

Global Biodiversity Sub-Committee (GBSC)

Annual Report

**Report of the Global Biodiversity Sub-Committee (GBSC)
to the Annual Meeting of the UK Global Environmental Change
Committee (UK GECC)**

2007 - 2008

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5th May 2009

Chairman's Report

Prepared by the GBSC Secretariat on behalf of the GBSC members
For the period November 2007 – December 2008

Helen Baker & Elizabeth Moore
(JNCC)

Remit of the GBSC

The remit of the GBSC is to inform UK science strategy relating to global biodiversity and sustainable use. The focus of the sub-committee is on the science underlying the key global issues. The focus of discussions held on agenda items are on the implications for research strategy and views of members are sought on all substantive items.

Meetings and attendance

The GBSC has now met on thirteen occasions, with three full meetings since the last report (7 November 2007, 1 April 2008, 1 September 2008). In addition, the GBSC sub-group working on the revised GBSC Terms of Reference and Work Plan following the Review of the GBSC met on 19 December 2007.

GBSC meetings are Chaired by Miles Parker (Defra), facilitated by the Secretariat of Elizabeth Moore and Helen Baker (JNCC). Attendance has been improving over the past year, and there has been some revision of the membership (see Appendix 1 for membership list as at 1st September 2008). The format for GBSC meetings was revised, following the Review. Standing items on the agenda include:

- Informing MEAs
- Gaps and emerging science issues
- Capacity/capability
- Dissemination of GBSC science
- Feedback from members on related actions within their organisations

Thematic reports and substantive issues

In the past 12 months, the GBSC has addressed a number of broad topics in detail:

1. Review of the GBSC
2. Biodiversity research priorities in the UK Overseas Territories
3. Informing and being informed by Multilateral Environmental Agreements (MEAs)
4. Arctic Biodiversity research
5. House of Lords Science & Technology Committee Systematics and Taxonomy inquiry
6. Global Biodiversity Information Facility
7. Role of Earth Observations in biodiversity assessment and monitoring
8. Notification of new and emerging issues to CBD Secretariat

1. Review of the GBSC

The GBSC undertook a review in June 2007 in order to ascertain stakeholders' perceptions and to ensure the Sub-Committee is meeting its objectives. The results were presented to the GECC as an Annex to the GBSC annual report in October 2007.

The Sub-Committee assessed the implications of the Review at the November 2007 meeting and formed a sub-group to review the Terms of Reference (ToR) and prepare a detailed Work Plan. The revised ToR (see Appendix 2) focuses on 4 areas:

- i. Identification of new and emerging science

- ii. National capacity and capability
- iii. Priorities for UK and EU science
- iv. Elevate issues as necessary to GECC and GCSA

A rolling programme of work was drawn up, informed in part by the agendas of the key biodiversity conventions and MEAs. It was also designed to have flexibility to undertake horizon scanning activities and operate in a responsive mode to emerging priorities as and when these arise (see Appendix 3).

2. Biodiversity research priorities in the UK Overseas Territories

Following the paper on the UK Overseas Territories (OTs) biodiversity research needs which was presented to the GBSC in November 2007, work continued on progressing some of the needs. The British Ecological Society asked their members for expressions of interest to work with the OTs on their research needs. The GBSC Secretariat matched a number of academics against specific research priorities and has followed up the concept of a broad training and research programme with the University of Reading. The programme aims to provide:

- Training and skills development for individuals from the UKOTs to enhance research capacity within the UKOTs
- Access to UK-based research and advisory expertise to develop new conservation projects in the UKOTs
- A web-based gateway, and other activities, to enhance knowledge exchange between the UKOTs
- Collaborative tertiary education opportunities in the UKOTs or regionally

The JNCC will be making a contribution of £66,000 which will go towards starting the training and skills development component and the first undergraduate studentship will commence in September 2009. A NERC knowledge exchange grant has been applied for to fund the other parts of the programme.

3. Informing and being informed by MEAs

Since the GBSC workplan is structured around the key biodiversity MEAs it is important that the group is able to respond to their needs and inform them. The Secretariat produced a paper for the September GBSC meeting identifying some of the common themes of the main biodiversity MEAs, and suggesting a process for improved engagement with the Conventions and their scientific bodies.

In essence, the GBSC Secretariat will start to build a relationship with the head of delegation or Government department lead on forthcoming MEA meetings in order to raise awareness about the GBSC and request feedback on the key global biodiversity issues from the meeting. Once feedback is received, the Secretariat will circulate a note to the GBSC, highlighting issues for consideration at a subsequent GBSC meeting. In this way, the GBSC should be able to consider scientific questions emerging from a range of biodiversity MEAs and feed back at the subsequent MEA meeting. The GBSC should also be aiming to provide policy relevant research to help the UK delegation form a position and respond to questions at MEA gatherings.

