



Minutes

**15th Meeting of The UK Biodiversity
Research Advisory Group
Held 16th June 2010**

**Location: Natural History Museum, Darwin Centre, Cromwell Rd, London, SW75BD
Tel 020 7942 7100 (direct line to meeting room).**

In attendance:

Helen Baker, JNCC
Tim Blackstock, CCW
Andy Brown, NE
Dominique Butt, NERC
Peter Costigan, Defra (Chair)
Mary Gibby, RBGE
Michel Kaiser, University of Bangor
Ken Norris, University of Reading (NEA)
Andrew Pullin, University of Bangor (BES)
Amanda Read, BBSRC
Mark Spencer, NHM
Mark Stevenson, Defra
Allan Watt, CEH
Kevin Watts, Forest Research
Tina Yates (JNCC)

Apologies: Sallie Bailey, FC, Ian Bainbridge, SNH, Steve Chambers, WAG, Joanna Drewitt, Scottish Government, Mike Fay, Kew, Davy McCracken, Scottish Agricultural College, David McDonald, University of Oxford, John Pinel, Jersey Government, Paul Rose, JNCC,

15.1 Welcome/ introductions

The Chair thanked Mark Spencer and the Natural History Museum for hosting the meeting. Those attending introduced themselves.

15.2 BES BRAG event update Paper BRAG 15/1

15.2.1 Tina Yates gave an update on speakers who had agreed to give talks and participate in the panel discussion. The event will take place on the afternoon of Wednesday 8th September at the BES annual meeting at Leeds University. The NEA part of the BES meeting will be on the morning of the same day, so delegates will be able to attend both sessions.

15.2.2 The Chair pointed out how useful and successful previous joint BES – BRAG events had been in raising the profile of UK BRAG, and providing an interface between scientific and policy issues.

15.3 Future work priorities Paper BRAG 15/2, see also BRAG 16/7

15.3.1 The previously circulated paper was based on discussion at the last BRAG meeting and attempted to place subjects in a loose priority order. The paper was to stimulate debate to help the meeting assess which of the long list of issues had the highest priority for action in the near future, accepting that it is not practical to try to work on the whole list at once. An immediate suggestion was to add Invasive Aliens to the list.

15.3.2 Debate focused on which areas are likely to be covered by other organisations, and which are

issues that are cross-cutting, covering areas that range across traditional research boundaries. Sub-groups to address issues should be clear at the outset on their aims, and on defining the research gaps and policy needs for the topic on which they focus.

15.3.3 The suggested theme on Forestry and Woodlands Biodiversity would be complimentary to Forestry Commission work, and Sallie Bailey had indicated prior to the meeting that she would be interested in investigating this topic further.

ACTION: Sallie Bailey to lead sub group to investigate potential gaps and complementarity in Forestry and Woodland Biodiversity Research. Group to include Kevin Watts. Secretariat to be kept informed of membership and progress.

15.3.4 There is a food securities initiative (comparable to LWEC) that the research councils are setting up, so it would be timely to set up liaison between the theme leaders and UK BRAG to identify priority issues. The theme leader is Riaz Bhunmoo.

ACTION: Amanda Read to provide contact details and arrange an introduction with the Research Councils Food Securities Theme Leader.

15.3.5 There was discussion about topic headings on the paper, acknowledging that in real landscapes biodiversity crosses traditional subject headings. A “futures” review needs to be a framework, rather than discreet topics, although it was acknowledged this is difficult because of the amount of data, and the way data is so dispersed. Current data sets also quantify specific species, and develop a mind set of concentrating on species that are “charismatic”, calling them indicator species without the research to define what indicator species actually are. An example given was to ask which of the existing data sets would be able to document the effect of nano technology on the marine environment. So some of the questions for UK BRAG should encompass how to identify quantifiable metrics, what sort of study designs can overcome the limitations of current data, and how can raw data be made more accessible, so that best use can be made of data, given the current budget situation in the UK.

15.3.6 The UK BRAG role is not to do research but to look at the landscape of science and policy and to draw out key directions.

15.3.7 Additional topics suggested to be added to the list on paper **BRAG 15/2** were;

- I. Alien invasive species
- II. Tipping points
- III. Linking biodiversity and ecosystem function
- IV. Following on from the NEA
- V. “Mainstreaming” biodiversity (CBD concept).
- VI. The use of monitoring in research
- VII. How to make policy-relevant biodiversity research more efficient in times of economic restraint
- VIII. Design of reviews with end use in mind
- IX. Agriculture and food security – linking to the new research council initiative.

With such a long list of potential topics, the need is to identify the areas which are highest priority and where BRAG can be most effective.

15.3.8 Sub groups were agreed to look at specific areas;

Forests and woodlands – Sallie Bailey to lead, with Kevin Watts and Mary Gibby as members. Note the availability on line of the Forestry Commission Science and Innovation Strategy 2010-2013. See www.forestry.gov.uk/research

ACTION: members of group send suggestions for further members to Tina Yates as soon as possible.

Design of reviews – Andrew Pullin to lead, with Peter Costigan, Allan Watt and Tim Blackstock as members.

ACTION: members of group send suggestions for further members to Tina Yates as soon as possible.

Agriculture and Aquaculture – Amanda Read to lead, with Mike Kaiser as a member, and Davy McCracken and Andrew Impey to be invited to be group members.

