Introducing the ‘MEEM’ study - Monitoring and Evaluation for Ecosystem Management

Supported by The ALTER-Net High Impact Actions (AHIA) initiative and coordinated by the James Hutton Institute
Rationale for MEEM

- Monitoring & Evaluation (M&E) should be central to adaptive management of ecosystems - enables learning from past actions to improve future choices
  - Unfortunately M&E is often inadequate
- Europe has high profile environmental policies with much influence on ecosystem management
  - Therefore it is important to examine if and how Europe’s policies shape M&E, and consider what could improve.
ALTER-Net and MEEM

- **ALTER-Net** [http://www.alter-net.info](http://www.alter-net.info)
  - Network of leading institutes who integrate their research capability to: “assess changes in biodiversity, analyse the effect of those changes on ecosystem services and inform the public and policy makers about this at a European scale”

  - M&E affects ability to understand and manage biodiversity and ecosystems
  - Bringing together knowledge from different partners can help to identify key themes and challenges
The MEEM partners

- 9 partners across Europe
  - Ecological and Forestry Research Applications Centre at the University of Barcelona (CREAF)
  - University of Bucharest
  - Estonian University of Life Sciences (EMU)
  - Finnish Environment Institute (SYKE)
  - Flemish Institute for Nature and Forest (INBO)
  - Hungary Academy of Sciences Centre for Ecological Research (MTA)
  - Institute of Landscape Ecology James Hutton Institute
  - Institute of Landscape Ecology Slovak Academy of Sciences (SAS)
  - Swedish University of Agricultural Sciences (SLU)

- Interdisciplinary
- Each team studied M&E in their country or region
Study approach

- 3 European policy areas—site level monitoring
  - The Water Framework Directive
  - The Natura 2000 network designated under the Habitats Directive and Birds Directive
  - Agri-Environment Schemes under the European Agricultural Fund for Rural Development

- Find public documents on official monitoring programmes

- Compared to criteria for ‘ideal’ M&E

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<tr>
<th>What is monitored?</th>
<th>To understand (eco)system processes, both biotic and abiotic elements should be monitored, with a focus on the interactions that form the system or community</th>
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<td>To understand social and economic aspects of systems, these issues should be monitored, likely entailing coverage of demographics, economics and social attitudes and preferences.</td>
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<td>To understand system change, influential aspects of the social, technical, environmental, economic and policy context should be monitored.</td>
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<th>How is monitoring is carried out?</th>
<th>Monitoring should use targeted collection of primary data and also relevant secondary data where available.</th>
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<td>Data provision can involve a range of individuals and organisations to improve data coverage as well as engagement.</td>
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<td>Monitoring data should be accessible to its users and the public.</td>
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<th>Does monitoring inform and influence decision-making?</th>
<th>The process by which monitoring data are expected to be used in decision making should be transparent.</th>
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<td>Monitoring data should be used to inform and update management.</td>
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<td>Monitoring data should be used to inform and update policy.</td>
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Findings (1)

- Policy-driven M&E is producing useful information, especially on environmental state and trends.
- However, there are some common problems – some trends shared across places and policies.
Findings (2)

- Some common problems

1. Not enough attention on understanding the effect of management actions e.g.

2. Overly focused on understanding a few issues (e.g. many measurements of water quality) rather than a whole system perspective

3. Rarely much attention to social issues, even though these can be vital e.g. human activities in a protected area

Continued...
Findings (3)

- ....continued

4. Little **attention to contextual factors** that might affect target systems e.g. climate change, pressures on farmland birds affecting presence on farms, effects of pollution loading on waterways

5. Often **limited public access** to monitoring data

6. Little **transparency about if and how monitoring data are used** in evaluation; nor is there clear evidence as to how it ultimately influences decision-making at any level from management to policy

→ Opportunities for improvement!
Implications and recommendations

- Understand socio-ecological systems
- Enable participation
- Improve transparency
- Allow flexibility

Priorities for updating policy-driven monitoring
Implications and recommendations

- Changing M&E does not always require additional resources, but does entail a fresh perspective
  - A key principle is to promote a balanced and accessible M&E
  - Should reflect current ideas about nature and its relationship with society – i.e. need to understand all parts of a ‘socio-ecological system’
  - Allow flexibility to fill gaps, monitor new actions and balance effort on different topics
  - Enable more participation – in data collection but also when using data in decision-making
Implications and recommendations

- Ideas for next steps
  - Specific implications will vary by place and policy areas – need to discuss locally
  - Different regions and countries offer examples of good practice: cross-national sharing will be valuable

Addressing these challenges will result in improved and responsive decision-making, that visibly uses monitoring data to update ecosystem management.

This will ultimately help us improve environment management, so is an important goal!
More information

- 4-page briefing focused on recommendations
- Manuscript in submission
- Technical report

See www.hutton.ac.uk/meem

Contact Kerry Waylen (Kerry.Waylen@Hutton.ac.uk)
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