The UN Millennium Ecosystem Assessment

First Report of Session 2006–07

Report, together with formal minutes, oral and written evidence

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The Environmental Audit Committee

The Environmental Audit Committee is appointed by the House of Commons to consider to what extent the policies and programmes of government departments and non-departmental public bodies contribute to environmental protection and sustainable development; to audit their performance against such targets as may be set for them by Her Majesty's Ministers; and to report thereon to the House.

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References

In the footnotes of this Report, references to oral evidence are indicated by ‘Q’ followed by the question number. References to written evidence are indicated by page number as in ‘Ev12’. number HC -*-II
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Conclusions and recommendations

Findings of the MA

1. The conclusions of the UN Millennium Ecosystem Assessment (MA) are clear. Human activity is fundamentally and extensively changing the world around us, leading to extinction on a massive scale. The extent of this loss should not be underestimated. It points to a sixth great extinction, on a par with historic global extinction episodes caused by asteroid impacts. (Paragraph 11)

2. The ways in which humans have altered the natural environment have led to significant benefits to society, but these benefits have been accompanied by rapidly increasing costs due to ecosystem degradation. These changes to the natural world have also increased the likelihood of dramatic and abrupt changes to ecosystems, which could have devastating and permanent impacts. Human activity is creating a world that is likely to be degraded substantially for future generations. (Paragraph 20)

3. The MA established conclusively that efforts to eradicate poverty will not succeed where environmental degradation is allowed to continue. This is of particular concern as environmental degradation is set to significantly worsen over the next 50 years. It therefore seems unlikely that the international community will meet its Millennium Development Goal commitments to reduce poverty and increase development, at least in the long-term. These changes may also undermine the current progress that is being made, leading to a worsening of poverty. (Paragraph 25)

4. If society wishes to avoid the devastating impact of continued ecosystem degradation on development and the economy it is clear that substantial changes will have to be made to the way in which it values and deals with ecosystem services. These often will be politically controversial, but the case for concerted and decisive action has now been made. (Paragraph 30)

The MA’s Impact

5. Although we concede that it is still early days for the MA, we are concerned that given the scale of the problems identified within it, its impact so far seems limited. Full and proper engagement with its findings from local to international levels will be vitally important if actions to deal with the challenges are to be successful. We hope that the recommendations made throughout this report will go someway to ensure that the findings of the MA are adopted far more widely than they have been so far. (Paragraph 33)

6. Given that a functioning and healthy environment will be crucial for achieving long-term success on MDGs, and that the MA provides a framework for the successful bringing together of development, environment and economic policies, we are disappointed that governments and development agencies have been slow to grasp the importance of the MA and MDG7. Although we accept that developing countries
must own and develop their own strategies for sustainable poverty reduction, the Government must face up to the fact that these countries do not have the capacity to adequately incorporate the environment into their strategies. The UK Government and other developed countries must seek to ensure, through a Millennium Ecosystem Fund, that all developing countries are equipped to incorporate the environment into their development strategies, otherwise the unsustainable actions that might result may jeopardise the long-term achievement of MDGs. (Paragraph 40)

7. We are frankly disappointed that development NGOs have failed to engage more with the MA findings. Although we understand that these NGOs might focus on the immediate problems associated with poverty, such as access to clean water, their failure in the long term also to focus on the need to maintain ecosystem services will ultimately unravel their efforts. (Paragraph 43)

8. More needs to be done to ensure that policy makers are fully aware of the ramifications of the MA, and what they can do to respond to these challenges. In order for this to occur, policy-makers need to see the direct benefits, primarily economic but also social and environmental, of sustainable ecosystem service management and the adoption of the MA conceptual framework. This must happen in such a way that effective national or local response options can be initiated. Therefore it should be a priority to carry out national assessments tailored to national needs. As developing countries do not have the resources needed to undertake such assessments, it is imperative that the UK Government galvanizes the international community to establish a Millennium Ecosystem Fund. Not only could this ensure that the MA findings are more widely communicated but also that developing countries are equipped to move themselves onto a sustainable development path. (Paragraph 48)

9. The MA showed that degradation of ecosystem services is a threat to businesses’ bottom line. The development of robust econometric models for ecosystem services must be developed with some urgency to enable the internalisation of the full costs of business’ impact on the environment. The UK Government and international community must act to ensure that this happens. In line with our previous report Outflanked: The WTO, international trade and sustainable development, we recognise that ultimately the full environmental and social costs of products and services must be reflected in their final price. (Paragraph 52)