4. Arctic Biodiversity Research

Arctic biodiversity research was identified as a new and emerging issue at the April 2008 GBSC meeting. Subsequently the GBSC Secretariat invited Dr Tavis Potts, Centre for Coastal and Ocean Governance at the Scottish Association for Marine Sciences and Richard Mills, Arctic and Antarctic Policy Adviser, Foreign and Commonwealth Office to provide presentations at the September 2008 GBSC meeting.

A large number of risks were identified, including changes to the politics of the Arctic region, human economic development and as a result of climate change. These changes all have ramifications for biodiversity. What is needed is a way of ranking and prioritising the risks, and identifying which ones the UK should focus on. A sub-group was formed to consider priority issues from a UK perspective. The sub-group will consider the risks to the Arctic (and shared) biodiversity, how to collate what is currently being done, how to achieve better cohesion or synergy with UK research and identify any serious gaps.

Discussion also highlighted the issue of gaps in the modelling. Lots of additional factors need to be brought into the models, for example permafrost melt and increasing levels of sedimentation. It is also likely that estimates of how quickly the ice is retreating are too conservative. These issues are beyond the remit of the GBSC and need to be raised to the main GECC.

5. House of Lords Science & Technology Committee Systematics and Taxonomy inquiry

The GBSC Secretariat submitted a paper to the House of Lords (HoL) Science and Technology Committee in February 2008, in response to their Systematics and Taxonomy inquiry. This paper was a joint submission from the GBSC and the UK Biodiversity Research Advisory Group (BRAG) which has a shared Secretariat. A number of GBSC and UK BRAG members were invited to participate in the inquiry in person. Both groups consequentially were able to provide quite an effective input to the inquiry since the lines of questions that came to the Defra Minister were informed by points raised in the paper.

The report from the HoL inquiry classified the lead on this issue as being the Department for Innovation, Universities and Skills, hence they will lead on the process of providing a response to the report. GBSC will pick up this issue again following the report response, recognising the role of the UK BRAG in the process.

6. Global Biodiversity Information Facility

Dr Nick King, Executive Director of the Global Biodiversity Information Facility (GBIF) gave a presentation to the April 2008 GBSC meeting on this government sponsored initiative. GBIF aims to play a catalytic role in the global biodiversity arena. The initiative started in 2002, following various drivers including the findings from the Millennium Ecosystem Assessment regarding biodiversity loss, and recommendations from the MA and Convention on Biological Diversity to mobilize knowledge about biodiversity and ensure there is free and open access to it. GBIF is a multi country initiative promoting global participation in order to make the world's biodiversity data freely and universally available via the internet.

In order to make more effective analyses of the data within GBIF the growth rate for organisations contributing data needs to increase exponentially. The GBSC agreed that the GBIF target to ramp up the number of records being added was a good idea, however there should also be a focus on GBIF's potential uses. If more organisations are interested in using the resource then it is likely to follow that more data will be made available. A sub-group was formed to consider the role of the UK as a data provider to GBIF and to consider where the GBIF is a data provider for the UK in specific project areas.

7. Role of Earth Observations in biodiversity assessment and monitoring

Dr Arwyn Davies, Director of Earth Observations, NERC and Andy Shaw, Science and Innovation Manager, NERC gave a presentation on the role of earth observations in the assessment and monitoring of biodiversity to the April 2008 GBSC meeting.

The Group on Earth Observations (GEO) is a voluntary partnership coordinating efforts to build a Global Earth Observations System of Systems (GEOSS). The 2002 World Summit on Sustainable Development called for international collaboration to exploit the growing potential of earth observations. The GEO was launched in 2005 and includes both ground based and space observations.

Since its launch the GEO has had a large impact globally, raising the profile of earth observations. It now faces challenges working with different organisations in different countries providing free and open access to data. The observations need to be supplemented, improved and sustained, modelling and prediction capabilities need improving and expanding, and there needs to be a renewed commitment for capacity building and understanding user needs.

A sub-group will take forward the discussion concerning earth observations, including the potential of monitoring and earth observations in biodiversity conservation.

8. Paper to CBD Secretariat on new and emerging issues

Part of the GBSC's remit is to consider gaps and emerging science issues relating to global biodiversity. The GBSC identified an opportunity to notify the Secretariat of the Convention on Biological Diversity (CBD) about 'new and emerging issues' for consideration on their agenda. These issues need to be "new" to the CBD and must relate to the conservation and sustainable use of biodiversity.

