



Bulletin

International association for landscape ecology

PROPOSAL TO ESTABLISH A WORKING GROUP OF THE INTERNATIONAL ASSOCIATION FOR LANDSCAPE ECOLOGY: LANDSCAPE SYSTEM ANALYSIS IN ENVIRONMENTAL MANAGEMENT

Submitted by: Dr. Michael R. Moss on behalf of interested participants from 26 countries

LANDSCAPE SYSTEM ANALYSIS IN ENVIRONMENTAL MANAGEMENT

This proposal has arisen from discussions amongst a group made up primarily, but not exclusively, of professional geographers. As a group we worked together for a period of eight years (1980-1988) as a Working Group of the International Geographical Union. This association terminated in 1988 at the end of its allowable mandate. Since that time the group held its own meeting in Bratislava, Slovakia in May 1991 on the theme of 'Advances in Landscape Synthesis Research'. A publication of papers presented at this meeting is due shortly. Discussions at that meeting began to focus on further research and research beyond the discipline of geography. Indeed it was seen that geography has much to contribute to landscape ecology and that by becoming a formal group within IALE this core of geographers could bring an added dimension and a distinct perspective to landscape ecology. Many of the participants in this proposal have been active members - and in some cases founding members - of their respective national landscape ecology organizations. It is with this background that the group wishes to make a submission for approval and recognition as a Working Group of IALE in order to complement and strengthen the contribution of geographers to IALE and to illustrate this contribution and approach by focusing upon distinct research problems under the conceptual umbrella of landscape synthesis and its relevance and importance to landscape management.

The landscape has always formed one of the more important research foci of geography and has endured as one of the foundations of the discipline. As a disciplinary focus investigations have ranged from integrative studies of purely natural landscapes to studies in regions or landscapes heavily impacted by human activities. Unravelling and understanding the human/geobiological interface has, in the past, generated studies which may be considered to be uniquely geographical, particularly where these interactions are also seen and appreciated in their variability from location to location and region to region. With the growth of landscape ecology this perspective can now be placed alongside other disciplinary approaches to landscape issues and therefore more effectively seen as a significant, but contributory, perspective on landscape.

This geographic contribution has, however, been reduced in its relative importance within its own discipline over the last three or four decades. It may be argued that the increased respect for geography from the scientific community at large has, during this period, come from the contribution of its systematic branches. It is nevertheless now somewhat ironic, that with current interest in environmental matters, and in seeking their solution by more holistic and integrative approaches, many local and global problems are not being addressed by this geographic perspective. Since no one discipline currently trains people effectively in problem solving in environmental management at the landscape scale the role of IALE and landscape ecology in general is critical to refocusing

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IALE World Congress September 1995

The next IALE World Congress will be held in the 1st week of September 1995 in Toulouse, France. The preliminary title is "Landscape change across the world". The congress will confront experiences and data from developed and developing countries, as well as from East and West. Special emphasis will be laid on integrating use of posters in the themes and discussions. Among proposed themes and workshops for the congress can be mentioned: Human perceptions of change in landscapes, The future of rural landscapes, The future of river landscapes, Fragmented landscapes, Landscape restoration, Landscape planning methods.

How to pay your due for 1993

Of course there is a reasonable explanation: One reason behind the somewhat lagging payment of due (the equivalent of 10 US\$) to IALE International for 1993 might be the missing information on IALE's bank accounts in the last Bulletin: You can pay your due either by sending an *international check* (we cannot accept other sort of checks, since it would cost us more than the paid due to cash them) to IALE treasurer James F. Thorne, address p.3. Or you can pay directly to the following bank account, *adding the cost of transfer*:

The treasurers Mellon Bank Account no. 95025 6578 (ABA-No 031000037).

You can also use Cassa di Risparmio della Spezia, I-54011 AULLA, Italy, No. 1846/42.

In some European countries the cheapest way to pay will be to transfer the due through the postal giro system to our Danish PostGiro account Nr. 467-6157.

If you still have problems with the payment the secretariat will be at your disposal finding a solution. But you have to give a sign of life, otherwise you will not receive the Bulletin any more!

Jesper Brandt

attention on such solutions. Landscape ecology must be seen as an interdisciplinary approach to understanding landscape issues in which geography does have a major input. That input is most relevant when it makes a contribution which is truly geographical in providing both a sense of scale and as an integrative and spatial perspective which complements other biological and systematic contributions to landscape ecology.