10. We commend those responsible for the MA for producing the most complete and up to date study of the importance of the environment for human well-being and the current condition of the Earth. Although inevitably aspects of the MA were based on incomplete evidence, the assessment still provides a most robust analysis upon which to base action to tackle ecosystem degradation. Due to the serious conclusions drawn from the MA we call for urgent, concerted, research at all levels to fill the knowledge gaps identified. (Paragraph 58)

11. To enable the MA knowledge gaps to be filled a new international interdisciplinary research strategy must be established to help coordinate research at a number of
scales. This could be hosted by the ICSU, or ultimately within a new body to oversee a rolling programme of MA assessments. (Paragraph 61)

12. There appears to have been a breakdown in the effective communication of the MA findings which has led, to some extent, to a slow take up of the MA by stakeholders. The lesson which should be learnt from this for future assessments of this nature is that inadequate provision for the communication of findings will ultimately hinder their integration by stakeholders. More funds will have to be provided by the MA funding organisations, including DEFRA and DFID. Failure to do this will negate much of the impact we would expect from an assessment of this calibre. (Paragraph 66)

13. There is an important MA communication role for the UK Government, at both national and international levels. Nationally, departments must engage with the constituencies they deal with, such as the agricultural sector for DEFRA and development NGOs for DFID, to produce sectoral guides to the MA and assess its implications for their work. There is also the need for civil society and the private sector to be proactive in engaging with the MA, for their long-term success will depend on them coming to terms with its findings. This engagement should include the undertaking of audits of individual businesses or organisations against the issues identified in the MA. (Paragraph 67)

14. At an international level, given the importance of the MA’s findings for the development and environmental objectives of DFID and the Foreign and Commonwealth Office (FCO), country staff should be made fully aware of the implications of the MA. They should refer to the MA and frame their work with partner countries in light of it. The FCO should also undertake a seminar programme in partner countries in order to promote the sustainable use of ecosystem services, the MA conceptual framework, and the economic and development benefits that such effective management brings. (Paragraph 68)

15. Given the existence of evidence demonstrating the substantial economic benefits of sustainable ecosystem service management we are gladdened to see that DEFRA is investing in research to quantify and take advantage of this. As the lack of empirical evidence of this value has made it difficult to motivate some quarters to engage with the MA, this research could have international consequences for its uptake. It is imperative that DEFRA’s efforts in this field are adequately funded and lead to tools which will enable decision makers across Government to appreciate and account for these non-market benefits. (Paragraph 75)

16. We consider that the logical conclusion of research to value ecosystem services and to identify those factors that actually improve human well-being, will be the development of an econometric that measures growth in a way that recognises environmental limits and more accurately describes human well-being. Growth is, after all, not an end in itself. The Government must introduce an indicator of economic growth which incorporates the principles of sustainability and well-being as early as possible. (Paragraph 79)
The Future of the MA

17. We are concerned that the failure to establish an ongoing programme to undertake MA global assessments will result ultimately in the continued degradation of ecosystem services, which effective regular monitoring and assessment would help prevent. We strongly urge the Government to strive for the establishment of a rolling MA programme, the key features of which should include: (Paragraph 83)

- Global assessments to be conducted at the least every 8-10 years
- A multi-stakeholder bureau to govern the MA secretariat to ensure the full participation of scientists, civil society, the private sector and governments
- A budget adequate to fund research to fill those gaps identified by the MA, as well as to provide effective monitoring of ecosystem services
- A focus on the identification and promotion of effective response options to ecosystem service degradation, including the development of economic incentives to ensure the full consideration of non-market ecosystem service values
- A continued focus on the value of sub-global assessments, between global assessment periods, in providing regional impetus and justification for better management of ecosystems

18. Although we agree that there is a need to stem the continued devastating loss of biodiversity, we are not convinced that the current proposals to establish an IPCC-like body solely for biodiversity will be the answer. We argue that biodiversity loss is intricately linked to economic, development and other environmental factors and therefore a better solution must be to establish a body to consider these issues as a whole in a permanent MA body. In addition, the MA’s focus on the benefits that humans receive from ecosystem services will also help to convince those countries that may be less willing to subscribe to a solely biodiversity-orientated body to engage with the more holistic MA approach. (Paragraph 87)