A paper was submitted to the CBD Secretariat in December 2008 including the following issues:

- Ocean acidification
- Arctic biodiversity research
- Ground level ozone

Key decisions from the thematic reports and substantive issues

- Improve intelligence gathering on the emerging research needs from major MEA meetings, rationalising these into a stream of activity for future consideration by the group
- Progress risk assessment for threats to Arctic biodiversity in light of developing climate change impacts; sub-group established to develop GBSC role

Communication

All reports of GBSC activity, including thematic reports, are available on the GECC website (http://www.ukgecc.org/index.php?option=com_remository&Itemid=59).

Future discussion items

The GBSC has identified a number of issues for consideration at future meetings, including:

- Ground level ozone impacts on biodiversity
- Nanotechnology and its effects on biodiversity
- Global amphibian declines – the scale of the problem, why this is a cause for concern and what can be done

APPENDIX 1: GECC GBSC MEMBERSHIP as at 1st September 2008

Ian Bainbridge, Scottish Executive
Chris Baker,¹ NERC
Helen Baker,² JNCC (Secretariat)
Eric Blencowe,³ Defra
Shaun Earl, FCO
Vin Fleming,⁴ JNCC
Rachel Garthwaite,⁵ Royal Society
Mary Gibby, Royal Botanic Garden Edinburgh
Simon Jennings,⁶ CEFAS
Izabella Koziell,⁷ DfID
Chris Lyal, Natural History Museum
Elizabeth Moore, JNCC (Secretariat)
Jo Myers,⁸ Defra
Sarah Nelson,⁹ Defra
Eimear Nic Lughadha, Royal Botanic Garden Kew
Miles Parker, Defra (Chair)
Lloyd Peck,¹⁰ BAS
Amanda Read,¹¹ BBSRC
Dilys Roe,¹² DfID
Paul Rouse,¹³ ESRC
Andy Stott, Defra

Corresponding members:

Michael Dunn,¹⁴ NAW
Tracey Elliott, World Team, OST International
Martin Brasher, Defra

¹ Replacing Pamela Kempton, who served as a member between 2004-2007

² Replacing Richard Ferris, who provided Secretariat between 2004-2007

³ Replacing Glenys Parry, who served as a member between 2004-2007

⁴ Replacing Marcus Yeo, who served as a member between 2006-2007 (Paul Rose and Wyn Jones attended on behalf of JNCC, 2004-2006)

⁵ Replacing Geoff Boxshall, who represented both the Royal Society and the Natural History Museum, 2004-2005

⁶ Replacing Nick Dulvy, who served as a member between 2004-2007

⁷ Replacing Simon Anderson, who served as a member between 2004-2006

⁸ Replacing Andrea Leedale who served as a member between 2006-2007 (Paul Leonard served as a member 2004-2007)

⁹ Replacing Madeleine Garlick, who served as a member between 2004-2006

¹⁰ New member invited to join in September 2008

¹¹ Replacing Clare Rushowski, who served as a member between 2004-2005 (Vicky Jackson attended on behalf of BBSRC, 2005-2006)

¹² Re-joining the GBSC and sharing DfID membership with Izabella Koziell

¹³ Covering Gary Grubb's period of secondment (2008)

¹⁴ Replacing Gareth Jones, who served as a corresponding member between 2004-2007

Appendix 2: GECC GBSC Terms of Reference

Overall Aim

The GBSC brings together the key governmental and other major funders of biodiversity research in the UK, to ensure that there is an evidence base and scientific capacity which is fit for purpose to support [development of] Government policy on global biodiversity change, and that the needs of policy inform the work undertaken to develop the science base.

In order to meet this challenge, GBSC will:

1. Identify and keep under review, gaps in scientific understanding and emerging scientific questions concerning global biodiversity, evaluate their significance, and propose options for addressing them;
2. review the effectiveness of the national capacity, capability and performance in this area, and recommend improvements where needed;
3. make recommendations on strategic priorities for UK and EU science; and
4. where actions cannot be taken because of an absence of a clear departmental or RC lead, to elevate issues to GECC and if need be to GCSA (via CSAC).

The structure of the world's ecosystems changed more rapidly in the second half of the twentieth century than at any time in recorded human history, and virtually all of Earth's ecosystems have now been significantly transformed through human actions. (Source: Millennium Ecosystem Assessment, Ecosystems and human well-being Biodiversity Synthesis Key Messages).