ACTION: Amanda Read to contact Peter Costigan and to facilitate liaison with the Research Councils group as soon as possible.

ACTION: All groups to report progress to Tina Yates and to report back to next BRAG meeting.

15.3.9 There was agreement that UK BRAG's influencing role is important to highlight the need for new work. For example the group should be engaged in the outputs of the NEA, and helping to shape the future agenda, rather than simply responding to the reports.
The Scottish Government is also currently debating their research agenda for the next five years, so it is timely to develop partnerships and share knowledge in support of this process.

15.3.10 In summary, with reference to paper BRAG 15/2, current priority issues are 1.CoP 10 outcomes, 2.Agriculture and Aquaculture, and 4.Forestry and woodlands. The latter should include both native and non-native issues, and aspects of monitoring. These are the topics that are most timely, and where UK BRAG can be most influential, but that does not rule out incorporating other issues as appropriate. Prof Ian Bateman is leading a group on ecosystem valuation, for example, and it would be worth asking him to present his work at a future BRAG meeting to see if this topic needs a higher priority.

15.4 Defra funded BAP research update

15.4.1 Defra has run two research competitions entitled 'Understanding the status taxonomy and autecology of UK Biodiversity Action Plan Priority Species (the UK BAP Gap project)'. The research specification required potential contractors to address priorities identified in the UK BRIG-BRAG workshop on UK Biodiversity Action Plan Research and involve collaboration with relevant National Schemes and Societies. Taxonomic scope was limited to fungi, lichens, bryophytes, invertebrates (including moths, but excluding butterflies), amphibians and reptiles.

15.4.2 Five projects have been let, with a total value of c. £400k:

- I. Status of herptiles and freshwater invertebrates, Southampton University (with the Amphibian and Reptile Conservation Trust)
- II. Status and taxonomy of arable bryophytes, FERA with the British Bryological Society
- III. Status and autecology of terrestrial invertebrates, Hymettus with a range of terrestrial invertebrate recording schemes
- IV. Status and autecology of moths, Oxford University with Butterfly Conservation
- V. Taxonomy of bryophytes, Royal Botanic Gardens Edinburgh with the British Bryological Society

There is one further project that may be funded (subject to current negotiations and availability of partner funds).

15.4.3 It is hoped that a seminar can be held during Autumn/ Winter 2010-11 to present the findings.

15.5 Sub groups

15.5.1 *Priority species sub group*: this has been superseded by the Defra research competition (see 15.4.1 above). The research competition approach has been very successful, attracting a good range of collaborators to take the work forward. Support will be needed for the proposed workshop, but the sub group can now be removed from the agenda.

15.5.2 *Taxonomy and field guides sub group*: the NERC funded taxonomy and systematics review led by Prof. Charles Godfray is due to report by September. Prof. Mary Gibby is involved with this review and is also liaising with Prof. Geoff Boxshall, leader of the Natural History Museum project team, and special advisor the House of Lords, over the work. The meeting noted that the work was

vulnerable to public sector funding cuts. A UK BRAG response to the House of Lords is needed, but reference to the NERC report would be desirable.

ACTION: Mary Gibby to see if she can have sight of the NERC funded review prior to publication, and to then lead on drafting a response to the House of Lords on behalf of UK BRAG.

15.6 Presentation on NEA Biodiversity Chapter - Ken Norris

15.6.1 For the slides used in the presentation, please see Annex 1.

15.6.2 The NEA role has been to look at how biodiversity maps on to provisions and services. There is more known about groups of species that have cultural impact, than those that impact on provision of food and services. The groups about which we have most knowledge are those that are most conspicuous, and results from monitoring those are being used as indicators of the health of the environment. However we do not know if these species are good overall indicators of environmental health.

15.6.3 The corollary is that areas with higher numbers of the species with cultural impact (eg. Birds, butterflies) also have a higher cultural value.

15.6.4 The Biodiversity Chapter of the National Ecosystem Assessment is still in draft, and UK BRAG members are invited to submit comments.

ACTION: Ken Norris to circulate the chapter and details of how to submit comments, via Tina Yates.

15.7 EPBRS Update Papers BRAG 15/3 & BRAG 15/4

15.7.1 The usual process for an EPBRS (European Platform for Biodiversity Research Strategy) conference is being varied with the forthcoming meeting 16-19 November 2010, in that the meeting will be larger than usual, with around 250 attendees, and is being facilitated by a professional facilitation company. The meeting is invitation only, so BRAG members wishing to attend should let either Tina Yates or Allan Watt know, so that their names can be put forward to receive an invitation.

ACTION: UK BRAG members wishing to attend the November EPBRS meeting (paper BRAG 15/4) to contact Tina Yates or Allan Watt.

15.8 IPBES Update

15.8.1 The 3rd international meeting in Korea on 11th June agreed to form an Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services (IPBES). The decision needs ratification at the UN General Assembly, and then further meetings to agree how the IPBES will operate, so it is unlikely that the platform will be functioning by the November CBD CoP 10.

15.8.2 It was suggested that UK BRAG members may wish to monitor the International Institute for Sustainable Development reporting site <http://www.iisd.ca/> which gives links to relevant International meetings.

15.8.3 There are two EU Framework Programme 7 funded European projects in negotiation whose coordinators are meeting at the European Commission later in June. These are SPIRAL (Science Policy Interface Research and Learning) which has 12 partners, and KNEU (Knowledge Network for European expertise on biodiversity and ecosystem services to inform policy making economic sectors) which has 18 partners.