19. In our report, Outflanked: The World Trade Organisation, international trade and sustainable development, we highlighted a lack of consideration of the environment and development in international trade. We concluded that the current system must be changed to ensure that environmental issues are adequately accounted for in international trade. Given the right level of support an MA rolling programme with secretariat could facilitate this, acting as an interface between the WTO, Multilateral Environmental Agreements and other international organisations, as well as providing policy recommendations on sustainability through trade. (Paragraph 88)

UK Government Response to the MA

20. We commend the Government for being one of the main donors of this groundbreaking assessment. Nevertheless, the Government must now ensure that the findings are fully integrated into its work through the creation of a cross-departmental Ministerial group. The group should specifically manage inter-
departmental coordination, implementation and monitoring of policies against the MA and coordination of MA-related research. (Paragraph 95)

21. As the main tool for the long-term cross-departmental maintenance of ecosystem services in the UK is the Sustainable Development Strategy, we consider it obvious that it must be reviewed to ensure that it is in line with the MA findings. Such a review should reflect the need to maintain ecosystem services both in the UK and abroad and therefore include the adoption of sustainable development indicators and PSAs that reflect this. Amendment of the SDS, sustainable development indicators and PSAs will enable incorporation of the MA findings in a more top-down way. The ultimate goal of this would be to, in effect, ‘MA-proof’ all Government activities. (Paragraph 98)

22. A failing of the global MA was its lack of focus on the economic valuation of ecosystem services, as well as a lack of policy proposals directly relevant to many decision makers. We are therefore very pleased to see that DEFRA is yet again funding important MA-related work that should lead to significant benefits to the environment, society and the economy. Nevertheless, due to the rate and extent of current ecosystem degradation, and the risk to society that such degradation causes, it is with some urgency that this research be completed. DEFRA must ensure that this research includes and takes note of independent research into policy options and has also led to concrete and robust policy outcomes, across Government, before the end of this Parliament. (Paragraph 102)

23. Given that DFID officials seem to realise increasingly the importance of the environment in reaching poverty reduction goals, and that DFID is looking to commission a range of important MA-related research projects, we are baffled as to why recent DFID White Papers have failed adequately to account for the role of the environment in development. This failure indicates to us that knowledge of the importance of the environment to development objectives has not permeated all levels of DFID. In its response to our criticism of its insufficient consideration of the environment, DFID stated that it “fully recognis[e] the need for action now”. Given this recognition, we expect all future policy documents to account fully for the MA’s findings. (Paragraph 106)

24. As the CSR is a fundamental and long-term review of Government funding we are concerned that failure to satisfactorily incorporate the MA’s findings might, in effect, lock in unsustainable practices for that period. It is therefore extremely important that the CSR effectively reflect the need to address the MA findings, particularly in relation to ensuring that the full non-market value of ecosystems are fully accounted for across all policies. Therefore the research projects to identify the true value of different ecosystem services must be completed quickly and fed into the CSR, at least in an interim form, in order directly to influence its outcome. (Paragraph 109)

25. We greatly welcome the analysis of long-term opportunities and challenges, commissioned by the Treasury, to feed into the CSR. The analysis relied greatly on the MA and highlights that long-term economic prosperity is dependant upon a healthy and functioning environment. However, we are concerned that the Treasury concludes that it would be “important” to manage these environmental pressures.
We believe this understates the fact that it is essential that these challenges are met, for long-term prosperity to be achievable. (Paragraph 112)

26. Given the interrelated nature of instability, terrorism, international poverty and climate change it is important that the Treasury accepts the need to create an environment in Government that enables action on these issues to be dealt with in concert, and provides the funding for this to occur. We would also like to point out that the UK can make a significant unilateral contribution to dealing with these issues such as through its procurement and taxation policies. Indeed, we have called on a number of occasions for more fiscal incentives and penalties to encourage more sustainable choices. (Paragraph 113)

27. Although the Treasury is right to highlight climate change as being a major challenge in relation to its long-term goals, the importance of other ecosystem services, such as those provided by biodiversity, should not be underestimated or forgotten in the CSR. Given that the MA proved the importance of these other ecosystem services, resources for effective ecosystem management should not be squeezed in the CSR. The Treasury must ensure that the CSR reflect this need in the budgets decided for DEFRA, DFID and the relevant research councils. (Paragraph 114)

