

European Science Foundation  
Standing Committee for Life, Earth and Environmental Sciences (LESC)  
Standing Committee for the Humanities (SCH)  
Standing Committee for the Social Sciences (SCSS)

**ESF LESC-SCH-SCSS EXPLORATORY WORKSHOP**

**Environmental history:  
problems and potential in the integration of  
the sciences and humanities**



Stirling, United Kingdom, 3-4 November 2005

Convened by:  
**Althea Lynn Davies and Fiona Watson**

University of Stirling

## **1. Executive summary**

### **Background and aims**

Environmental history concerns the relationship between people and their environment, and thus potentially encompasses researchers from a wide range of disciplines. In some spheres, explicit claims are made that this is an interdisciplinary field (e.g. [www.h-net.org/~environ/ASEH/about.html](http://www.h-net.org/~environ/ASEH/about.html); [www.esch.org/home.html](http://www.esch.org/home.html)). Interdisciplinarity is here defined as the coming together of two or more disciplines in an integrated way so that the results are more than merely a sum of the component parts. However, the inclusion of a range of researchers does not necessarily or automatically produce the degree of integration inherent in the term interdisciplinarity. To achieve this, communication and debate across disciplinary boundaries are required throughout a research project, from the establishment of common research questions, through joint research design to data analysis, interpretation and publication. The implication regarding time commitments is clear. This requirement is, however, constrained by existing research cultures, organisational structures and funding opportunities which serve to strengthen disciplinary solidarity, rather than encouraging endeavours across boundaries.

Interdisciplinary environmental history has the potential to contribute significantly to all of its constituent disciplines by juxtaposing evidence from independent sources and questioning assumptions and received wisdom held in different disciplines. This allows both the perception and reality of nature-culture relationships to be explored and understood more fully, and provides the ecological and socio-economic detail which allows such research to contribute to debates on policy-making and management. A fundamental requirement of this process is the need to reflect on conventional processes of analysis and interpretation and a willingness to accept questioning of ones own methods and assumptions.

Participants in this workshop were drawn from a wide range of disciplines and geographical perspectives. In order to be prepared to actively engage with the issue of interdisciplinarity in environmental history, participants were asked to (1) discuss how the results of their work were achieved, not merely to describe the story of the results; (2) analyse the problems and potential of interdisciplinary work; (3) use both a theoretical and case-study approach to promote discussion on interdisciplinarity as a coherent approach.

### **Workshop structure**

The workshop was organised by **Althea Davies** and **Fiona Watson**, a palaeoecologist and a historian, respectively. The workshop brought together 16 researchers, drawn from the natural and social sciences and the humanities, from ten European countries. The workshop was held over two days and organised around four thematic oral presentations, followed by smaller break-out discussion groups and joint dialogue on the theoretical and practical issues associated with each session topic. The themes were identified as vehicles for presenting and discussing the research ideas, methods and choices embodied in the range of disciplines represented by the participants:

1. Research design to understand cultural responses to environmental change
  - Discussion on the difficulties of interdisciplinary research and possible solutions to these problems
2. Innovations for closer integration
  - First of two sessions on designing an interdisciplinary research proposal, including formulating research questions, methods and communication, followed by plenary discussion reviewing strategies for research design, communication and data presentation
3. Law, legislation and its consequences
  - Second session to finalise mock research design, presentation of research designs to whole group and discussion of compromises and problem-solving techniques
4. Applying our knowledge
  - Discussion on the potential and use of environmental history in policy-making
5. Final discussion on the way forward in environmental history

### **Outcomes of workshop**

The discussion of future directions returned repeatedly to the institutional difficulties encountered in the pursuit of environmental history. The time commitments required to discuss ideas across disciplinary divides and to convince new audiences of the benefits of this approach were also a significant issue. The outcomes of the meeting therefore reflect the group's views on the most appropriate and potentially productive means of promoting interdisciplinarity as a methodological approach:

