

Global Biodiversity Sub-Committee (GBSC)

Meeting papers

Approved Minutes

3 March 2009

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**GECC SUB-COMMITTEE ON GLOBAL BIODIVERSITY ISSUES
MINUTES: 3 March 2009**

Attendees:

Miles Parker, Defra
Mark Stevenson, Defra
Caroline Culshaw, NERC
Simon Jennings, Cefas
Elizabeth Moore, JNCC (Secretariat)
Vin Fleming, JNCC
Mary Gibby, RBGE
Chris Lyal, NHM.
Rachel Garthwaite, Royal Society
Helen Baker, JNCC (Secretariat)
Amanda Read, BBSRC
Ian Bainbridge, SG

Plus guests:

David Fowler, CEH
Richard Berridge, Defra
Ian Strachan, SNH
Jo Thorpe, DECC

Agenda Item 1: Introductions and Apologies

Apologies were received from; Shaun Earl, FCO; Eric Blencowe, Defra; Paul Rouse, ESRC, Dilys Roe, DfID, Sharon McAuslan, Defra, and Eimear Nic Lughadha, RBG Kew

Miles Parker welcomed everyone to Edinburgh and thanked Mary Gibby for hosting the meeting and providing a very interesting and enjoyable tour of the gardens prior to the meeting.

ACTION 1/1: Miles Parker to write to the newly appointed Research Director at DfID regarding membership of GBSC.

Agenda Item 2: Ground level ozone

Professor David Fowler, Centre for Hydrology and Ecology gave a presentation on the impacts of ground level ozone (O₃) on global biodiversity and ecosystem services and functioning. (Presentation circulated with the minutes.) Reference was made to the Royal Society report on ground level ozone¹.

In essence, levels of O₃ less than 20 parts per billion (ppb) are not a threat to human health and plants. Background levels of O₃ greater than 40 ppb is the threshold for negative effects on people and plants. Background ozone levels have been rising over time, with peaks of over 100ppb during sunny summer days in areas with cars and industry emitting volatile organic compounds (VOCs) and photochemistry being driven by sunshine. These peaks are being controlled by reducing the emissions from cars and industry. However, the focus needs to shift to the reduction of background O₃ levels.

¹ <http://royalsociety.org/document.asp?tip=0&id=8039>

O₃ contributes directly to global warming². However O₃ has a short life so we can have an influence to control it.

In terms of the effects on plants, O₃ impairs photosynthesis, reduces biomass, reduces resistance to pests and stress and reduces rates of respiration. This doubles the effects of global warming as less carbon is being fixed. One study (Barnes and Peacock, University of Newcastle, Defra Annual reports) looked at the effects of O₃ on species composition in mixed communities. Some species were lost with increased O₃ and overall there was reduced biodiversity and a reduction in biomass. Globally key biodiversity areas such as south east Asia, South Africa and South America are already at risk from increased O₃.

Ultimately levels of O₃ depend on anthropogenic emissions, particularly NO_x, CH₄, CO and VOCs. Most emissions are now coming from ships and aircraft which are not currently regulated. O₃ levels in North America and Europe may be capped if current legislation is enforced, however climate change is likely to impact O₃ and offset the benefits. Furthermore, this is a global problem and needs to be recognised and addressed at a global level.

During the discussion it was noted that there is little research on taxa other than plants and biodiversity research is clearly an important gap. Vin Fleming asked for clarification on capacity building in developing countries, which was identified as a priority for research and policy. Asia is the focus for this work, specifically India and China and specifically research measuring impacts of O₃ and establishing policy and processes for monitoring and controlling O₃ levels.

Ian Strachan (representing the Country Agencies Air Pollution Lead Co-ordination Network) referred to a JNCC report³ on the impacts of O₃ on nature conservation which looked at the vulnerability of BAP priority habitats in the UK. Ian emphasised that the effects of O₃ on mixed communities are complicated and there is urgency for more research in this area.

It was noted that the Royal Society had submitted a notification on O₃ as a new and emerging issue to the CBD Secretariat, but that there had been no response, other than confirmation of receipt. This was the same situation for the GBSC submission, which included O₃ as one of the three items identified as new and emerging issues.

ACTION 2/1: Secretariat to clarify process and timetable with Defra (Sharon McAuslan) for bringing O₃ to the attention of the CBD Secretariat.

ACTION 2/2: Defra (Richard Berridge) to invite David Fowler and Rachel Garthwaite to provide a seminar on O₃ to a number of key representatives from different policy groups (including those responsible for food security, Peter Costigan, DECC and DfID).