28. Nevertheless, although we have these concerns, we are encouraged that the Treasury had the foresight to undertake the long-term trend and challenges review and the Stern Review, and hope that this reflects an increased awareness in the Treasury for the need for decisive action on these issues. We also hope that the Treasury’s statement that it would “work to release resources” to meet the environmental challenges identified is reflected in the decisive action needed. (Paragraph 115)

29. Without doubt the expansion of development into new areas will bring some economic benefits but, as we have seen earlier, economic growth without adequate consideration of the environment or social impacts is unlikely to translate into increased human welfare. Although we reluctantly accept that development may be required on certain green field sites, we are not confident that the Barker Review has attempted to balance economic, environmental and social considerations, or to consider the full range of policy options that might be available to reduce land pressure. It has therefore not followed all the principles espoused by the MA. We hope that the Government will seek to redress this imbalance upon implementation of the Review’s recommendations. (Paragraph 119)

30. We accept the Minister’s point that integration of the MA findings must be undertaken in a systematic and coordinated manner and therefore we call for a Ministerial group to be established to oversee this process. This group must undertake to assess and evaluate the MA from a UK perspective, and coordinate the various stands of research that are being conducted and planned. Ultimately the Government should conduct a full MA-type assessment for the UK to enable the identification and development of effective policy responses to ecosystem service degradation. (Paragraph 125)
31. Considering the UK Overseas Territories’ (UKOTs) lack of capacity, both financial and human, we find it distasteful that FCO and DFID stated that if UKOTs are “sufficiently committed” they should support environmental positions “from their own resources”. The continued threat of the extinction of around 240 species in the UKOTs is shameful. If the Government is to achieve the World Summit on Sustainable Development 2010 target to significantly reduce the rate of biodiversity loss within its entire territory, the Government must act decisively to prevent further loss of biodiversity in the UKOTs. (Paragraph 133)

32. We welcome the DEFRA Minister’s recognition of the problems facing the UKOTs, and their lack of capacity to deal with the environmental challenges that they face. Given this and our international, not to mention moral, obligation to prevent biodiversity loss in the UKOTs, the Government must now move towards increased and more appropriate funding for conservation and ecosystem management there. The amount of resources required to undertake this work is miniscule in comparison to the environmental and social gains that would be expected. Such funding must be more long-term and strategic to enable the environmental capacity in the UKOTs to reach the levels required. DEFRA must be given joint responsibility for delivery of this. (Paragraph 140)

33. The range of environmental, social and economic challenges facing UKOTs will be better addressed by undertaking an MA-type assessment for each UKOT. The UK Government must work jointly with UKOT governments on an MA to ensure that their ecosystem services are not damaged further and preserved into the future. The Inter-departmental Ministerial Group on Biodiversity should seriously consider this as the route by which they can achieve their commitments to the UKOTs. (Paragraph 141)
The Scope of the Inquiry

1. Since its establishment in 1997, the Environmental Audit Committee (EAC) has scrutinised how Government departments and agencies incorporate sustainability into their operations and policy making. In recent reports, we have highlighted the need to integrate sustainable development principles across all sectors for progress to be made on sustainable development objectives, including in relation to trade and development. The EAC therefore set up a Sub-committee in February 2006 to study further the relationships between the environment, trade and development. The first Sub-committee inquiry examined how sustainable development, and environmental issues in particular, have been incorporated into the work of the Department for International Development (DFID). The second inquiry looked at the consideration of the environment in the international trade system and the World Trade Organisation.

2. Both of these inquiries drew heavily on the findings of the UN Millennium Ecosystem Assessment (MA), published in March 2005. The MA is a compelling analysis that not only describes the current and possible future state of the environment, but also what might be done to work towards environmental sustainability and poverty eradication. Given the defining nature of the MA, the Sub-committee became concerned that the watershed change in policy that it should have stimulated had so far not transpired. The Sub-committee therefore announced this inquiry to, *inter alia*, assess the impact of the MA in the UK and abroad, and to make recommendations as to how its conclusions might better be implemented.

3. The Sub-committee, chaired by Colin Challen MP, received 13 memoranda, and took oral evidence from 8 individuals, including Barry Gardiner MP, Parliamentary Under-Secretary of State, Department for Environment, Food and Rural Affairs. We are grateful to all those who contributed to this inquiry.