ACTION: Allan Watt to present further information on SPIRAL to the next UK BRAG meeting. Allan Watt and Andrew Pullin to present further information on KNEU to the next UK BRAG meeting.

15.9 Initial overview of CBD Subsidiary Body on Scientific, Technical and Technological (SBSTTA) outcomes Paper BRAG 15/5

- 15.9.1 TEEB (The Economics of Ecosystems and Biodiversity) report is likely to be published just before CBD CoP 10, so will not be reflected in SBSTTA recommendations; the recommendations will include reference to adaptation to climate change and adaptation planning.
- 15.9.2 There is concern in some areas about terms being used, especially in the marine area, as it is not clear what is meant by such words as “restoration” in practical terms. Past attempts at marine restoration have been hugely expensive and could not meet their targets because of the huge variability in an ecosystem that cannot be controlled.
- 15.9.3 The next SBSTTA meeting will be considering implementation of the TEEB report. There will be a need to ensure that there is coordinated UK input to the meeting.

15.10 CBD CoP 10 outcomes

- 15.10.1 The next CBD Conference of the Parties will be held 18-29 October 2010, in Nagoya, Japan. The BES Policy Committee is hoping to hold a meeting on the outcomes of CoP 10 and wish to involve BRAG and JNCC.

15.11 Standing Committee and Biodiversity Partnership Conference

- 15.11.1 The next conference will be 23-24 November 2010, in Edinburgh, led by the Scottish Government representatives. BRAG has offered to make a presentation, but it will be up to the organising committee to decide what they wish to include.
- 15.11.2 The last UKSC meeting agreed that the meeting to be held spring 2011 should look at targets and indicators following on from decisions at CBD CoP10 on post-2010 targets. There is a desire to involve the research community in this.

ACTION: Mark Stevenson to send Tina Yates url link to note of the last meeting, for circulation.

15.12 GECC review and GBSC update. Papers BRAG 15/6 and BRAG 15/7

- 15.12.1 GECC, LWEC and ERFF are to consolidate into one group, as they all have some overlapping functions, so more departments will be involved in the new group. There is no decision as yet as to what will happen with GBSC, which is currently a sub-group of GECC. GBSC are currently examining their terms of reference.
- 15.12.2 The next GBSC meeting will focus on synthetic biology, and will also look at how GBSC interacts with UK BRAG, and the LWEC body.

15.13 England Biodiversity Research Group, and CAMERAS.

- 15.13.1 The England Biodiversity Research Group, which is a provisional working title, stems from an agreement between Defra, the EA, NE and FC, to work more collaboratively in managing biodiversity research programmes.
- 15.13.2 CAMERAS (A Coordinated Agenda for Marine, Environment and Rural Affairs Science) is a similar initiative in Scotland – see <http://www.scotland.gov.uk/Resource/Doc/303884/0095288.pdf> and <http://www.scotland.gov.uk/Topics/Research/About/EBAR/CAMERASsite>.
- 15.13.3 The idea of CAMERAS is to have more coordinated environmental science in Scotland, with a broader remit than just biodiversity.
- 15.13.4 In Wales an equivalent exercise is taking place involving the FC, EA, CCW and WAG. The Wales Environment Research Hub at Bangor is likely to have a coordinating role.
- 15.13.5 Increasing efficiency is the driver for all three country environmental research exercises. It was agreed that it would be a good idea to have an EA rep. on UK BRAG especially as the EA is represented on all three of the groups listed above.

ACTION: Peter Costigan to discuss EA representation with EA contacts and let secretariat know the outcome.

15.14 Minutes and actions of last meeting

15.14.1 Action 14.2.1 Peter Costigan has yet to speak to Paul Cannon, who is now at Kew, with respect to systematics and barcoding. Once Dr Cannon has been contacted, information which he can supply will be forwarded to the Secretariat for circulation.

Action 14.8.3 WCL are to be invited to the seminar referred to in paragraph 15.4.3 of these minutes.

ACTION: Mark Stevenson to pass contact details for the WCL Chair of the Biodiversity Working Group to Secretariat.

Action 14.9.1 There was some discussion on the difficulty of tracking when UK BRAG papers and information are used. There is reference to UK BRAG in the Forestry Commission Science and Innovation Strategy 2010-2013. See www.forestry.gov.uk/research and the suggestion was made that Country Agency Strategy documents be searched for other such references. It would be useful to know when UK BRAG documents are referenced in research proposals, but these are not publically available.

15.14.2 All other actions had been completed or were ongoing.

15.15 Any other business, date and location of next meeting.

15.15.1 There was no other business. It was agreed that the next meeting would be held at Bangor, North Wales, at the beginning of December.

