship, providing this is undertaken with a view to preserving the integrity of the movement as a holistic, local and responsible economy.

Emma Power (Macquarie)

Conceptualising Nature: Exploring the Suburban Garden

This paper considers human understandings of nature as they develop through the processes of gardening. Gardens have predominately been considered in terms of a nature-culture binary, with nature positioned as the passive object of human control. Placing the human at the centre of the garden, these perspectives understand this space in terms of human cultures, needs and understandings. Using Actor-Network Theory (ANT) this research critiques these perspectives, questioning whether gardens are ever simply human constructions. Based on interviews with suburban gardeners in Northern Sydney and the analysis of two popular gardening magazines, this research found that gardening entailed an embodied engagement between active human and non-human actors. Involving processes of collaboration, negotiation, challenge and competition, gardening was a dynamic process. Describing human relations with the plants and animals of the garden, this research argues for gardens to be understood as hybrid achievements.

Patrick Lebon (Sydney)

The Greenbelt: Resolving Land Use Conflict in the Sydney Rural-Urban Fringe

Ebenezer Howard, a 19th century English sociologist and urban planner, pioneered greenbelt theory. This primary motivation was to improve the standard of living for people in industrialised cities. The greenbelt protected agriculture, limited urban spread and was an important part of Ebenezer Howard's 'Garden Cities' idea.

London, Seoul and Sydney all introduced greenbelts in the 20th century, however only London and Seoul's greenbelts have survived. Rapid urban expansion and considerable pressure to release land for new housing contributed to the downfall of Sydney's 1948 County of Cumberland greenbelt scheme.

In 2002, a NSW State Government funded body, the Greater Western Sydney Economic Development Board (GWSEDB), proposed a greenbelt to protect agricultural land on Sydney's western fringe along the Hawkesbury Nepean and Cataract Rivers. The fringe contains an economically significant agricultural industry, which is under pressure from residential development. Semi-structured interviews with planners and other officials were used to ascertain the rationale, extent and likely impact of the GWSEDB greenbelt proposal.

The key finds of this research are valid concerns about the future of agriculture remaining in the Sydney Metropolitan Area due to land contestation. The GWSEDB greenbelt will not stop urban development, but it will protect most of the remaining agricultural land in western Sydney. However, issues of land use conflicts, environmental protection, public access to the greenbelt, and objections from farmers and other people in the community must be addressed prior to any greenbelt being created.

Indrie Miller (Sydney)

On the distribution of cetaceans in relation to oceanographic conditions in Komodo National Park, Indonesia

The warm and highly productive Indonesian seas provide an important South-east Asian refuge for thirty-one species of whales and dolphins. Yet, very little is known about marine mammals in Indonesia and almost no information exists on the population and general distribution patterns of cetaceans. Detailed knowledge on their habitat preferences, local prey species, residency and seasonal movements is lacking.

Thus, the aim of this study was to elucidate the relationships between the distribution of cetaceans and certain oceanographic factors. Two biological and physical factors were considered: chlorophyll concentration and sea-surface temperature. The hypotheses state that cetaceans are distributed non-randomly with respect to chlorophyll and temperature characteristics within the study region. Sightings data of 16 species of odontocetes was compared with satellite remotely sensed images of chlorophyll and temperature. Statistical analysis supports the hypotheses, whereby cetacean presence correlates to significantly higher chlorophyll levels and lower temperatures than does the absence data. The findings have implications for the management of marine protected areas.

Alastair Jaffray (Sydney)

'Made in Orange': developing network concepts for an Alternative Agro-food System

This thesis addresses the emergence of alternatives to conventional agro-food systems and the processes which drive them. This represents an expansion of the literature, which has been primarily focussed on American and European case-studies.

From the literature, concepts of Actor Network Theory and embeddedness are incorporated into a network model through which the alternative agro-food system (AAFS) can be analysed. This model of social, spatial and nature networks is applied to a case-study of 'Food of Orange District Week' to understand how networks operate and the processes that take place within AAFS's.

Through the intersections of social, spatial and nature networks, products, place and people take on qualities of added value and meaning. This study also shows the importance of consumer agency within the AAFS, and the roles that information and the education of producers and consumers has within the processes and promotion of this new phenomenon.