UN Millennium Ecosystem Assessment

4. The Millennium Ecosystem Assessment (MA) was launched by United Nations Secretary-General Kofi Annan in 2001, with its global assessment completed in March 2005. The MA is an international work plan designed to provide decision makers and the public with scientific information about the consequences of ecosystem change for human well-being. It focuses on the benefits that people obtain from ecosystems, known as ecosystem services, such as food, timber, flood protection and biodiversity. It sought to identify how changes to ecosystem services have affected human well-being in the past, how changes might affect people in the future and what might we do at local, national and
global scales to improve ecosystem management in order to promote human well-being and poverty alleviation.1

5. Governed by a multi-stakeholder board drawn from the world of science, civil society, government and the private sector, the MA used a team of over 1,300 authors from 95 countries to produce a global assessment. It brought together information from a range of sources including scientific literature, the private sector and indigenous peoples. The MA was ‘multi-scale’, consisting of interlinked assessments undertaken at local, watershed and regional scales, which fed into the global assessment. These sub-global assessments were “designed to meet the needs of decision-makers at the scale at which they are undertaken, strengthen the global findings with on-the-ground reality, and strengthen the local findings with global perspectives, data and models”.2 There are 18 MA-approved sub-global assessments with an additional 15 of associated status.

6. The global assessment report was published in five volumes, one being a summary for decision makers. These were followed by one over-arching synthesis report and five other synthesis reports tailored to specific audiences covering subjects including biodiversity and business.

The four main findings of the MA

7. The MA came to four main conclusions.3 These paint a sobering picture of the current condition and the future of the planet. Below we present an outline of these findings. This should by no means be taken as a complete summary of the MA, which is available free from the MA website, www.millenniumassessment.org.

First finding: The world has been dramatically altered by human activity

Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, fresh water, timber, fibre, and fuel. This has resulted in a substantial and largely irreversible loss in the diversity of life on Earth.4

8. The extent to which the world’s ecosystems have been altered by human activity over the last 50 years is truly staggering. For example:

- cultivated systems now cover one quarter of Earth’s terrestrial surface

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1 “About the Millennium Ecosystem Assessment”, Millennium Ecosystem Assessment, 6 November 2006, www.millenniumassessment.org
2 ibid
3 Except where otherwise referenced, this section is adapted from: Millennium Ecosystem Assessment, Ecosystems and Human Well-being Synthesis (Washington 2005)
4 ibid
since the early 20th Century around 20% of coral reefs have been lost and a further 20% degraded. 35% of mangrove areas have also been lost over this same period.

three to six times as much water is now held in reservoirs as in natural rivers

9. These alterations have led to fundamental changes in the diversity of life on Earth and a dramatic loss of biodiversity. Over the past few hundred years humans have increased the natural extinction rate by as much as 1,000 and now some 10-30% of mammal, bird and amphibian species are currently threatened, to a medium to high certainty, with extinction.

10. These changes are a function of increasing demand for ecosystem services, as, since 1960, the world’s population doubled to 6 billion people and the global economy increased over 6 times. This demand was met by consuming a greater proportion of the output of certain ecosystem services, such as taking more fish from the sea. It was also met by increasing the productivity of certain services through the application of new technologies, such as fertilisers, as well as though increasing the area managed for certain services such as crop and livestock production.

11. The conclusions of the MA are clear. Human activity is fundamentally and extensively changing the world around us, leading to extinction on a massive scale. The extent of this loss should not be underestimated. It points to a sixth great extinction, on a par with historic global extinction episodes caused by asteroid impacts.

Second finding: Ecosystem changes have led to substantial gains, and substantial losses

The changes that have been made to ecosystems have contributed to substantial net gains in human well-being and economic development, but these gains have been achieved at growing costs in the form of the degradation of many ecosystem services, increased risks of nonlinear changes, and the exacerbation of poverty for some groups of people. These problems, unless addressed, will substantially diminish the benefits that future generations obtain from ecosystems.5

12. Globally, and for most individual countries, the changes that have been made to ecosystem services have led to substantial gains to human well-being and national development. These changes have been required in order to meet the demand for food, water and other ecosystem services leading to improved human health and a reduction in the number of people who are malnourished.

13. However, the result of these changes in ecosystem services, and the degree to which they have been exploited, means that around 60% (15 out of 24) of the ecosystem services evaluated in the MA are being degraded or used unsustainably. These include capture fisheries, water supply, natural hazard protection and climate regulation. The capture fishery and fresh water ecosystem services are now so over-exploited that they cannot meet even current demands, let alone future demands.

