

Global Biodiversity Sub-Committee (GBSC)

Meeting papers

GECC Sub-Committee Minutes

16 May 2006

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**GECC SUB-COMMITTEE ON GLOBAL BIODIVERSITY ISSUES
MINUTES: 16 MAY 2006**

Attendees:

Simon Anderson, DfID
Gerry Lawson, NERC
Mary Gibby, RBGE
Marcus Yeo, JNCC
Richard Berridge, Defra
Andy Stott, Defra
Chris Lyall, NHM (on behalf of Quentin Wheeler)
Richard Ferris, JNCC (Secretariat)
Elizabeth Moore, JNCC (Secretariat)
Miles Parker, Defra (Chair)
Glenys Parry, Defra
Sarah Moon, Defra
Alan Paton, RBGK
Ian Bainbridge, SE
Vicky Jackson, BBSRC
Shaun Earl, FCO
Gary Grubb, ESRC

Guests:

Sean Murphy, CABI
Paul Wilkinson, London School of Hygiene and Tropical Medicine

Agenda Item 1: Introductions and Apologies

Apologies were received from Eric Blencowe (Defra), Pamela Kempton (NERC), Eimear Nic Lughadha (RBG Kew), Paul Leonard (Defra) and Nick Dulvy (CEFAS).

Agenda Item 2: Work programme (GECC GBSC (06)07)

The Secretariat gave a brief presentation on the work programme as an introduction to the discussion of this item. Under ToR 1, reference was made to the GBSC Conventions paper (GECC GBSC (05)10) and links with the RINCIS source of nature conservation information. Under ToR 2 and 3 the Secretariat referred to the main themes the GBSC has been addressing, what the links were between the themes and whether the group is striking the right balance between being responsive and proactive.

Discussion identified significant gaps in the Conventions paper, primarily the science programmes and science gaps sections. However, a systematic analysis of the science undertaken to support each of the conventions would be a big task, and complex since there is not a one-to-one relationship between conventions and science programmes and projects.. Furthermore, we need to ensure we are adding value.

Reference was made to the House of Lords report¹, on science in relation to conventions, and it was suggested the recommendations be revisited. Text boxes could be added showing good practice of research in response to strategy and policy needs, for example the Darwin Initiative.

It was suggested that the group needs to look at issues coming up in the international agenda over the next two years and focus its work on these. However, the GBSC also needs to remain open to new issues. The CBD CoP8 was used as an example where the GBSC could consider areas which have had significant development, e.g. island biodiversity. Topics reviewed at meetings should be concluded allowing the Group to move on to other topics.

It was agreed that the basic information in the Conventions paper is useful in terms of identifying the programme leads in support of the conventions. For some conventions it may not be practical to define the science programmes since there are too many and too complex. However for other conventions it would add value to include the programmes and science gaps, for example OSPAR. It was suggested that the ERFF databases may be able to provide a lot of basic information on activities already taking place, and the Convention Secretariats may have already undertaken a needs analysis to identify the science gaps.

It was suggested that a smaller working group take a look at the Conventions paper and decide how to take this forward.

ACTION POINT 2/1: GP to coordinate working group considering how to proceed with the Conventions paper. Working group to include MY, AS and IB and to report back to the August GBSC meeting with one worked up example of the recommended approach.

It was noted that the discussion had largely reviewed progress against ToR 1, 2 and 3. The GBSC agreed to review ToR 4 and 5 at the August meeting and the remaining ToR in November.

Agenda Item 3: Invasive species

Sean Murphy, coordinator of Invasive Species Initiatives at CABI Bioscience, gave a presentation on invasive alien species (IAS) and threats to global biodiversity. The IAS issue is characterised by a lack of data and there are still problems with the basic terminology which has implications for policymakers to understand.

The scale of this global problem, which is a major factor driving biodiversity loss, is new. The sectors affected are diverse, including agriculture, trade, environment and biodiversity, and fisheries. Countries have identified 3 levels of impact: on native species; at the ecosystem level; and on genetic diversity. Quantitative studies are rare but there are many qualitative observations. Some countries have associated an economic value on the loss, for example \$27.9

¹ *How the scientific content of international agreements might be improved, clarified and promoted*, for more details see <http://www.parliament.the-stationery-office.co.uk/pa/ld200304/ldselect/ldsctech/110/11002.htm>

billion cost to US agriculture per annum. However, the economic costs for biodiversity are not known.

Invasive plant ranges can be very large covering agricultural and natural land systems and rates of spread can be very high. By implication, the negative impacts to biodiversity could be very large but not all impacts will be negative. The impacts of climate change as a driver of IAS are not well known.