Summary of Action Points from the 15th meeting of BRAG, 16th June 2010

Action no.	Reference in minutes	Description	Action	Progress
1	15.3.3 and 15.3.8	Sub group to be formed to investigate potential gaps and complimentarity in Forestry and Woodland Biodiversity Research. Suggestions for membership to be sent to Secretariat as soon as possible.	Sallie Bailey to lead sub group, Kevin Watts and Mary Gibby to be members.	
2	15.3.4 see also 15.3.8	Chair to be given contact details and introduction arranged with the Research Councils Food Securities Theme Leader.	Amanda Read	
3	15.3.8	Design of Reviews sub group to be formed. Members to send suggestions for membership to Secretariat as soon as possible.	Andrew Pullin to lead group, Peter Costigan , Allan Watt and Tim Blackstock to be members.	
4	15.3.8 see also 15.3.4	Agriculture and Aquaculture sub group to be formed.	Amanda Read to lead, with Mike Kaiser as a member, and Davy McCracken and Andrew Impey to be invited to be group members.	
5	15.3.8	Tina Yates to be kept informed of sub groups' progress – groups to report back at December BRAG meeting	Sallie Bailey , Andrew Pullin and Amanda Read .	
6	15.5.2	Mary Gibby to see if she can have sight of the NERC funded taxonomy and systematics review prior to publication, and to then lead on drafting a UK BRAG response to the House of Lords on Taxonomy and Field Guides.	Mary Gibby	
7	15.6.4	Ken Norris to circulate the Biodiversity	Ken Norris , Tina	Done

		Chapter of the National Ecosystem Assessment, and details of how to submit comments, via Tina Yates.	Yates	
8	15.7.1	UK BRAG members wishing to attend the November EPBRS meeting (paper BRAG 15/4) to contact Tina Yates or Allan Watt.	Any UK BRAG members wishing to attend the November EPBRS meeting	
9	15.8.3	Allan Watt to present further information on SPIRAL to the next UK BRAG meeting.	Allan Watt	
10	15.8.3	Allan Watt and Andrew Pullin to present further information on KNEU to the next UK BRAG meeting.	Allan Watt and Andrew Pullin	
11	15.11.2	Mark Stevenson to send Tina Yates url link to note of the last Standing Committee and Biodiversity Partnership meeting, for circulation.	Mark Stevenson, Tina Yates	
12	15.13.5	Peter Costigan to discuss EA representation on UK BRAG with EA contacts and let secretariat know the outcome.	Peter Costigan	
13	15.14.1	Mark Stevenson to pass contact details for the WCL Chair of the Biodiversity Working Group to Secretariat.	Mark Stevenson	

Biodiversity and ecosystem services

Professor Ken Norris



University of
Reading



Why does biodiversity matter?