This proposed Working Group takes as a basic premise that the landscape of a place or an area is an expression of an intricate evolution of many elements, both biophysical and human which, because they have evolved together, have inherent structural properties which need to be understood. This is particularly so when the current state of that landscape is considered since this forms the basis of many planning, environmental or resource management strategies. The contribution of landscape synthesis is therefore seen as one key element in environmental and resource management but one which is fundamental to many current environmental issues which fall within the purview of such fields as rural and development planning, conservation and protection of habitats, landscape rehabilitation and planning for change. A landscape or land system focus also forms the context for many procedures and approaches to environmental impact analysis.

The Working Group will take a very pragmatic, applied view to issues. The intent is to build upon the work generated by the former Working Group of the I.G.U. which had its title 'Landscape Synthesis - the Geocological Foundations of Complex Landscape Management'. The Working Group made significant contributions over the period 1980-1988 particularly in the subfields of theory, methodology, classification and modelling of landscape systems. It is upon these foundations that the proposed Working Group has developed its objectives and plans for the period 1993 to 1997 and to 2001.

RESEARCH OBJECTIVES

The context for the work of the proposed Working Group is based upon the following premises:

Firstly, that there is an inherent value in applying the principles, concepts and methodologies of analyzing the landscape (or land systems) from a holistic perspective,

particularly as this approach can be applied to many problems of environmental and resource management that are themselves land- or landscape-based.

Secondly, that by utilizing the above-mentioned integrative perspective it can be shown that such an approach is not only useful but essential to addressing problems which may not only have local significance but also that it also permits these problems to be placed in their broader, regional and even global framework. Recognizing the cumulative impact of local problems within a broader spatial framework and having an awareness of the cumulative regional impacts of such issues also necessitates the recognition of spatial as well as vertical interaction within and between land units of different scales within a system hierarchy. This must therefore introduce other critical geographic concepts which relate to temporal and spatial scales as determinants for appropriate methods of analysis for specific problems.

Thirdly, that by utilizing the above there is a unique geographic perspective to be introduced into current discussions on sustainability and sustainable development. By adding this landscape dimension to these discussions the geographic perspective adds a critical and broader spatial framework to ongoing ecological work in the biological sciences which tends to focus on single land use components (agroecosystems, natural areas, wetlands, etc., etc.). It permits research to view the variability within individual land units or areas and raises critical scientific questions relating to stability, integrity and land system health at those scales of understanding that form the spatial context for many issues of both local and global concern.

Further information on the proposal including program for specific research topics related to four separate chairs within the working group can be ordered from Michael R. Moss, Faculty of Environmental Sciences, University of Guelph, Guelph, Ontario N1G 2W1, Canada.

The Polish Society for Landscape Ecology has offered to host a preparing symposium for the working group on the 7th of October 1993 (See diary).

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IALE MEETINGS

**UK-IALE - LANDSCAPE-
ECOLOGY IN BRITAIN**

The first meeting of the UK region of the International Association on Landscape Ecology was held on the 22nd and 23rd September 1992 at the Department of Geography, University of Nottingham. The meeting was attended by over 130 delegates from a wide range of disciplinary backgrounds and organisations.

A total of 16 papers were presented during the two days. These were organised into five sessions. In the first session, Conservation in the Wider Countryside, Mark Felton (English Nature), Bob Bunce (ITE) and Richard Lloyd (Countryside Commission) provided a context and methodological framework for the conference, describing conservation issues, scientific issues and landscape assessment as an integrative, planning tool. The second session, Integration at the Landscape Scale, provided detailed and comprehensive examples of three sets of research 'projects'. Mark Avery (RSPB) provided a number of examples, examining birds and their relationships with forestry. This work showed the importance of linking detailed ecological work with an understanding of the dynamics of landscape processes. This theme was maintained by Paul Bellamy (ITE) and Jon Marshall (AFRC) as they considered birds, Island Biogeography Theory and species movement in agricultural landscapes respectively. The structured experimental programmes reported in these papers were of special note and illustrated the firm scientific approach adopted; large scale experiments can be carried out!