Biodiversity benefits people through more than just its contribution to material welfare and livelihoods. Biodiversity contributes to security, resiliency, social relations, health and freedom of choices and actions. (Source: Millennium Ecosystem Assessment, Ecosystems and human well-being Biodiversity Synthesis Key Messages).

The GBSC is committed to recognizing the links between biodiversity and human well-being.

The GBSC will use a number of performance measures, including:

- raising the profile of key science issues
- access to and use of GBSC science reports (e.g. as measured by website hits)

Appendix 3: GECC GBSC Rolling Workplan 2008-2010

Preamble

The Review of the GBSC made a number of suggestions relating to the need for a workplan. Among these was the suggestion of an annual workplan, revised following the main GECC meeting in October of each year; to run between November-October. In order to provide some focus the workplan should be informed, at least in part, by the agendas of the key conventions and MEAs. However, it also needs to have the flexibility to undertake Horizon Scanning activities and operate in a responsive mode to emerging priorities, as and when these arise.

The need for the GBSC to feed ideas through to the main GECC remains a core part of the group's work. This will be achieved through targeting the Annual Meeting in October and through the development of closer links to the main GECC Secretariat. Although reports are submitted between the GBSC and UK BRAG, both have recognised the benefits from establishing joint working groups to address issues of shared concern.

With the proposal that the GBSC should reduce the frequency of meetings down to three per annum (January, April, September), more inter-sessional work needs to be undertaken by both the Secretariat and GBSC member organisations. This will require a new level of engagement and collaborative working than has been the case in the past.

Hence, the workplan needs to be structured around a number of key components:

- Core work (reporting to main GECC and liaison with ESYS Secretariat; reporting to UK BRAG and vice versa, and including joint working groups);
- Conventions and MEAs (informing and responding to their needs)
- Horizon Scanning activities / responsive mode activities (dealing with emerging issues)

NOTE: The key Conventions and MEAs are likely to include the following:

- CBD SBSTTA
- Bonn Convention
- CITES
- Ramsar Convention
- World Heritage Convention
- Bern Convention
- OSPAR
- UNFCCC
- UNCCD

The Annual Workplan will be developed by the GBSC Secretariat, in consultation with a sub-group of GBSC members (tbc), and will be presented to the main GECC in October of each year. All GBSC members will be given the opportunity to comment on the workplan, between the April and September meetings, and it will be approved at the September meeting of the group.

Through a shared Secretariat, links between the GBSC and UK BRAG will be developed; and the group will take opportunities to strengthen relationships with other sub-committees of the UK GECC (particularly the Research Sub-Group, with which GBSC shares members).

Rolling Workplan for 2008-2010

Month/Year	Task/Action	Customer/Target
January 2008	Andy Stott to advise on priorities from SBSTTA agenda: (1) in-depth review of the implementation of the programme of work on agricultural biodiversity; (2) in-depth review of the expanded programme of work on forest biological diversity; (3) marine and coastal biological diversity – options for preventing and mitigating the impacts of some activities to selected seabed habitats, and ecological criteria and biogeographic classification systems for marine areas in need of protection; (4) biological diversity of inland water ecosystems – recent developments on Ramsar site designation criteria, streamlining of the work of, and harmonisation of national reporting frameworks between, the CBD and the Ramsar Convention; (5) Alien Species That Threaten Ecosystems, Habitats or Species – international standards; (6) Biodiversity and Climate Change - options for mutually supportive activities for the secretariats of the Rio conventions, and options for parties and relevant organisations; (7) New and Emerging Issues Relating to the Conservation and Sustainable Use of Biodiversity - <i>modus operandi</i> for addressing new and emerging issues	<ul style="list-style-type: none"> • CBD COP 8 Bureau Meeting, Montreal, 20 January 2008 • UNFCCC Sixth Meeting of the Open-ended Working Group on Access and Benefit Sharing (WGABS-6), 21-25 January 2008 • Joint GECC GER-GBSC meeting, to discuss biodiversity research gaps (TBC) • Ramsar Scientific and Technical Review Panel meeting, Gland, Switzerland 28 Jan – 1 February
February		<ul style="list-style-type: none"> • AEWA technical committee, Bonn, Germany 9-12 February • CBD protected areas <i>ad hoc</i> group, Rome, Italy 11-15 February • 13th SBSTTA meeting 18-22 February, FAO Rome • RAMSAR Standing Committee meeting 25-29 Feb 2008 <i>Consideration of draft Strategic Plan 2009-2014</i> • OSPAR Biodiversity Committee, 25-29 February 2008, The Hague (submission of papers by 4 February 2008) • CAFF Cbird meeting, Nuuk, Greenland 27 Feb – 1 March
March		
April	Issues for agenda: <ul style="list-style-type: none"> • Sign off revised ToR and annual workplan • OT research priorities second paper & discussion • Earth Observations, invite Paul Mason and Andy Shaw for discussion of GEOSS • ESPA – feedback from DfID • Communication strategy – raising profile of 	<ul style="list-style-type: none"> • GBSC Meeting 1 April • CITES Animals/Plants Committee 15-19 April 2008 (Noel McGough, RBG Kew) • CITES Animals Committee 19-24 April 2008 (Vin Fleming,