1. Existing networks and journals provide the best framework for pursuing an integrated methodology. Participants are involved in a number of interdisciplinary networks through which to pursue this, in addition to discipline-based societies and associations.
2. There is a need for proactive people and institutional/organisational support to encourage interdisciplinary research environments and methods.
3. An anchor person can provide valuable stability and form a nucleus for establishing personal contacts in the face of institutional restrictions.
4. Small groups provide the best means of establishing equal partnerships in productive, collaborative research, ensuring the commitment of all members and maintaining communication and discussion through the duration of research design and execution.
5. Innovative presentations to a wide range of academic and other organisations were seen as a potential means of communicating the explanatory power and value of integrated scientific-humanities research.
6. **Theo Spek**, as secretary general of the Permanent European Conference for the Study of the Rural Landscape, extended an invitation to participants to submit papers to the next conference (Berlin, Sept 2006).
7. Discussion is underway with **Marcus Hall** to secure funding for a future workshop on the role of environmental history in the restoration/renaturing debate.

## 2. Scientific content

The workshop was held over two days and organised around four thematic oral sessions, each followed by smaller break-out discussion groups and then joint dialogue on the theoretical and practical issues associated with each session topic. The themes were identified as vehicles for the presentation and discussion of research methods and the choices embodied in the range of disciplines represented by the participants:

1. Oral session: Research design to understand cultural responses to environmental change
  - Break-out group discussion on the difficulties of interdisciplinary research and possible solutions to these problems
2. Oral session: Innovations for closer integration
  - First of two sessions on designing an interdisciplinary research proposal, including formulating research questions, methods and communication, followed by plenary discussion reviewing strategies for research design, communication and data presentation
3. Oral session: Law, legislation and its consequences
  - Second session to finalise mock research design, presentation of research designs to whole group and discussion of compromises and problem-solving techniques
4. Oral session: Applying our knowledge
  - Break-out group discussion on the potential and use of environmental history in policy-making and final discussion on the way forward in environmental history
5. Final discussion: the way forward in environmental history

Section two summarises the content of the presentations given by the participants. The conclusions of the break-out and plenary discussions are presented in Section three.

The workshop opened with a presentation by the ESF representative from the Humanities Standing Committee, **Gisli Palsson** and a presentation by **Warren Eastwood** on the experiences and outcomes of a 2003 ESF-funded workshop with which he was involved. He raised two points to which discussion returned repeatedly, namely the importance of institutional support networks to allow such ambitious groups to function and the value of a proactive anchor person to create stability and initiate work.

Session one on **Research design to understand cultural responses to environmental change** allowed discussion of how interdisciplinary work is achieved and the three presentations clearly indicated the endeavours which both scientists and historians have made to bridge conventional disciplinary boundaries, both philosophical and methodological. **Peter Szabo** began by reflecting on the meaning of interdisciplinarity in an environmental history context and the historical roots of the separation of the disciplines to the point where communication requires special measures. As a medieval historian, he commented on the exclusive effect of some scientific language and suggested that attempts by researchers from one discipline to use data from another may be perceived as a threat. The disabling effect of university structures was again noted. However, Peter concluded that, while still a very new field, in the present environmental context, environmental history should have a positive future.

The two presentations which followed demonstrated the ability of scientists and historians to recognise the value of data and approaches from other disciplines and the applicability of environmental history to current issues. **Paul Dostal** discussed differences between scientific and historical approaches to climate reconstruction, commenting on the scientific community's focus on 'hard' data and lack of critical discussion as to the meaning of 'wiggles' in palaeoclimatic curves. He then presented a hermeneutic approach using historical observations to understand past flood events, which will be applied in future flood risk management. It was noted that no historians were involved in the work, as his group met with resistance from the historical community, echoing Peter Szabo's comments about the need to remain open to new ideas. Paul commented that, partly as a consequence of this, the physical processes of particular floods were well understood, whereas the social impacts remain uncertain. However, since the workshop Paul and his colleagues have had a productive meeting involving hydrologists, meteorologists and historians. **Bo Poulson** began his presentation by reflecting on theoretical aspects underpinning all research, whether scientific or historical, and, like Paul, commented on the need to critically consider which disciplines are most applicable for answering particular research questions rather than categorising them as history or science first and thus defining which discipline will investigate a particular issue. Bo (himself a historian) then presented his work which uses historical sources to investigate questions of marine ecology in the North Atlantic. He concluded that history needs better explanations while ecologists need to shift their baselines to encompass the long timeframes which underlie population dynamics, stressing the value of collaboration.