Jack Aisbett (UNSW)

A Mix Methods Study In The Racialisation Of Indigenous Australians By NSW Public Hospitals

The health of Australia's Indigenous communities is at 'third world' standards, and despite 30 years of recognised citizenship health issues are far from being addressed and many, such as diabetes and renal failure, are worse than ever.

This paper identifies how racialisation, a covert way that those with power in a society maintain their dominance by excluding others on the socially constructed bases of 'race', may be a factor contributing to the poor Indigenous health circumstance. This paper reports on research that explores racialisation processes that are embedded in today's medical industry through an exploration of NSW hospital patient data, and interviews that were conducted with hospital staff, Indigenous health specialists, and Indigenous clients in the North Western NSW.

The researches showed that numerous within system factors are biasing hospital process to give substandard care to Indigenous Australians. These biases often arise though the use of a biomedical approach towards disease that neglects the specific health and lifestyle circumstances of Indigenous Australians. Gross communication problems, cultural misunderstandings, stereotyping and blaming of Indigenous Australians were observed in this study suggesting that racialisation in Australian medical system needs to be given greater attention.

Rowena Butland (Sydney)

A mixed-methods approach in defining urban land cover

Remotely sensed data has been widely used to classify land cover. Defining urban land covers from such data is difficult due to the heterogeneous nature of such land covers. This is a result of the subjectivity involved in defining 'urban' as a concept. To satisfactorily define 'urban', a polyvocal approach is required. Through the classification of land cover for Siem Reap, Cambodia, it will be demonstrated that the interpretation of remotely sensed data requires the integration of both quantitative and qualitative methodologies. Such an approach facilitates the inclusion of different narratives concerning space and place.

Hydraulic Design of Constructed Wetlands for Stormwater Quality Control: Improving Pollutant Retention

By David Lord

Supervisor: Dr. P. Cowell

Co-supervisor: Dr. D. Martens

Abstract

This thesis focuses on hydraulic design of constructed wetlands, an important factor influencing retention/treatment performance. The study deals with two important aspects of wetland design: (1) hydraulic residence time (HRT), defined as the time period for a particle to flow from inlet to outlet and (2) wetland hydraulic efficiency, which describes how effectively the available volume of water is utilised for pollutant retention/removal.

The study investigated whether current methods used for estimating hydraulic performance of stormwater-constructed wetlands are valid for use in wetland retention/removal relationships. The assessment involved quantifying effects of different design factors (inlet structures, basin geometry and outlet structures), on hydraulic residence time and hydraulic efficiency within a wetland system. A vertically distorted fixed-bed Froude scale model was developed as the primary method of investigation. The transient nature of stormwater flow events were simulated to determine significant factors affecting mixing, hydrodynamics, and consequent hydraulic performance in the modelled wetland system.

The hydraulic performance of the modelled system, was found to be described by,

$$E = 100e^{\frac{-x \ln(R_{LW}/55)}{-4.65 + 0.48 \ln O_{eff}}}$$

where, E is hydraulic efficiency, x is the ratio of the storm volume to the wetland volume (V_s/V_w), R_{LW} is the length (L) to width (W) ratio of the system, and O_{eff} is the ratio of outlet orifice size (O_o) to inlet orifice size (O_i), (O_o/O_i). This physically based, empirically derived numerical model describes the hydraulic effects of design inlet and outlet dimensions and basin geometry under various inflow conditions.

The application of this model, in combination with established wastewater engineering techniques for determining nutrient and sediment removal, produced a more rigorous estimation of hydraulic performance and pollutant removal than methods recommended in the current wetland design guidelines. Furthermore, the application of the results highlighted a number of inherent limitations and pitfalls associated with the recommended methods for constructed wetland sizing and design, rendering them invalid for estimation of treatment performance.

The more rigorous design methodology developed in this study is of significance to design of stormwater wetlands and provides an improved means for regulatory bodies to evaluate wetland designs. In effect, consideration of factors affecting hydraulic performance in wetland design, as described herein, are necessary for sustainable management of our water resources.