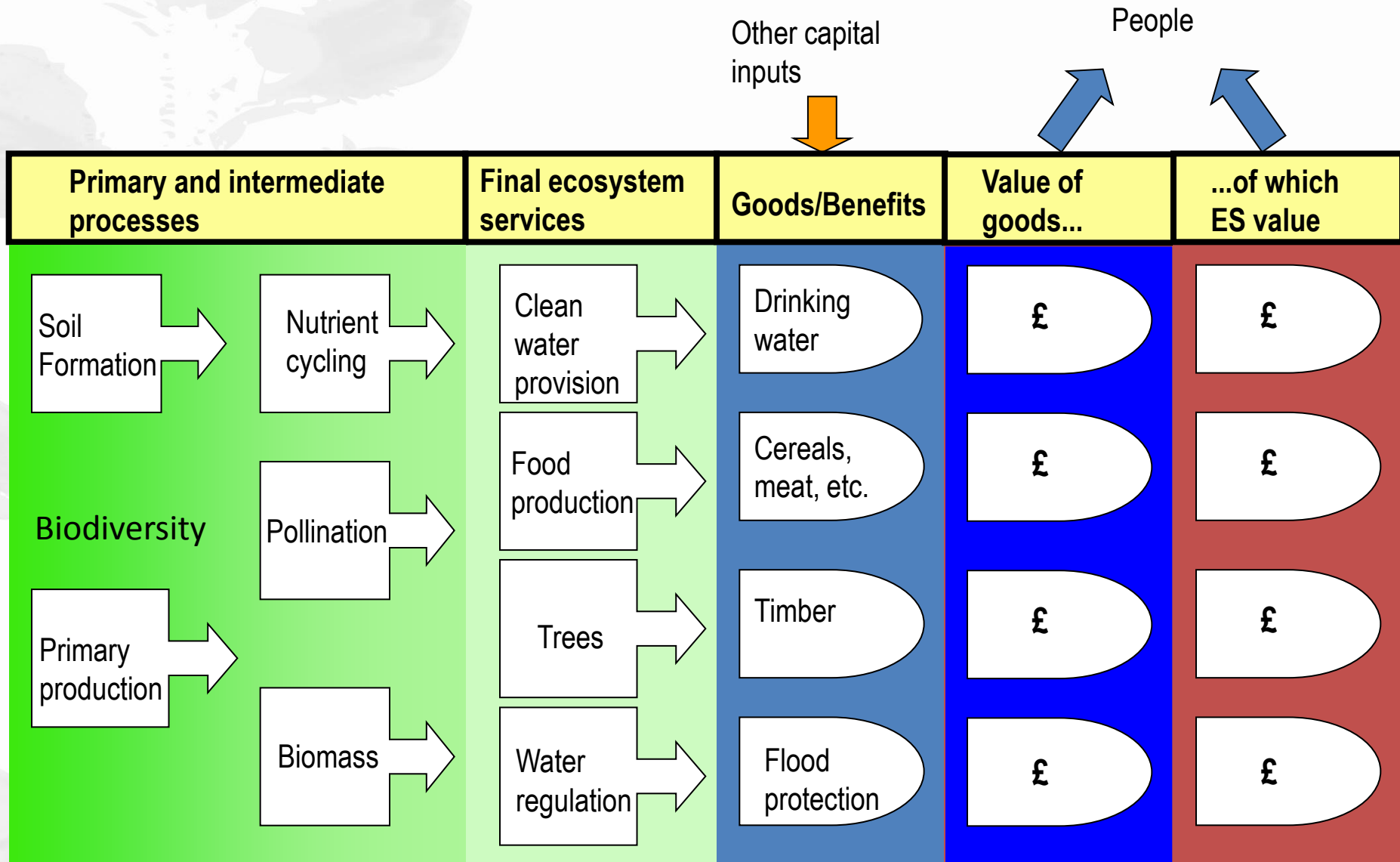


CONSTITUENTS OF WELL-BEING

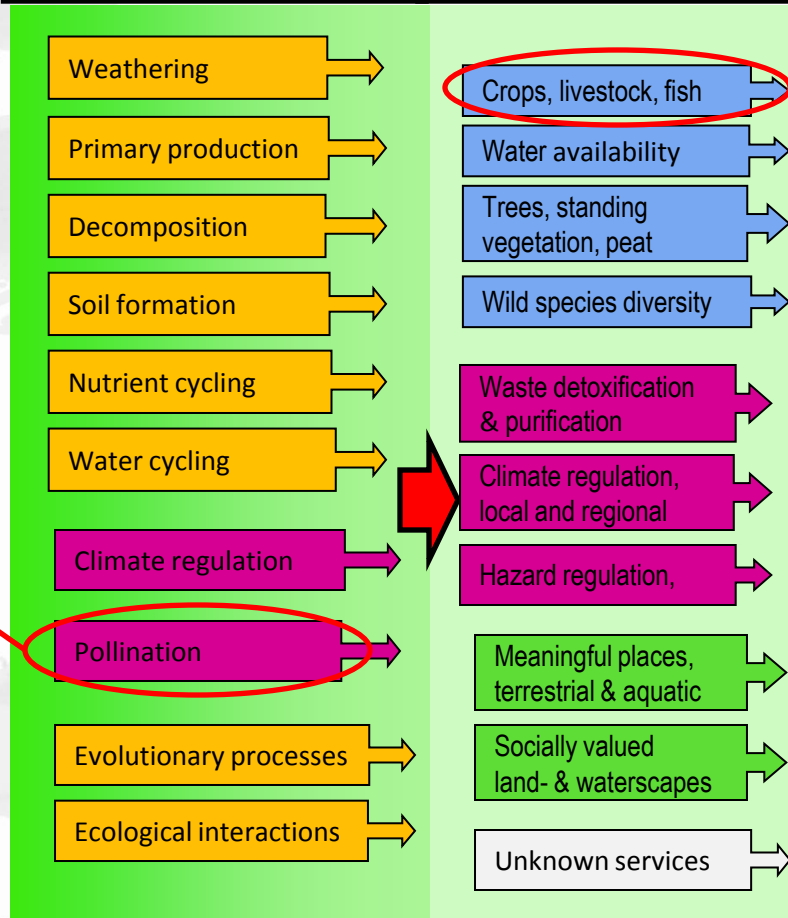


Source: Millennium Ecosystem Assessment

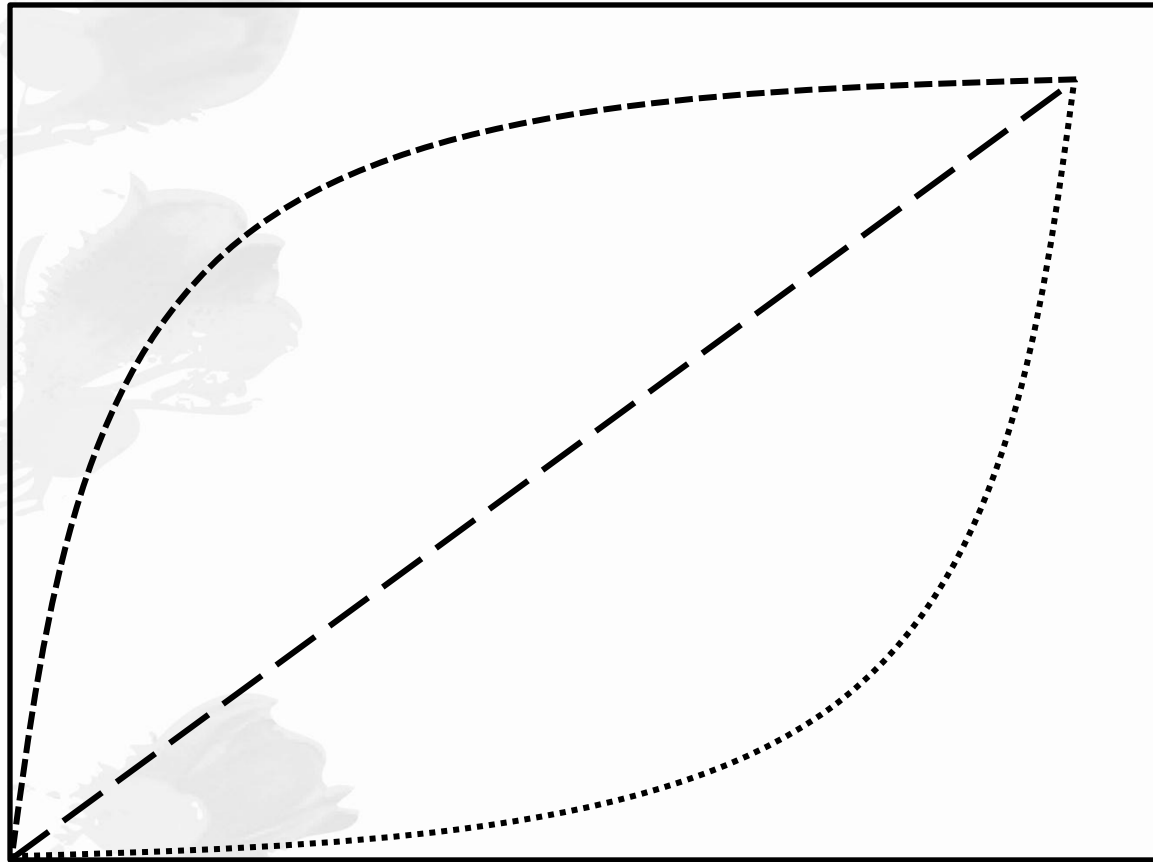
Ecosystems and the production of services