Session two on **Innovations for closer integration** examined further the incentives for conducting interdisciplinary research. **Fiona Watson** reflected on her reasons for undertaking interdisciplinary research, to which collaboration between disciplines is central. Like Peter, she suggested that a lack of communication between history and the sciences can create resistance to potentially useful methodological approaches, even at a general theoretical level. Her appreciation of interdisciplinarity emerged from participation in a small research team drawn from a range of disciplines, a method also advocated by other participants. This approach promoted inclusive discussion within an equal partnership, allowing all disciplines to shape the aims and methods of research, and ensuring cross-disciplinary understanding. The presentations by **Joep Dirkx** and **Antonio Gomez Sal** both raised the issue of how we value cultural landscapes. **Joep Dirkx** emphasised the need to explore many sources since any reconstruction of the past will never be more than an incomplete model of an historical system. The incentive for the research discussed was the fear that allowing natural ecological processes to occur through non-intervention would erode the cultural features which are valued in particular Dutch landscapes. He stressed the need for a generalist and specialists as part of a small project team to ensure that appropriate disciplines were involved and that the results were integrated and understood outside specialist fields. The success of this approach was evident in that the results were used to convince the government to continue with interventionist management, ensuring that present values stemming from past land-use were not lost. **Antonio Gomez Sal** presented a model for evaluating Spanish agricultural landscapes, from drove roads and irrigation systems, with deep historical roots, to plastic greenhouses. This model provided a clear depiction of the relative 'pull' of five competing forces: ecology, productivity, economics,

society and culture. While his presentation dealt primarily with the future of modern landscapes, these competing forces had resonance for participants investigating the past.

Session three on **Law, legislation and its consequences** allowed participants to consider further how people regulate resource use and the environmental impacts of these rules, in the past, present and future. **Althea Davies** contrasted the emotive social process of tenant evictions during nineteenth century Agricultural Improvements with the long-term ecological changes which stem from this transition in settlement and grazing patterns, stressing that the environmental consequences could only be fully understood by integrating historical and palaeoenvironmental data. Current ecological classifications and management of the uplands as natural or semi-natural ecosystems underplay the role of people in shaping these dynamic landscapes. **Karoline Daugstad** also discussed the collision of value judgement systems, particularly the continuum between ‘use’ and ‘protection’, in relation to regulating the current management of Norwegian summer farms. Both presentations stressed the value of interdisciplinary work for informing ecological and heritage bodies of the complex and varied manner in which past land-use has affected modern landscapes. **Chris Smout** discussed the influence of woodland history on current protection and management strategies. Like Althea, he remarked on the greater value given to nature conservation than the cultural attributes of these ancient woods, raising the issue of restoration, which was taken up by Marcus Hall in the final session. He suggested that historical and palynological research into past woodland dynamics may help to overcome the conservationists’ fear of change as unnatural and negative.