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5 Millennium Ecosystem Assessment, Ecosystems and Human Well-being Synthesis (Washington 2005)
14. The substantial gains that humans have experienced by changing some ecosystem services have been at the expense, to varying degrees, of other services. For example, increasing agriculture typically involves an increase in fertilizer and water use and the expansion into natural lands, leading to a decline in water quality and availability, loss of biodiversity and a loss of forest cover (which can have knock-on effects such as release of greenhouse gases and an increased flood risk).

15. There has been a failure to consider the loss of certain ecosystem services since most management decisions are based on those services that enter into markets. This means that non-market benefits are often not considered, which may lead to their degradation or loss. The value of these non-market benefits can be high and may be more valuable than those that register in the markets. For example, a study in eight Mediterranean countries found that their forest value in timber and fuel is generally less than one third the value of the forest in terms of non-market values from uses such as recreation, hunting, flood protection and carbon sequestration. This non-wood value of the forests ranged from 25%-96% of the total economic value of the forests. Failure to consider these non-market values can therefore lead to substantial losses. A further example of those costs can be found in the case of UK agricultural practice, 9% of the total earnings from which have to offset the damage caused to water, air, soil and biodiversity.

16. The MA notes that while the degradation of some services may, overall, be justified by increases in well-being, often more degradation takes place than is in society’s interests. It points out that one reason for this is that the services being degraded are held in common, so no one person feels an incentive to maintain the service. This also means that where degradation may harm specific individuals, there is no market mechanism available to compensate them.

17. Despite dramatic increases in global human well-being from the exploitation of ecosystem services, levels of poverty remain high, inequities are growing and many people do not have adequate access to ecosystem services. Degradation of ecosystem services accentuates this by exacerbating poverty, and can also be the principal factor in causing poverty.

18. Not only are changes in ecosystem services exacerbating poverty in certain groups of people, these changes also increase the risk of causing abrupt and potentially irreversible changes in ecosystems, which could have significant consequences for overall human well-being. This is as opposed to natural changes in ecosystems which generally tend to be gradual. These so-called non-linear changes mean that gradual damage can be caused to an ecosystem up to a threshold, after which it may suddenly change. These changes can be large, happen abruptly and can be difficult, expensive or impossible to reverse. Although our knowledge of such thresholds is improving, and science can provide some warning of an increased risk of change, it cannot currently predict the point at which a change will occur.

6 $2.6 billion in 1996, or 9% of average yearly gross farm receipts for the 1990s
19. Examples of such a non-linear ecosystem change include the Newfoundland cod fishery collapse in 1992. In this case fish landings in tonnes increased dramatically from 1850 until the 1970s as technology enabled more fish to be caught leading to a strong decline in the actual number of fish remaining. The fishery then collapsed abruptly. After 10 years of a moratorium on fishing in the area, stocks have still not recovered and some predict that they may never do so due to fundamental changes in the ecosystem which occurred when the fish were lost.7

20. The ways in which humans have altered the natural environment have led to significant benefits to society, but these benefits have been accompanied by rapidly increasing costs due to ecosystem degradation. These changes to the natural world have also increased the likelihood of dramatic and abrupt changes to ecosystems, which could have devastating and permanent impacts. Human activity is creating a world that is likely to be degraded substantially for future generations.

**Third finding: The continued damage caused to ecosystem services will make it harder to eradicate poverty**

The degradation of ecosystem services could grow significantly worse during the first half of this century and is a barrier to achieving the Millennium Development Goals8.

21. The MA developed four scenarios, based on development and ecosystem management options, to explore the future for ecosystems and human well-being. Under all four of these scenarios the pressures on ecosystems is expected to continue to grow over the next 50 years or so. The most important direct drivers of this pressure are habitat change, overexploitation (especially over-fishing), invasive alien species, pollution and climate change. The scenarios suggest that over the next 50 years:

- Demand for food crops will grow 70-85%; demand for water will grow 30-85%
- Food security will not be achieved nor child malnutrition eradicated despite increased food supply
- Ecosystem services provided by freshwater resources will deteriorate, especially where policies are adopted react to problems, rather than policies that proactively avoid problems
- Habitat loss and other ecosystem changes are projected to lower biodiversity, with a high certainty, by 2050. The number of plant species could decline by roughly 10-15% by 2050 as a result of habitat loss alone. Other drivers, such as over exploitation, will add to the number of extinctions

22. These increasing pressures will make it harder to tackle poverty. For example in tackling hunger, ecosystem condition (particularly in relation to climate, soil degradation

7 “For cod’s sake, act now; Drastic action is needed if we want the sea to go on feeding us”, New Scientist, 11 November 2006

and water availability) is particularly important in terms of its influence on crop yields and the availability of wild sources of food.

