The UK Biodiversity Action Plan

Strategic research needs

Richard Ferris
The UK Biodiversity Research Advisory Group

RELU Conference, Birmingham, 19-21 January

What is the UKBAP ?

- the UK Government's response to the *Convention on Biological Diversity (CBD)* signed in 1992
- it describes the UK's biological resources
- commits a detailed plan for the protection of these resources
- has 391 species action plans, 45 habitat action plans, and 162 Local Biodiversity Action Plans with targeted actions

Beyond Action Plans

In addition to Action Plans, the UKBAP addresses important cross-cutting themes, e.g.

- Water
- Energy
- Transport
- Land use (agriculture, forestry, urban, coastal)
- Species use (fisheries, sport, recreation & tourism)
- Partnership & education

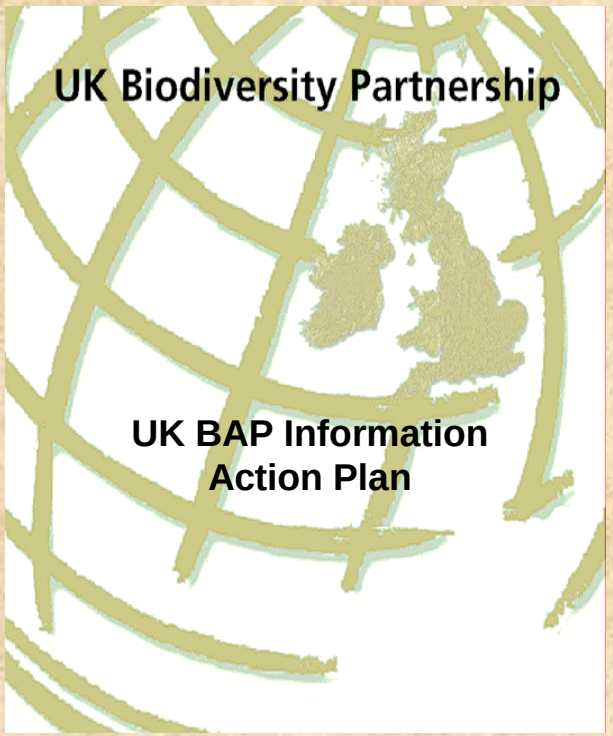
Country, regional and local Strategies: interpreting the UKBAP

- four **Country Biodiversity Groups** identify the directions and policy instruments for implementation of action plans at the country-level
- **Local Biodiversity Action Plans** (LBAPs) work on the basis of partnership to identify local priorities (and determine their contribution to national targets)

Information needs

- Lead Partners responsible for delivery of individual Action Plans report progress on a 3-year cycle
- In 2002, the UKBAP reporting round identified a *lack of knowledge as a key factor limiting progress*
- But, is this a genuine information gap ?

Improve communication



Perhaps we need a single plan, coordinating the flow of information to Lead Partners ?

This could help to….

Improve communication

- Identify needs of the practitioners
- Provide information to service these needs, if available
- **If not, then we need to initiate research**

Identifying research needs

The UK Biodiversity Advisory Group (BRAG) consists of researchers, policymakers and practitioners, and exists to:

Engage with the research community to meet the needs of the UKBAP and developing country biodiversity strategies

What does BRAG do ?

- promote and facilitate research that seeks to support delivery of the UK BAP
- provide a forum for sharing ideas and information about biodiversity research
- co-ordinate UK engagement with related EU and international initiatives

Key cross-cutting themes

Conservation of genetic & native species diversity

The impacts of introduced species

The roles of biodiversity in ecosystem function

Monitoring of biodiversity & evaluation of actions

Management of habitats & ecosystems

Developing tools to optimise policies to favour biodiversity

RELU Conference, Birmingham, 19-21 January

The interface with social science and economics

BRAG recognises the need to:

- Evaluate the socio-economic implications and current status of research undertaken on the six themes

- Identify links and potential synergies between UK BRAG socio-economic research and other biodiversity research programmes

How are we doing ?