ACTION 2/3: Secretariat to convey discussion on O₃ to UK BRAG particularly the paucity of information at the biodiversity level and invite UK BRAG to undertake some research to underpin the impact assessment process. UK BRAG to discuss issue at June meeting with a view to setting up a subgroup to formulate the next steps in terms of research priorities, policy processes and raising awareness. Report back on progress at July GBSC meeting and again following SBTTA meeting in May 2010.

² IPCC 2007: Tropospheric O₃ is the third largest greenhouse gas contributor to radiative forcing of climate change

³ <http://www.jncc.gov.uk/page-4126>

Agenda Item 3: Minutes and actions from 1 September 2008

The minutes were taken as a true and accurate record of the meeting. The actions were picked up under respective agenda items, except for the following:

Vin Fleming reported with apologies that he had not been able to progress the action on Arctic biodiversity research issues due to other priorities (Action 2/1). It was agreed that this will be carried forward

ACTION 3/1: Vin Fleming to lead a working group to consider priority Arctic biodiversity research issues from a UK perspective. Working group to include David Stroud, JNCC, Tavis Potts, SAMS, Richard Mills, FCO, Stephen Dye, Cefas plus a modeller from the Hadley Centre and a representative from NERC.

Working group to consider what the risks to Arctic (and shared) biodiversity are, how to rank them, to identify what is important to the UK, how to collate what is currently being done and to identify any serious gaps and how we might achieve better cohesion or synergy with UK research. Working group to report back to GBSC in July 2009.

Agenda Item 4: EPBRs and IPBES (GECC GBSC (09)02)

Helen Baker noted that the Nairobi meeting⁴ of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) was well supported and that there is international support for this mechanism. Miles Parker noted that Bob Watson (Defra) is involved in the IPBES discussion and that the GBSC could invite him to speak on this at a future meeting.

During the lunch period Tony Miller, RBGE gave a brief presentation on novel approaches to recording biodiversity data, with examples drawn from Saudi Arabia.

Agenda Item 5: GECC Review

Miles Parker expressed thanks to Jo Thorpe, DECC, who joined the meeting for this agenda item. Jo noted that DECC had commissioned the review of GECC in late 2008, in parallel with the ERFF review of co-ordinating bodies in the UK. The GECC part is now finished and the ERFF review is almost complete. The work was done by the contractor Assimila. Comments on the GECC review have been invited from GECC members and the GECC subgroups. DECC will draft a short paper on the recommendations following the comments and circulate this prior to the main GECC meeting on 5 May 2009.

The main findings of the GECC review were that some of the subgroups, notably GBSC which was the most active, were considered to have good impacts horizontally. Lots of action was taken back to member's organisations and other peer groups. The problem lay with the vertical reporting line, in terms of communication and impact upwards beyond the main GECC. The reason for this was seen as threefold:

1. GECC's remit is too broad and lacking in focus. There are other co-ordinating bodies with similar remits.
2. Infrequency of the main GECC meeting
3. Lack of specific actions to Government's Chief Scientific Adviser (CSA) from main GECC, and CSA has no budget line and is not in a position to implement actions

⁴ <http://www.unep.org/gc/gc25/info-docs.asp> (scroll down to UNEP/GC.25/ INF/30)

There is no consensus on the best way forward, however the review outlines a number of different options.

The main points from the discussion were collated in a separate document and submitted to Jo Thorpe on 11 March for consideration in the DECC paper on recommendations to GECC. These were circulated to GBSC members for approval and can be found in Annex 1.

ACTION 5/1: Miles Parker to invite a representative from DECC to become a member of the GBSC.

Agenda Item 6: Defra ‘Review of International Biodiversity Evidence Needs’

Mark Stevenson, Defra, tabled a paper on the Defra review (GECC GBSC (09)06) which provided a summary of the findings in terms of strategic priorities and proposals for research. The review was undertaken by contactors in late 2008-early 2009 and has recently produced a final report. The aim of the review was to look at the evidence needs of Defra’s biodiversity programme and identify gaps picked up from groups including GBSC.

During the discussion Caroline Culshaw noted that three of the strategic priorities were also priorities for NERC and that there is a potential for duplication of effort. Chris Lyal noted that there is no level of taxonomy within the strategic priorities, and he agreed to follow up options for including this in the process directly with Mark Stevenson. It was noted that the paper lacked information on policy links and that this was considered important before the group could reach a decision on whether the priorities were complete and accurate. Ian Bainbridge noted that it was good to see the OTs highlighted as a priority since this area has historically fallen between departments and lacked vital funding.

Miles Parker noted that carbon markets and biodiversity could be considered as an emerging science issue and discussed in more depth at a future GBSC meeting. Mark Stevenson noted that he would be able to provide a relevant contact. The final report will be available on the Defra website shortly and members were invited to add further comments to Mark Stevenson (Mark.Steveson@defra.gsi.gov.uk).