In the final session, **Applying our knowledge**, the relationship between research into the past and current management was further debated. **Marcus Hall** considered the thorny issue of nature restoration and the complex gradient between restoration and preservation. He called on environmental historians to challenge the assumption that there was a better past, an idea implicit in restoration, and to contribute to the debate on why and how cultural landscapes should be managed in the present. **Nicki Whitehouse** continued this theme, discussing the conflicts between palaeoecology, biodiversity, the management and conservation of peatlands. Like Chris, she stressed change rather than continuity in past peatland habitats and questioned the notion that fragments of original peat communities can be successfully used to regenerate a functioning ‘natural’ ecosystem. **Theo Spek** caught the imagination of the participants in his description of a new research project using ‘landscape biographies’ as a tool for planning and heritage management. He discussed the need to integrate natural and cultural heritage management without turning landscapes into museums. The final presentation by **Nick Hanley** dealt specifically with the issue of perceptions and the effect which this has on public attitudes towards the management of national parks, particularly how knowledge of the past influences people’s values. By asking respondents to indicate how much they would pay for particular management options, it was possible to ascribe economic values to different landscapes.

### **3. Assessment of results, contribution to the future direction of the field**

The primary aim of the workshop was to explore the potential for interdisciplinary research between the sciences and humanities, using environmental history as a vehicle. Collaboration and communication are the keys to successful integration of data from across conventional disciplinary divides. During the workshop, interdisciplinarity emerged as a way of thinking and a means of addressing particular research issues, rather than an easily defined field. Participants need to be open-minded and willing to question conventional research methods. The strength of cross-disciplinary fields like environmental history lies in their ability to explore environmental and social responses within a coherent framework, giving greater explanatory power than single-discipline methods. Interdisciplinary work is instrumental in raising contradictions between data sources and confronting uncertainties in interpretation of evidence, which can lead to the generation of new ideas and form part of the learning process. In this context, multidisciplinary work was characterised as work involving separate research and final joint debate in which the issues and questions raised at the end could have been resolved earlier using an interdisciplinary approach. However, interdisciplinarity is not necessarily a prerequisite for all research: the research question should define whether this approach is required and which disciplines can best provide answers.

Established institutional, disciplinary and funding divisions, which enshrine the polarisation between academic cultures, emerged as recurring factors which hinder cross-disciplinary cooperation. This includes the limited rewards and recognition offered by institutions to researchers, despite the emphasis on interdisciplinarity advocated by numerous funding bodies. However, difficulties also lie in the emerging interdisciplinary fields themselves: the broad basis of interdisciplinary research sits uncomfortably within single disciplines and, while this may give the impetus for forming new fields of research, it has also led to common approaches to nature-culture relationships being variously classified as environmental history, landscape ecology and historical geography. This fragmentation undermines the shared interests of these groups of researchers. Communication across these smaller divisions is thus also necessary to create a coherent interdisciplinary research community. Possible examples to learn from include that of landscape ecology, which formed with a basis in environmental problems and now has established journals. The archaeological sciences too are playing an increasing role in archaeology and thus working in partnership, not in competition, although this does not guarantee that the research approach is necessarily inter- rather than multidisciplinary.

There was a clear consensus on the most productive method of undertaking and managing interdisciplinary collaborations: research is best conducted in small teams where commitment is established from the start, and a productive and inclusive environment for research and debate is created. An anchor person or generalist amongst a team of specialists can form a valuable nucleus for initiating personal contacts, ensuring coherence during the work and allowing the results to be clearly communicated to all disciplines and audiences. Clearly a significant time commitment is required in the planning, execution and dissemination of interdisciplinary research. This accounts for the scarcity of polymaths in the present age. Daily contact between disciplines is preferable for overcoming barriers and

problems of language or data communication. However, this requirement is difficult to fulfil in current institutions and requires careful planning in research proposals.

Collaborative ventures with an applied outcome, which address a current threat or concern, are a valuable method of communicating the results of interdisciplinary work to a wider audience and gaining recognition. This is particularly the case in the present research environment, with a push towards 'added value' and knowledge transfer by some funding bodies. However, similar institutional obstacles may need to be confronted in order to gain acceptance due to the split between nature and culture in management organisations and in legislation, a separation which does not occur in the landscape. In addition, the work may meet resistance if managers are challenged to confront their perceptions about particular landscapes, especially the extent to which they have been dynamic and shaped by people. It is difficult to put a monetary value on knowledge of the past but this is often a requirement for justifying any historical contribution to present management strategies. However, it may be possible to convey the costs of mismanagement and to present alternatives to proposed strategies, based on knowledge of the past.