Analysis of research needed to fill knowledge gaps

- available expertise / tractability
- cost and benefits (impact on biodiversity)

Review of the extent of current research

- research underway
- research in need of improved coordination

Leading to an improved focus and recognition of priorities

Achievements

Are researchers, practitioners, and policymakers working more closely ?

Are research needs more effectively identified ?

Can we identify any quick wins ?

In each case, the answer is YES

Links to RELU

RELU represents an opportunity for the cross-disciplinary collaboration that BRAG recognises to be of critical importance if we are to deliver research in support of the UK BAP

Examples include:

RELU Conference, Birmingham, 19-21 January

Socio-economics & biodiversity

- biodiversity and sustainable development
- cost-effectiveness of mechanisms
- biodiversity and ecosystem goods & services
- application of the Ecosystem Approach
- perceptions of the value of biodiversity
- invasive species
- cost-benefit analysis
- social rate of return
- resource accounts

RELU Conference, Birmingham, 19-21 January

Genetic & native species conservation

Integration of genetic information with landscape & community ecology, and socio-economic variables for biodiversity management

Conservation of genetic diversity through area-approaches in management (e.g. Natura 2000)

Improve understanding of the relationship between genetic diversity and agroecosystem stability, resilience and resistance (under changing climatic, environmental, social and economic conditions)

Genetic & native species conservation

Investigate interactions between agricultural and natural biodiversity with regard to different agricultural practices (e.g. traditional, conventional, organic, GMOs)

Develop indicators to monitor geneflow and assess risk for agricultural and natural ecosystems

Identify the genetic basis of how local crop landraces and animal breeds cope with changing and/or stressed environments

Impacts of introduced species

- An audit of status & trends, comparable across the UK
- Identification, quantification and characterisation of key pathways & vectors for introduction of non-native species
- Assessment of environmental, economic & social risks and impacts
- Appraisal of the true economic costs of non-native species, e.g. provision of ecosystem services, trade and tourism
- Social perceptions, awareness and resolution of non-native species conflicts

RELU Conference, Birmingham, 19-21 January

Impacts of introduced species

- Efficient monitoring of the spatio-temporal trends in introduction, establishment, spread and impact of non-native species
- Novel approaches to management including improved control strategies and ecosystem consequences of non-native removal
- Prediction of the vulnerability of habitats, species & ecosystems
- Interactions between species invasion and environmental change

RELU Conference, Birmingham, 19-21 January

Biodiversity & ecosystem function

- how to maintain large-scale ecosystem function
- long-term studies of natural and anthropogenic ecosystem change (what is acceptable/unacceptable?)
- ecology and protection of soils at the landscape scale mechanisms and processes of change

Biodiversity & ecosystem function

- what is a healthy ecosystem?

  - relationship between biodiversity, ecosystem function and habitat quality

  - establishing thresholds of biodiversity

  - effect of biodiversity loss on function at different levels within the ecosystem

Monitoring of biodiversity & evaluation of actions

Identifying the best approaches to measuring biodiversity at a range of spatial scales e.g. regional, catchment and site scales

- What are the best methods and indicators for measuring status and change in the rural environment?
- How do we identify causality and significance of change?
- How should we evaluate the success of our actions?

RELU Conference, Birmingham, 19-21 January

Management of habitats & ecosystems

Develop the knowledge, best practice and tools to enable management for biodiversity at a range of spatial scales, e.g. regional, catchment and site scales

- implications for biodiversity of current and alternative management systems
- socio-economics of management options
- how good are current landscape management measures at delivering optimum landscapes for biodiversity?
- decision support tools

Developing tools to optimise policies to favour biodiversity

To enable society to make decisions and put in place actions & policies based on good science, to optimise biodiversity in the context of sustainable development

- improve the evidence base and techniques for objective and transparent decisions
- to help explore mechanisms for more effective delivery of biodiversity objectives (e.g. impacts of CAP reform)

Contacting BRAG

http://www.ukbap.org.uk/BAPGroupPage.aspx?id=2

Richard Ferris

Biodiversity Research Coordination Officer, JNCC

01733 866820

richard.ferris@jncc.gov.uk