Agenda item 7: Gaps and emerging science issues

Members were invited to introduce items for consideration as gaps or emerging science issues. Richard Berridge noted amphibian decline as a cause for concern. The decline was thought to be a result of habitat destruction and an increased spread of a fungal pathogen linked to climate change. The group considered whether there was a gap since there is already a substantial amount of work being done on this issue.

ACTION 7/1: Richard Berridge to prepare a paper on the decline of amphibians and links to climate change. Reference should be made to how GBSC can add value to existing endeavours. Paper to go to a future GBSC meeting.

Ian Bainbridge identified marine renewables (e.g. sub-sea turbines, and mechanisms for harvesting marine energy) as an issue for consideration. Specifically Ian noted the identification of environmental impacts and the sort of monitoring schedule that should be applied. Caroline Culshaw noted that under the NERC sustainable use of natural resources theme there is thinking about developing research proposals related to marine renewables. The group considered that this issue would be hard to quantify at a global scale since the impact would be local and immediate. However this issue could be broadened to other geo-

engineering schemes which could be considered at a global scale in terms of impacts on climate change, for example ocean seeding. Rachel Garthwaite referred to the current Royal Society report on geo-engineering which does not include impacts on biodiversity. It was suggested that GBSC consider this item following the conclusion of the RS report.

ACTION 7/2: Rachel Garthwaite to provide a summary of the RS report on geo-engineering to the GBSC for consideration at the November GBSC meeting. Reference should be made to any gaps and issues for the GBSC to progress.

Helen Baker identified nanotechnology as an issue for consideration. This was also mentioned in the 2008 GBSC annual report. The group supported the idea that the Secretariat develop the thinking on this issue further, and bring a paper a future GBSC meeting.

ACTION 7/3: Helen Baker to scope the issue of nanotechnology and develop the thinking on this into a paper for the GBSC to consider at a future meeting.

Rachel Garthwaite identified synthetic biology as an emerging issue, with a surge of interest especially around the climate change debate.

ACTION 7/4: Rachel Garthwaite to identify a representative to present the issues concerning synthetic biology in relation to global biodiversity to the GBSC for a future meeting. Timing of this to be discussed with the Secretariat.

Rachel also noted that she had recently attended a presentation from the Zoological Society of London on an information repository initiative that they are running called Bioclimate. The objective is to better inform the biodiversity community on all aspects of climate change. They currently have over 26,000 references to papers, reports etc in their database which is fully interactive. For more details see: <http://www.bioclimate.org/>. This could be a useful information source for the GBSC and it was agreed that an invitation could be sent to ZSL to present on this at a future GBSC meeting.

Agenda Item 8: Feedback from members on related actions within their organisations
UK BRAG report (GECC GBSC (09)03)

Helen Baker noted that the joint UK BRAG/BES event at the annual BES conference in September 2009 will be on valuing biodiversity and national ecosystem assessment.

OT Research priorities (GECC GBSC (09)04)

Further to the paper Vin Fleming provided an update on recent issues relating to the OTs within the JNCC. There will be a workshop on invasive alien species for the OTs at JNCC 18-19 June 2009. The recent IDMGB asked for a strategy on biodiversity conservation to include roles and responsibilities. This is something the JNCC will be working on. Also, the JNCC are in the process of commissioning a review of geodiversity in the OTs. Finally, the JNCC have a fundraising person identifying funds for OT research and assisting with applications. This is a one-year fixed term post funded by DfID.

Links with major biodiversity MEAs (GECC GBSC (09)05)

Elizabeth Moore provided an introduction to the paper on MEAs, and focused on the work the Secretariat had undertaken in developing relationships with leads from the key MEAs. The best progress has been with Ramsar and it was agreed that it would be useful to invite

key representatives from the Ramsar Convention and UK delegation to give a presentation to a future GBSC meeting.

Vin Fleming provided an update on the MEA feedback event which is being organised by the JNCC. The aim is to cascade what has happened at the recent major MEA meetings and work up key messages to take to all the conventions. The event will be organised around 5 key themes: invasive alien species and wildlife diseases; island issues (OTs and Crown Dependencies); energy and biodiversity; climate change; and ecosystem services. It will be held on Wednesday 20th May in central London. An invitation will be sent to all GBSC members.

Agenda Item 9: Diary/meeting dates and AOB

The next GBSC meeting will be held in early July. Members will be circulated with dates shortly.

ACTION 9/1: Secretariat to trawl for dates and venues for the July and November GBSC members. Secretariat to notify members of the dates as soon as possible.