In terms of future approaches to the direction of the field, the outcomes of the workshop underscore the difficulty of establishing new fields of research. It was clear that issues of classification exist, such that a limited number of researchers regard themselves as 'environmental historians', with many preferring to classify themselves as part of established disciplines. Environmental history is thus more a matter of mind set and research approach than an independent discipline, although this is certainly not the formal definition; it is at least partially dependant on the beliefs and approaches of its constituent or participant disciplines. This creates a diversity of approach within the field of environmental history but also serves to maintain divisions between established disciplines which may be counter-productive in terms of establishing the research structures and securing the sources of funding which will encourage communication across these established disciplinary boundaries.

Participants agreed that the best approach for disseminating the theoretical and methodological approach to interdisciplinary research in fields such as environmental history is to make use of existing networks and organisations, not to invent new structures. For this reason, it was felt that publishing the papers presented at the conference would amount to preaching to the converted, rather than challenging a wider audience. In terms of practical research organisation, small team collaborations are likely to provide the greatest success. However, it remains necessary for supporters of this method to be creative and deliberately target new audiences and established journals, following the lead of the recent article by Butzer (2005)<sup>1</sup> in the *Journal of Archaeological Science*, for example. This will allow numerous small research groups to form a more coherent school of thinking, thus building the momentum required to challenge and ultimately change wider opinions towards research and academic divisions.

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<sup>1</sup> Butzer, K.W. 2005. Environmental history in the Mediterranean world: cross-disciplinary investigation of cause-and-effect for degradation and soil erosion. *Journal of Archaeological Science* **32**, 1773-1800.



In summary, therefore, the outcomes and recommendations of the workshop were as follows:

1. Existing networks and journals provide the best framework for pursuing the integrated, methodology inherent in environmental history. Participants are involved in a number of interdisciplinary networks through which to pursue this, including the ESEH (European Association for Environmental History), EARTH (an ESF-funded network on Early Agricultural Remnants and Technical Heritage) and PECSRL (Permanent European Conference for the Study of the Rural Landscape), in addition to discipline-based societies and associations.
2. There is a need for proactive people and institutional/organisational support to encourage interdisciplinary research environments and methods.
3. An anchor person can provide valuable stability and form a nucleus for establishing personal contacts in the face of institutional restrictions.
4. Small groups provide the best means of establishing equal partnerships in productive, collaborative research, ensuring the commitment of all members and maintaining communication and discussion through the duration of research design and execution.
5. Innovative presentations to a wide range of academic and other organisations were seen as a potential means of communicating the explanatory power and value of integrated scientific-humanities research.
6. **Theo Spek**, as secretary general for the organisation, extended an invitation to participants to submit papers to the next PECSRL conference, particularly a session on 'landscape as an interface' (Berlin, Sept 2006).
7. Discussion is underway with **Marcus Hall** to secure funding for a future workshop on the role of environmental history in the restoration/renaturing debate.

## 4. Final Programme

Wednesday 2<sup>nd</sup> November 2005

Arrival of participants

Thursday 3<sup>rd</sup> November 2005

- 9.00-9.25 Registration & tea/coffee at Iris Murdoch Building, University of Stirling  
9.25-9.35 Introduction: welcome & aims (**Althea Davies & Fiona Watson**)  
9.35-9.50 ESF presentation by **Gisli Pálsson** (Humanities Steering Committee)  
9.50-10.10 **Warren Eastwood**: John Haldon's ESF Exploratory Workshop on Modelling Medieval Logistics: Experiences of Building Interdisciplinary Links

*Session 1: Research design to understand cultural responses to environmental change*