The Secretariat for the Global Invasive Species Programme (GISP) ran a series of IAS workshops which brought together ministers across countries with the aim of identifying common issues. This produced a series of regional and national assessments, and a summary paper. Many countries do not know what IAS they have or how to measure what is there. There is a need for economic, ecological and sociological assessments including information on pathways and vectors.

The following research themes were identified:

1. Species audits and methodology – how to measure and monitor for IAS, especially for developing countries
2. Economic costs – studies on impacts on ecosystem services
3. Assessment of pathways and vectors and develop codes of practice for industry.
4. Ecology and the impact of environmental change – assess risks of 'sleeper species', predictive models, elevated CO₂, changing temperature and rainfall.
5. Risk assessment – development and testing of a general scheme
6. Management e.g. biological control

The question was raised as to whether there were links between the research communities for IAS and climate change. Some work has been done in the UK culminating in a report through English Nature. Furthermore, DfID are putting forward an initiative to the GEF to consider this issue in more detail.

The question of what science can do about the impacts of IAS was raised. A more rational approach to looking at pathways would be advisable, and the need for quantitative research was highlighted. The approach through best practice needs to be scientifically underpinned. Also, risk assessment and monitoring need to be supported, assessed by practitioners and made more accessible to other countries.

CSL led a UK consortium on IAS risk assessment for species and pathways. This work will be trialled and peer reviewed to assess its effectiveness. The tool then needs to be adopted at policy level. Reference was made to the UK BRAG sub-group on non-native species which produced a research review on the science priorities for IAS.

The question of how to prioritise the research needs was raised and it was suggested that the Millennium Ecosystem Assessment (MA) could provide a route into this since it has already suggested that island ecosystems are

especially vulnerable to IAS and yet they can also benefit from control and eradication measures.

There was a discussion around biological control. A suite of methods exist but there are concerns about the introduction of a non-native species to control a non-native species. This area would benefit from major investment and risk assessment also applies to this issue.

It was concluded that work is still needed on the generic aspects, such as the economic costs of pathway vectors, as well the social and welfare aspects of IAS. However, as a potential starting point the GBSC could consider the research priorities identified by the BRAG sub-group on non-native species.

ACTION POINT 3/1: RF, MY and IB to evaluate the comparative importance of IAS issues and produce a paper for the August GBSC meeting to guide funding decisions and priorities.

Agenda Item 4: Infectious diseases

Paul Wilkinson, organiser of the Epidemiology Study Unit, London School of Hygiene and Tropical Medicine, gave a presentation on infectious diseases. Reference was made to the recent Foresight report, *Infectious Diseases: Preparing for the future*.

It was noted that epidemiology is an imprecise science. The affects of climate on epidemiology are rarely studied, although some lessons can be learnt from the past, for example the increase in temperature 10,000 years ago which led to adaptations.

There are many theoretical studies on connections between biodiversity, disease and climate change, but few quantitative studies. There are also many confounding factors, “effect modifiers”, which impinge on climate change and health, for example socio-economic factors such as age and health as well as the water source used. There is a need for greater integration of different research sectors because single approaches can generate very misleading scenarios.

Discussion identified research priorities for audit/inventory and risk assessment. Also, early warning systems through modelling and rapid diagnosis would be important. Although climate change is an important factor, the impact of human population movement and trade in plants and animals are key to the spread of infectious diseases.

Agenda Item 5: Minutes of the last meeting (GECC GBSC M(06)03)

Following two minor amendments to the attendance list, the minutes were taken as a true and accurate record of the last meeting.

Agenda Item 6: Actions and matters arising (GECC GBSC MA(06)04)

The Secretariat provided a brief update on the outstanding action points. Action 2/2 and 2/3, relating to the Millennium Ecosystem Assessment (MA) will be completed shortly. The report from the MA workshop will be posted

onto the GECC website in early June and members will be asked to populate the recommendations table with information about their organisation's activities. Action 2/4 has been awaiting the outcome from these actions and will be carried forward to report to the August GBSC meeting. Miles Parker noted that the information from the MA workshop has been used in preparation for CSR07, in particular the ecosystem services theme.

ACTION 6/1: GP to coordinate small working group, to include DfID, NERC and JNCC to discuss respective research priorities. This will report back to the GBSC at the next meeting in August.

Action 2/5, relating to the Stern Review, is still in progress and will be carried forward to the August meeting.

ACTION 6/2: MP and **SA** to discuss the Stern Review.