Primary & intermediate processes	Final ecosystem services
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Ecosystem service provision

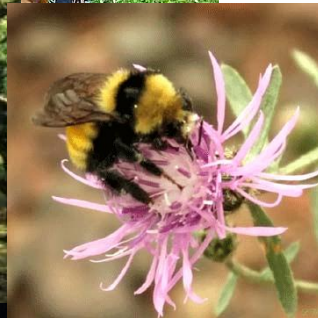
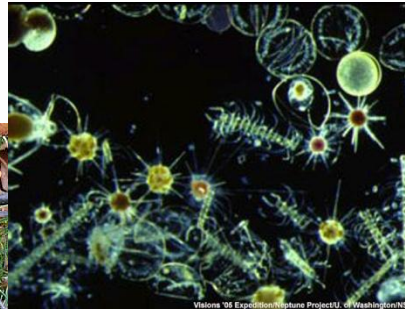


Biodiversity

Ecosystem service provision



Biodiversity



Final ecosystem services

Crops, livestock, fish

Water availability

Trees, standing vegetation, peat

Wild species diversity

Waste detoxification & purification

Climate regulation, local and regional


Hazard regulation,

Meaningful places, terrestrial & aquatic

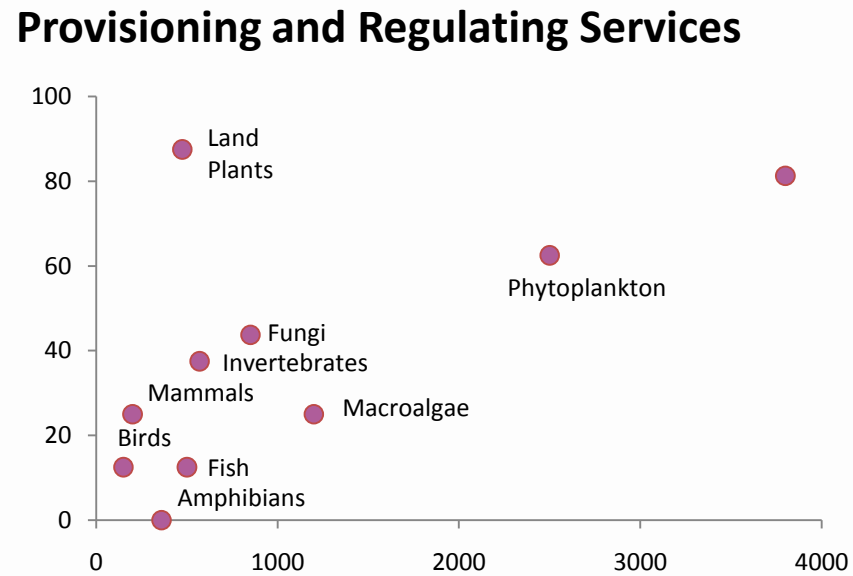
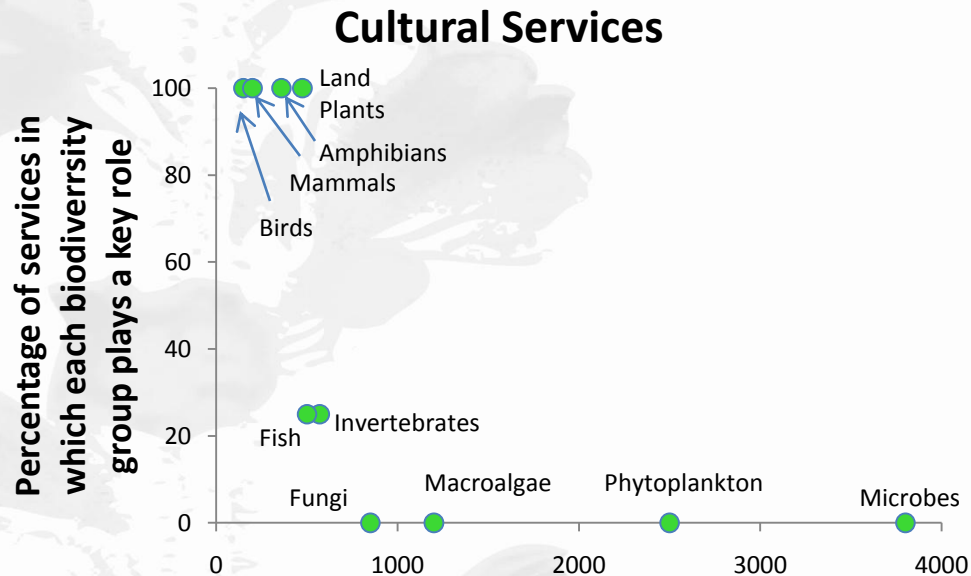
Socially valued land- & waterscapes

Emerging key messages.....