The final session of the first day considered Landscape Ecology and Landscape Design. Nigel Webb (ITE) described research on the Dorset heathlands which uses field data linked

to remotely sensed and map data using GIS. George Peterken (English Nature) described ancient woodlands and associated conservation issues, in particular, the hierarchic progress of fragmentation of woodlands and the spatial characteristics of the resulting woodland types. John Jeffers (Newcastle University) finished this session with a stimulating perspective on the future for study of landscapes as systems in an interdisciplinary science. This was a wide-ranging presentation and included statistical analysis, hierarchy theory, modelling, expert systems, decision-support systems and database development and management. Malcolm Bell gave an entertaining but practical and challenging after-dinner presentation which focused on the socio-economic dimension.

The second day began with a session on Ecological Processes at the Landscape Scale. Mike Morris (ITE) considered characteristics of landscapes and ecological principles behind the patterns and processes observed. Scale, in space and time, and hierarchy in ecological systems emerged as fundamental considerations. Iain Woiwod (Rothamsted) and Jeremy Thomas (ITE), described results from their considerable databases and research on British Lepidoptera and Terry Wells (ITE) discussed the biology of orchids. In the final session, Landscape Ecology and Environmental Policy, links between research output and policy were described including the emerging role of Geographic Information Systems. Enid Barron (DoE) gave a personal account of the need for presentation of clear, relevant, action-oriented and timely information. The use of GIS to meet this challenge was described by Roy Haines-Young (Nottingham University) in an account of the Countryside Information System being developed by ITE and DoE. A

requirement to match data to user needs and to develop modelling capabilities to accompany GIS were identified as priorities. Ian Condliffe (ADAS) spoke on Environmentally Sensitive Areas in which ecology and landscape are jointly recognised as important and Adrian Oliver (University of Lancaster) gave an account of the importance of traditional management practices in the development and maintenance of present-day landscapes. The formal sessions were followed by the IALE(UK) business meeting chaired by Bob Bunce.

There was also a series of excellent posters which described a range of basic and strategic research in landscape ecology, covering, for example, both biological and spatial aspects of species use and response to habitats, as well as more applied links between landscape ecology, countryside planning and land use policy at national and regional scales.

Roy Haines-Young and his colleagues, the University of Nottingham and the Geography Department were excellent hosts and the full and varied programme of papers and posters stimulated much fruitful discussion and established links which suggest a vigorous future for Landscape Ecology in Britain.

Richard Aspinall

THE CZECH REPUBLIC

At a meeting in september 1992 the following were elected to the committee:

I. Michal, P. Kovar, H. Rambouskova, K. Novacek, M. Bartos, M. Lapka & E. Cudlinova.

LATVIA

A.Krauklis, University of Riga will function as IALE contact person until a future set up of a regional organisation in Latvia.

The IALE BULLETIN is distributed 4 times a year to the members of IALE. IALE Bulletin Editor : Jesper Brandt, Inst. Geography & Computer Science, Roskilde University Center, P.O.Box 260, DK-4000 Roskilde, Denmark, Tel: +46 75 77 11 ext. 2463, Fax: +46 75 74 01 E-mail: brandt@ruc.dk. Layout Erling Andersen. IALE - International Association for Landscape ecology - was founded in 1982 to promote communication between scientists and planners and interdisciplinary scientific research. IALE executive committee: President Henri De-camps (France), Past-president Gray Merriam (Canada), Vice-presidents: Joan Iverson Nassauer (USA), E.R. Fuentes (Chile), Paul F.M. Opdam (Netherlands), Vaclav Mejstrik (Czechoslovakia), General Secretary Almo Farina (Italy), Lunigiana Museum of Natural History, 54001 Aulla, Italy Tel: +187 42 03 74, Fax: +187 420727. Deputy General Secretary & Bulletin editor Jesper Brandt (Denmark), Treasurer: James F. Thorne (USA), Univ. of Pennsylvania, PA 19104-6311, Fax: (215) 898-9215

DEADLINES FOR THE BULLETIN in 1993: 15th May, 15th September and 15th December.

BOOKS OF INTEREST

VANISHING TUSCAN LANDSCAPES

Many textbooks on landscape ecology has been edited during the last 10 years, contributing to the recognition of landscape ecology as an important interdisciplinary field of interest. In the long run, the good and detailed case-study might probably be more conclusive for the future of landscape ecology.

This comprehensive study of the landscape ecology of the Solano Basin in tuscany, Italy, has most of the qualities of a good case-study, and would deserve a more deepgoing review than is possible within the few lines available here:

The chapters are as follows: 1.Theory, 2.Landscape ecological factors and functions, 3.Methodology, 4.Physiography, 5.Soils, 6.Flora, 7.Vegetation, 8.Land use, 9.Humus forms, 10.Humus form and vegetation development, and 11.Landscape.