Action 3/1, relating to the climate change event, is ongoing. The working group, consisting of Richard Betts, Hadley Centre, Rachel Garthwaite, Royal Society, Richard Ferris and Elizabeth Moore, JNCC, met on 28 April for an initial discussion. It was agreed that the group should be extended to include a representative from Defra's Global Atmosphere Division as well as Glenys Parry's team. Invitations have been extended to colleagues in Defra to attend a working group meeting. The aim of this meeting will be to produce a project proposal outlining in detail the climate change event. This will be presented to the August GBSC meeting.

ACTION 6/3: Secretariat to coordinate a working group to discuss a possible brainstorming event with the aim of improving understanding of the biodiversity-climate change linkages. Working group to include Hadley Centre, NERC and the Royal Society.

Chris Lyal, NHM, provided a brief update on Action 6/1 relating to the Global Taxonomy Initiative. Papers were circulated immediately prior to the meeting. Chris referred to the Government's commitments in response to the House of Lords report on systematics².

Vicky Jackson provided an update on the BBSRC Systematics Working Group which met in December 2005 and made 4 recommendations: These recommendations have been approved by the BBSRC EGM.

1. To hold an event on latest BBSRC (and NERC) funded research relating to systematics/taxonomy
2. Produce guidelines for preparing systematics research proposals
3. Create a mechanism to fund visits and develop links between labs / groups for the development of systematics research proposals

² *WHAT ON EARTH. The Threat to Science underpinning conservation.* For more details see: <http://www.publications.parliament.uk/pa/ld200102/ldselect/ldsctech/118/11801.htm>

4. Consider whether systematics should form part of the schools-related public information material

Agenda Item 7: Ocean Acidification research priorities (GECC GBSC (06)05)

The Secretariat introduced the paper on this agenda item, which had been drawn up as a summary of research priorities following the presentation on this issue at the last GBSC meeting.

It was agreed that the priorities need to be ranked in order to take them forward. A working group was proposed to finalise a short paper, ranking the research priorities and proposing how to progress the work. The group would include NERC, Cefas, Defra and FRS or SAMS.

ACTION POINT 7/1: Secretariat to facilitate working group to prepare short paper on ranked research priorities for ocean acidification, with proposal for progressing this issue.

The link was made to the Inter Agency Committee on Marine Science and Technology (IACMST), and it was suggested that the paper should be cross-referenced to the IACMST Secretariat.

Agenda Item 8: Update and review of emerging scientific questions concerning global biodiversity

The Secretariat noted a recent paper in Conservation Biology, *Global Warming and Extinctions of Endemic Species from Biodiversity Hotspots*, Malcom et. al. Vol 20, No. 2, pp 538-548.

For general information, reference was made to the Third International Conference on The Role of Permafrost Ecosystems in Global Climate Change, being held August 28-30 in Yakutsk, Russia.

Gerry Lawson provided an update on the BiodivERsA workshop in Vienna which looked at biodiversity research programmes in developing countries. A web-searchable European database of biodiversity programmes will be available within the next few months. For more information see <http://www.eurobiodiversa.org/index2.php?artikel=57>

Andy Stott mentioned the recent BiodivERsA workshop in Porto which aimed to define the contents of a common call for research, drawing on the existing priorities of Diversitas and EPBRS. These priorities include rapid species identification, ecosystem/biodiversity services and functions, and scientific assessment of policies. These topics still need to be finalised and it should be possible to provide an update at the next GBSC meeting.

ACTION 8/1: AS & RF to consider providing short presentation to August GBSC meeting or inviting representative from BiodivERsA to attend.

Andy Stott provided an update on the consultative process towards an International Mechanism on Scientific Expertise on Biodiversity (IMoSEB).

This came out of the French hosted biodiversity conference, held in 2005. The IMoSEB Steering Committee met in February 2006 and agreed a two step process . Firstly, studies would map the landscape, review existing practice and how it meets needs. This is now ongoing. The second step would be a wider consultation with recommendations from the first step. This will take place January – April 2007. The Steering Committee will meet in November 2006 to review the outcome from the first step. The final conclusions will be discussed in June 2007.

Miles Parker provided an update on a Defra research report due to be completed shortly on the impacts of EU and UK consumption on international biodiversity.

ACTION 8/2: MP to circulate Sustainable Consumption and Production report to GBSC members.

Agenda Item 9: Diary / meeting dates

The next meeting will be held on Wednesday 23 August at Central Science Laboratories in York. The subsequent meeting will be held on either 1 or 2 November at the Royal Botanic Gardens, Kew.

ACTION 9/1: Secretariat to establish availability of meeting room for November meeting with RBG Kew and confirm date with GBSC members.

Agenda Item 10: AOB

None