23. Ecosystem service degradation therefore poses a significant barrier to the achievement of Millennium Development Goals (MDGs) and MDG targets for 2015 to reduce poverty. The MDGs were agreed at the United Nations Millennium Summit in September 2000, to set out what the international community hopes to achieve by 2015 in reducing poverty and increasing development. The goals are to:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

24. The MA recognises that without significant improvement in the management of ecosystem services many of the MDG goals are unlikely to be achieved. This is particularly true for tackling poverty, hunger, child mortality, disease and environmental sustainability. The MA Board in its statement stressed the importance of the link between environmental degradation and poverty. It stated that development policies aimed at reducing poverty may well be ‘doomed’ to failure if the natural environment is not protected.9 It also found that without adequate consideration of the environment, gains in MDGs will be ‘transitory and inequitable’.10

25. The MA established conclusively that efforts to eradicate poverty will not succeed where environmental degradation is allowed to continue. This is of particular concern as environmental degradation is set to significantly worsen over the next 50 years. It therefore seems unlikely that the international community will meet its Millennium Development Goal commitments to reduce poverty and increase development, at least in the long-term. These changes may also undermine the current progress that is being made, leading to a worsening of poverty.

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9 Millennium Ecosystem Assessment Board, Living beyond our means; Natural Assets and Human Well-being: Statement from the Board (Washington, 2005)
10 ibid
Fourth finding: Ecosystem damage can be slowed and reversed, but this will take concerted action

The challenge of reversing the degradation of ecosystems while meeting increasing demands for their services can be partially met under some scenarios that the MA has considered, but these involve significant changes in policies, institutions, and practices that are not currently under way. Many options exist to conserve or enhance specific ecosystem services in ways that reduce negative trade-offs or that provide positive synergies with other ecosystem services.

26. In order to guide the MA, a conceptual framework was created to describe the interactions between the environment and humans, and how changes to these interactions may lead to an impact on human well-being, biodiversity and ecosystems. The MA conceptual framework focused particularly on the relationships between ecosystem services and human well-being, over different temporal and spatial scales. The framework can be adapted better to reflect the needs and concerns of specific countries, or even local communities, in order to help identify solutions to environmental problems.11

27. This conceptual framework fed also into a modelling exercise to assess future trends and the options that might be taken to avoid environmental degradation. It was found that in order to mitigate the negative consequences of growing pressures on ecosystems, significant changes in policies, institutions and practices are required on a large scale. These changes are not currently underway. These so-called ‘response options’ include “significant investments in environmentally sound technology, active adaptive management, proactive action to address environmental problems before their full consequences are experienced, major investments in public goods (such as education and health), strong action to reduce socioeconomic disparities and eliminate poverty, and expanded capacity of people to manage ecosystems adaptively”.12 There are a number of barriers to the introduction of these options, such as market failures and inappropriate institutional arrangements.

28. Even with these interventions, under all MA scenarios, biodiversity will continue to be lost. It concluded that the “long-term sustainability of actions to mitigate degradation of ecosystem services is uncertain”.13 Although the report acknowledged that past actions to slow or reverse ecosystem decline have proven successful, such as the use of protected areas, it concluded that generally this action has failed to keep pace with growing pressures and demands.

29. The MA also found that ecosystem degradation can rarely be reversed without addressing one or more of the five indirect drivers of ecosystem change: population change (including growth and migration), changes in socioeconomic activity (including economic growth and trade patterns), socio-political factors (including presence of conflict and participation in decision making), cultural factors, and technological change. These factors

12 ibid
13 ibid
influence the production and consumption of ecosystem services, and how sustainable this is. The MA found that action to reduce ecosystem service degradation, often fails to address these indirect drivers.

30. If society wishes to avoid the devastating impact of continued ecosystem degradation on development and the economy it is clear that substantial changes will have to be made to the way in which it values and deals with ecosystem services. These often will be politically controversial, but the case for concerted and decisive action has now been made.