- Biodiversity plays a role in all ecosystem services being assessed by the NEA
- The number of biodiversity groups involved varies between services
 - 65% for crops, plants, livestock and fish
 - 18% for water quantity
- The roles of different biodiversity groups vary between the types of ecosystem service
 - Micro-organisms, fungi and plants play a role in all provisioning and regulating services
 - Vertebrates play a role in all cultural services, but in only 50% of the provisioning and regulating services



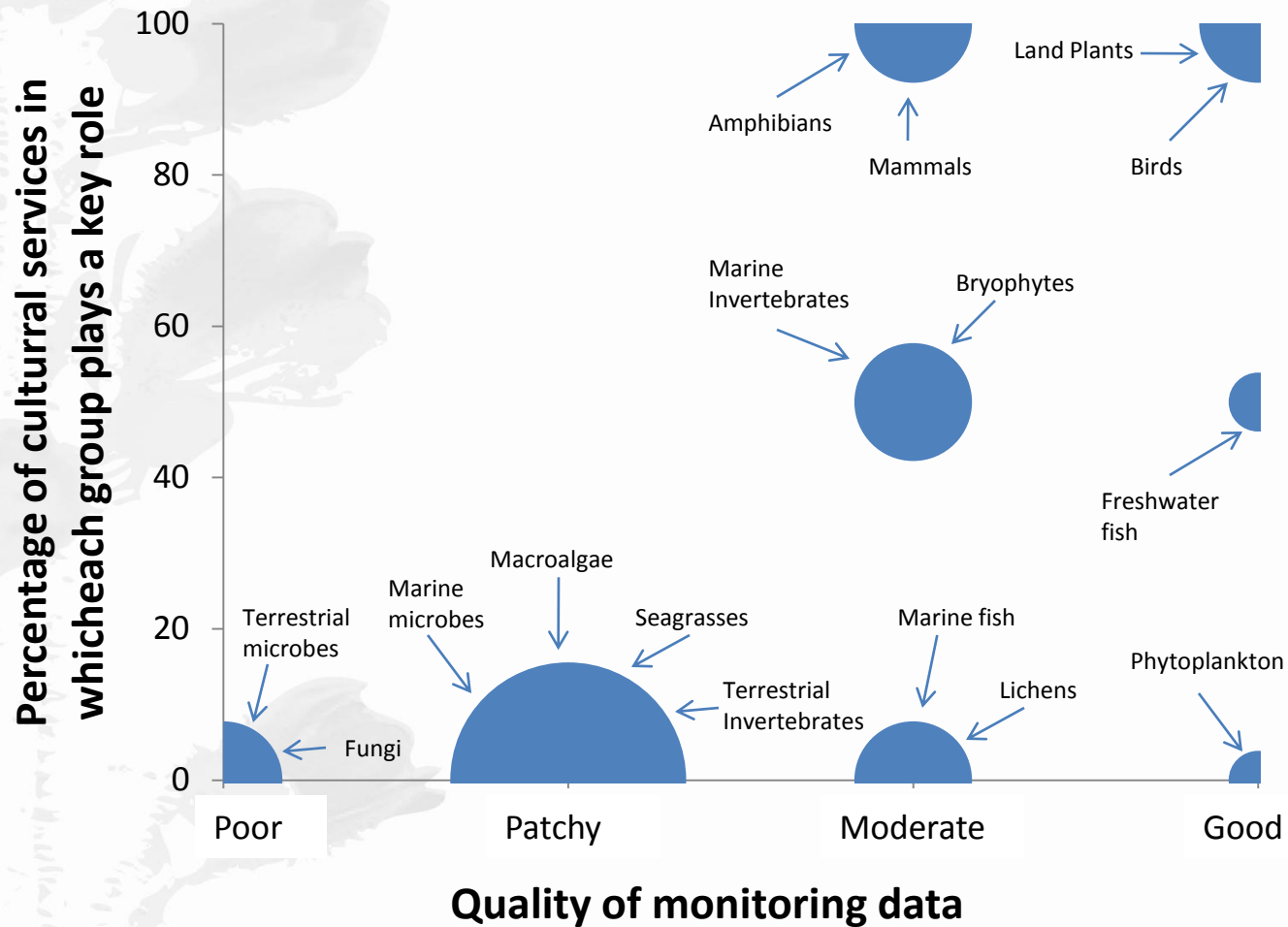
Why do different biodiversity groups play different roles?



Approximate age of each biodiversity group (million years)



What do we know about status
and trends in the different
biodiversity groups in a UK
context?