	<p>GBSC and promoting outcomes to wider field</p> <ul style="list-style-type: none"> Emerging issues 	<p>JNCC)</p> <ul style="list-style-type: none"> 6th Ramsar European Regional Meeting, Stockholm, Sweden 3 – 9 May
May	<p>Agenda items for COP9 to include: Agricultural biological diversity, Global strategy for plant conservation, Alien invasive species, Forest biodiversity, Ecosystem approach, Biodiversity of inland waters, Marine and coastal areas, Protected areas, Monitoring, assessment and indicators, Biodiversity and dry and sub-humid lands, Biodiversity and climate change, Island biodiversity, Global Taxonomy Initiative</p>	<ul style="list-style-type: none"> CBD COP9 19-30 May OSPAR Heads of Delegation, 13-14 May 2008, London (submission of papers by 21 April 2008) International Day for Biological Diversity 'Agriculture & Biodiversity', 22 May (multiple venues)
June		<ul style="list-style-type: none"> UK BRAG meeting 37th Ramsar Standing Committee meeting, Gland, Switzerland 2-6 June OSPAR Commission, 23-27 June 2008, Paris (submission of papers by 2 June 2008)
July		<ul style="list-style-type: none"> World Heritage Convention Committee 2-10 July 2008 CITES 57th Standing Committee, Geneva, Switzerland 14-18 July
August		
September	<p>Issues for agenda: Arctic biodiversity research, NERC biodiversity thematic action plan, MEAs</p>	<ul style="list-style-type: none"> BES Annual Conference, including Special session on "Ecosystem Services" (organised by UK BRAG) GBSC Meeting African-Eurasian Waterbird Agreement (AEWA) MoP4 7-11 September
October		<ul style="list-style-type: none"> IUCN WCC, Barcelona Spain, 5-14 October CMS initiative to develop an agreement on African-Eurasian Migratory Raptors 20-22 October Ramsar COP10, 28 October – 4 November
November		
December		<ul style="list-style-type: none"> CMS COP, 1-5

		<ul style="list-style-type: none"> December • United Nations Framework Convention on Climate Change CoP14 1-12 December • Submission of GBSC Annual report to Main UK GECC
January 2009		<ul style="list-style-type: none"> • CBD ABS – expert group on compliance 27-30 Jan
February		CITES Biodiversity Index Experts 2-3 Feb
March	Issues for agenda: Ground level ozone impacts	<ul style="list-style-type: none"> • GBSC Meeting 3 Mar • Annual GECC meeting 6 Mar <p>2nd meeting of the Ad Hoc Technical Expert Group in Biodiversity and Climate Change (Adaptation) 30 Mar – 3 Apr</p> <p>Meeting on guidelines on the CBD plan of action on CITES and biodiversity 30-31 Mar</p> <p>Meeting of CITES Plants Committee 17-21 March</p>
April		Meeting of CITES Animal Committee 20-24 April
May		MEA thematic workshop hosted by JNCC
June		
July	Issues for agenda: Nanotechnology?	<ul style="list-style-type: none"> • GBSC Meeting
August		
September		Submission of GBSC Annual report to Main UK GECC
October		Main GECC Annual Meeting
November	Issues for agenda:	<ul style="list-style-type: none"> • GBSC Meeting
December		
January 2010		15 th CITES CoP 16-28 Jan Doha, Qatar
February		
March	Issues for agenda:	<ul style="list-style-type: none"> • GBSC Meeting
April		
May		
June		
July	Issues for agenda:	<ul style="list-style-type: none"> • GBSC Meeting
August		
September		Submission of GBSC Annual report to Main UK GECC
October		10 th CBD CoP 18-29 Oct, Nagoya, Japan

		Main GECC Annual Meeting
November	Issues for agenda:	<ul style="list-style-type: none">• GBSC Meeting
December		