Chair: **Fiona Watson**

- 10.15-10.30 **Péter Szabó**: interdisciplinary approaches in environmental history  
10.30-10.45 **Paul Dostal**: historical methodologies for investigating climate change  
10.45-11.00 **Bo Poulson**: climate change & the development of North Sea fisheries  
11.00-11.15 Questions/discussion  
11.15-11.30 Tea/coffee  
11.30-12.15 3 breakout groups each with 1 speaker to discuss: difficulties of interdisciplinary research – barriers & reflecting on problems to overcome  
12.15-12.45 *Plenary discussion*: coming to a consensus on issues of integrated research & possible solutions  
  
12.45-1.30 Lunch

*Session 2: Innovations for closer integration*

Chair: **Martin Schmid**

- 1.45-2.00 **Joep Dirks**: the historical ecology of cultural landscapes  
2.00-2.15 **Fiona Watson**: integrated research strategies in environmental history - a case study from the Central Scottish Highlands  
2.15-2.30 **Antonio Gomez-Sal**: historical and ecological patterns in Spanish cultural landscapes  
2.30-3.00 Questions/discussion  
3.00-3.15 Tea/coffee

3.15-4.00 *Breakout groups* to discuss: designing a research interdisciplinary proposal, including formulating research questions, applicability of conventional methods, problems of standardisation & comparison, styles of data presentation for communication across disciplinary divisions. Each group will be provided with a research idea on which to focus.

4.00-4.30 *Plenary discussion*: a review of strategies for research design, communication and data presentation

7.00-9.30 Workshop dinner

### Friday 4<sup>th</sup> November 2005

#### *Session 3: Law, legislation & its consequences*

Chair: **Fiona Watson**

9.30-9.45 **Althea Davies**: Highland Clearances - the cultural & environmental impacts of enforced land abandonment

9.45-10.00 **Karoline Daugstad**: issues of use and conservation in the Norwegian mountain summer farm landscape

10.00-10.15 **Chris Smout**: legislation, history and British woods

10.15-10.45 Questions/discussion

10.45-11.15 Tea/coffee

11.15-11.45 *Breakout groups* to finalise mock research design (started in Session 2, Day 1)

11.45-12.30 *Presentation* of research designs to whole group & discussion of compromises & problem-solving techniques (10 min per group)

12.30-1.30 Lunch

#### *Session 4: Applying our knowledge*

Chair: **Althea Davies**

1.40-1.55 **Marcus Hall**: protecting or restoring cultural landscapes?

1.55-2.10 **Nicki Whitehouse**: the conflicts between management, biodiversity & conservation of peatlands

2.10-2.25 **Theo Spek**: managing cultural landscapes: landscape biographies as a tool for communicative planning and heritage management

2.25-2.40 **Nick Hanley**: does awareness of historical landscapes affect current preferences over landscape change?

2.40-3.00 Questions/discussion

3.00-3.15 Tea/coffee

3.15-4.00 *Breakout groups* to discuss: from the past to the future - can we use environmental history as a tool in policy-making? Focussing research and presenting data for a public audience

3.30-4.00 *Plenary discussion*: the potential for applying our knowledge of the past

4.00-5.00 *Final discussion*: the way forward for environmental history: the potential for expanding all our horizons, establishing networks for communication and directions for future collaborative research

END

5.30-7.00 Informal dinner for any participants not returning home on Friday 4<sup>th</sup>  
November

Saturday 5<sup>th</sup> November 2005

Departure of remaining participants

## 5. Final list of participants

### Scientific convener

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## Statistical information on participants

<i>Country of origin</i>	<i>No of participants</i>
Austria	1
Denmark	1
Germany	1
Hungary	1
Iceland	1
Netherlands	2
Norway	1
Spain	1
Switzerland	1
United Kingdom	6

<i>Gender</i>	<i>No. of participants</i>
Male	12
Female	4

<i>Discipline</i>	<i>No. of participants</i>
Science	9
Social science	2
Humanities	5

Information on age structure not available