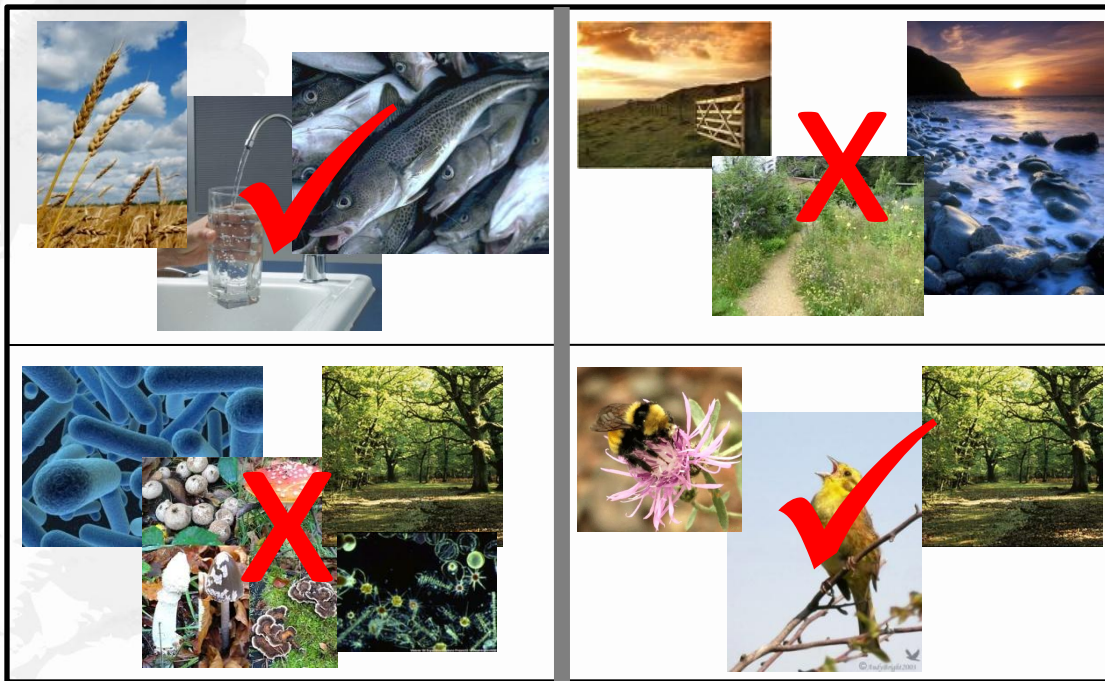


It depends on their cultural importance

The cultural divide

Provisioning and
regulating services

Cultural services



Drivers of biodiversity change.....

- Land-use change and pollution are considered the most important drivers across all biodiversity groups
- Exploitation in marine ecosystems impacts upon both target and non-target species
- Some evidence of climate change impacts across about 50% of the biodiversity groups

BUT

- Our knowledge of drivers is limited to well studied biodiversity groups

Concluding remarks

- Biodiversity plays a key role in supporting ecosystem services in the UK

BUT

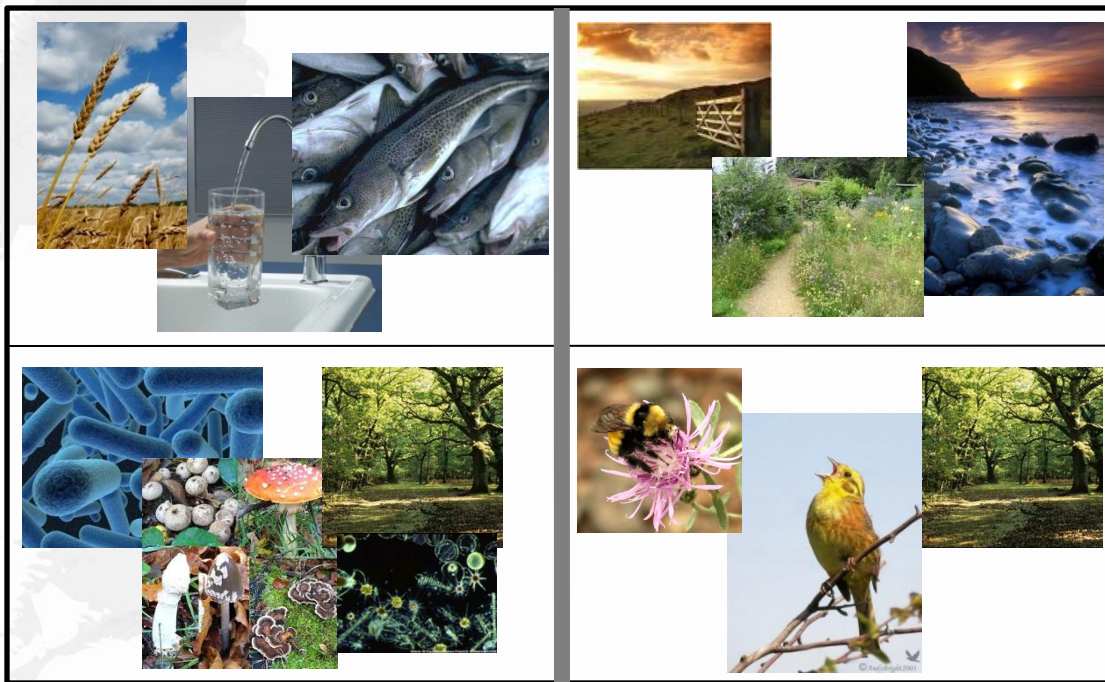
- Our knowledge and understanding is strongly influenced by cultural values.....

The cultural divide

Provisioning and
regulating services



Cultural services



Where next for biodiversity science?

- Improve our understanding of how different biodiversity groups underpin ecosystem services
- Identify key indicator groups, changes in which have an important impact on ecosystem services
- Develop a comprehensive, integrated monitoring programme for biodiversity in the UK around these indicator groups