By combining classical European landscape ecological theory on mapping and describing land units with a modern quantitative methodology using systematic correlative analysis and cluster analysis (by the joining of ecotopes into chorological units) the authors obtain a very powerfull and convincing characterization of landscape ecological coherence within the Solano basin. The consequences of the ongoing radical changes in land use are stated in an interesting scenario for the development until 2035.

In two principal chapters the authors relate the case-study to the contemporary discussion within landscape ecological litterature setting up a general theoretical frame and a specific discussion on landscape ecological factors and functions.

Within landscape ecology we often tend to search for political support by presenting convincing examples of the strength of landscape ecological planning. The authors however sticks to a strictly scientific interpretation of landscape ecology leaving out the linkage to landscape planning and management. It might be a principle point of view, but can also be a result of an honest or disillusioned view on the perspectives for the conservation of the former very heterogeneous traditional Tuscan mountain landscape, that is now vanishing into a more coarse pattern, as a result of a dramatic decrease in population. How far can landscape ecological planning give a hope for the growing mass of Less Favoured Areas? Even the best landscape ecological analysis, put into a farsighted landscape ecological planning, promoted by the deapest love to the land, will never succeed, if it cannot too offer love to the people through a sufficient income! The comprehensive study deserves to be a classic within modern landscape ecology.

W. Vos and A. H. F. Stortelder: *Vanishing Tuscan landscapes*
Centre for Agricultural Publishing and documentation (Pudoc), Wageningen, the Netherlands, 1992. 400 pages. f 120.00/US\$ 80.00.

DIARY

Tallinn, Estonia 18-21 May 1993

4th International Conference on a System Analysis Approach to Environment, Energy and Natural Resource Management in the Baltic Region. Contact: The secretariat, Institute of Geography, University of Tartu, 46 Vanemuise St. Tartu, EE2400 Estonia. Tel: +7 01434 30 605, Fax: +7014 34 35 440

Albuquerque, NM, USA 20-22 May 1993

International symposium on environmental information management and analysis: Ecosystem to global scales. Contact: James Brunt, Dept. of Biology, Univ. of New Mexico, Albuquerque, NM, USA

Beijing, China 26-29 May 1993

International symposium on Climate change, Natural disasters and Agricultural strategies. Contact: Lu Guangming, Beijing Agricultural University, 100094 Beijing, China.

Rennes, France 6 - 10 June 1993

IALE-meeting: Agricultural landscapes in Europe. Contact: Sandrine Petit, Laboratoire d'évolution des Systèmes Naturels et modifiés, Campus de Beaulieu, Avenue du Général Leclerc 5042 Rennes cedex, France, Tel : (33) 99 28 61 45. Fax : (33) 99 38 15 71

Rio de Janeiro, Brazil 15-18 June 1993

International Congress on Arid Lands: Natural Resources in Arid Lands. Contact: Dr. Ing. Oreste Moretto, Congrso Internacional, Academia Nacional de ciencias exactas, Avda, Alvear 1711, 4th piso (1014) Buenos Aires, Argentina

New Orleans, USA 18-22 July 1993

8th Interdisciplinary Conference on Coast Management. "Coastal Zone 93". Contact: Orville Magoon, P.O. Box 279, 21000 Butts Canyon Road, Middletown, CA 95461, USA.

Wageningen, The Netherlands 22-25 August 1993

75th anniversary conference: The Future of the Land: Mobilizing and integrating knowledge for land use options. Contact: J.L. Meulenbroek, tel. (31-8370) 82029, fax: 84884.

Tokyo, Japan 28 August - 3 September 1993

15th International Botanical Congress. Contact: M. Furuya, Frontier Research Programs, The Riken Inst., Wako City, 351-01, Japan

Kiel, Germany 28 September - 2 October 1993

International Conference on the State of Art in Ecological Modelling. Contact: Sven Erik Jørgensen, Environmental Chemistry, Universitetsparken 2, 2100 København Ø, Denmark. Tel: 45 37 57 44.

Warsaw, Poland 6-9 october 1993

Landscape research and its application in environmental management.. Preparing meeting for IALE workgroup on Landscape system analysis in environmental management. Contact: Prof. Andrzej Richling, Faculty of Geography and regional studies, Warsaw university, 00-927 Warszawa, Krakowskie Przedmiescle 30. Tel: (022) 20 03 81 ext. 633/644