Caroline Culshaw noted that Lloyd Peck, the NERC Biodiversity Theme Leader had left and they were in the process of appointing a new Leader. In the meantime they are seeking advice on the Biodiversity Theme from Dave Rafaelli, Georgina Mace and Mark Bailey. NERC are holding a number of theme community events⁵. These are open to anyone to attend and are a chance to test the concepts behind the research priorities in the thematic action plans.

Chris Lyal noted a forthcoming conference “eBiosphere” on informatics and provision of information to be held at the beginning of June in London.

ACTION 9/2: Chris Lyal to circulate a note to the GBSC with details about the conference eBiosphere.

Rachel Garthwaite noted that the European Academies Science Advisory Council had recently published a report on “Ecosystem services and biodiversity in Europe”⁶. Furthermore, the Royal Society will be hosting an Inter-academy panel general assembly event in January 2010 on biodiversity. Members were invited to send suggestions to Rachel on how to focus the event to feed into CBD discussions.

Miles Parker passed on congratulations to Andy Stott who has recently become Science Director at JNCC. GBSC wanted to pass on their thanks for Andy’s previous endeavours with the group and their hope that Andy will continue to remain involved in GBSC initiatives.

⁵ For more details of the NERC theme events see: <http://www.nerc.ac.uk/events/>

⁶ EASAC policy report 09 can be found at www.easac.eu

Annex 1***Global Environmental Change Committee (GECC) Review (2009): consultation response from the Global Biodiversity Sub-committee to the DECC report⁷*****The Global Biodiversity Sub-committee (GBSC) considered three questions at its meeting on 3 March 2009:****1 Was the review comprehensive? What was missing?**

GBSC views:

Overall, the review was considered to meet needs well, presenting clear options for the future of GECC and its sub-committees. However, a few weaknesses were highlighted:

- The review could have more comprehensively explored communication flow between subgroups, highlighting whether this has limited the success of GECC and how it could be improved under the various options.
- It would have been useful to have explored more fully the remits and success/influence of the proposed destination bodies in the distributed groups option and their match to the existing subgroups.
- GBSC recognises the added value of considering the policy relevance of its work and is working hard to improve this; this is not true of other related bodies. Potentially we could be losing the policy relevance and connections under some of the proposed options; this could have been explored further in the report.

2 What is the favoured option for the future of GECC and GBSC?

GBSC views:

- Hard to judge how efficient main GECC is and whether there is a need for it. There is little evidence of any direct influence and reporting routes may not have been sufficiently well developed in past to meet the needs of main GECC and its subgroups.
- Creation of DECC important in solving effective reporting routes; GBSC is more aligned to Defra remit, but main GECC and other subgroups more aligned to DECC.
- Members agreed that there was still a need for an overarching group looking at global climate change issues, which should address both mitigation and adaptation issues and the role of biodiversity.
- The policy-science role for GECC and its subgroups needs recognition and work programmes rebalanced to reflect the importance of this role.
- The value of GBSC work on foresights and horizon scanning was recognised as one of the more important work areas.

⁷ DECC (February 2009. V0.99) *Review of GECC*

- There was concern about the breadth of the remit if the GBSC was to be grouped with UK BRAG. UK BRAG has a clearer niche, governance and remit. Its focus is more on research whereas GBSC's remit is not as clearly defined but it does focus more on policy and horizon scanning issues.
- The group discussed whether ERFF could be the group to deliver GBSC functions. It has an international function, although this is not well developed, and a mixture of subgroups, some quite narrow in their focus e.g. ERFF Observation and others quite broad, e.g. research co-ordination. GECC has a wider membership which goes beyond Government and its agencies in a more consultative manner; this is an important and valued difference. It was agreed that GBSC should improve its communication with ERFF subgroups and LWEC.
- GBSC members find the GBSC a useful group which does add value and has good outputs back to its own member's organisations. GBSC has thrown up wider issues and played on wider stages, e.g. Royal Society climate change and biodiversity workshop.
- There are 4-5 Whitehall departments that the GBSC should be looking to influence. The question is how to reach them all? GBSC could provide an annual summary report targeted towards each of the departments, however this needs ownership from CSA.

3 How should GBSC respond?

GBSC recommendations to DECC on the 2009 GECC review:

- GECC should be retained and enhanced, with an improved science-policy remit, clear reporting routes in both directions and better coordination between its subgroups. Reporting routes to SoS level is not the preferred option, but should be retained at the CSA level.
- GBSC should be retained as a subgroup to an enhanced GECC, with revised remit that is fully complementary to that of an enhanced GECC and with the same level of Secretariat support as currently provided. The Secretariat should be provided by an organisation that understands the aims of the group.
- If main GECC is dissolved and its functions distributed, then GBSC wishes to continue its activities as an independent body and will enhance its remit and membership to facilitate coordination across all relevant government departments.