International impact of the MA

31. Almost one year on from the publication of the core MA report, a review was conducted to assess its initial impact. Although the review conceded that it was difficult to assess the impact of the MA at that stage, it found “widespread evidence that the assessment is having an impact on the intended audiences, but the extent of that impact is very mixed, with some institutions, regions, countries, and sectors significantly influenced by the MA while others have not been influenced at all”.14 A number of witnesses to this inquiry agreed that the impact of the MA has been patchy. The Royal Society told us that although the MA has a relatively high profile in the environment and biodiversity sectors in the UK, EU and internationally, it has “as yet had little impact on other areas of policy and research”. It asserted that if the MA is to have any real impact its principles “need to be implemented outside of the environment sector, for example in the international development, trade and financial sectors”. The RSPB concluded that outcomes following publication of the MA have fallen short of addressing the international challenges identified, and felt that international environmental governance mechanisms need to be improved and strengthened to help address these challenges.15 John Forgáč from Yale University agreed in evidence to us that the response so far has been inadequate:

In the last year since the MA was put out, if I had to rank the reaction of society and governments to the MA, it has been probably a two on a scale of ten; and a two probably only on the issues of education, but a zero in terms of biodiversity and issues of climate change. We have made some progress, especially in Europe, but it is still a two on a scale of ten; so it is certainly not enough.16

32. Witnesses thought that the impact might have been mixed due to the findings of the MA, which are challenging in themselves. For example, it calls for the removal of agricultural subsidies that have adverse economic, social and environmental effects such as the Common Agricultural Policy. NERC agreed that, given the scale of the MA, it is “not

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15 Ev6
16 Q47 [John Forgáč]
surprising that global and regional organisations are taking some time to absorb and respond to [the] messages”. Joanna Phillips from the RSPB said:

Addressing the challenges posed by the MA, it states, will involve significant changes in policies on investment, trade, subsidy, taxation and regulation among others, institutions and practices. It basically says we have to change the way that we do business, and that is fundamentally very challenging to a lot of people.18

33. Although we concede that it is still early days for the MA, we are concerned that given the scale of the problems identified within it, its impact so far seems limited. Full and proper engagement with its findings from local to international levels will be vitally important if actions to deal with the challenges are to be successful. We hope that the recommendations made throughout this report will go someway to ensure that the findings of the MA are adopted far more widely than they have been so far.

**International poverty eradication**

34. As previously outlined, the MA established the fact that functioning ecosystem services are essential for poverty eradication and for the long-term achievement of the Millennium Development Goals. The statement by the MA Board that development policies may well be ‘doomed’, and existing progress undermined, if action to protect ecosystem services is not taken seriously is a clear and stark message which we would expect to have been robustly addressed by development agencies and civil organisations.19 However witnesses to this inquiry have been concerned that this has not been the case.

35. The reason for this may, in part, be due to the separate establishment of the MA and the Millennium Project (MP), which monitors progress on MDGs. Steve Bass from IIED criticised a lack of coordination between the MP and MA, even though both had originated in the UN. He welcomed the fact that moves have now been taken to better account for the MA in the MP by ensuring that the indicators for MDG 7, environmental sustainability, are revised in a process informed by the MA. He went on:

In terms of the United Nations’ own campaign to roll out the MDGs and encourage better progress, there is a new thing called MDG service delivery, run by the United Nations Development Programme. They are using the MA framework to help countries think through progress in the various accumulation or degradation of assets. So it is beginning at the bureaucratic level. One thing that nobody has really tackled is that, essentially, the MDGs—and there are eight of them, goals on hunger, et cetera—are not all equal in any one circumstance. There are critical paths; some are foundations to others. Nobody dares talk about this yet, but a foundation for all of them, of course, is the findings of the MA. So it is slow, but it is happening.20
36. The Royal Society also urged better integration of the MA into national implementation plans for the MDGs, with a higher priority given to MDG 7. It stated that:

… the current momentum behind the implementation of the [MDGs] in developing countries could be a useful mechanism for communicating and implementing the MA framework. This however requires that strategies aimed at delivering the MDG’s be revised to ensure that they are compatible with the MA framework. In particular we believe that it is important that more emphasis is placed on the importance of MDG 7 (to ensure sustainability) in international development cooperation policy.21

37. RSPB felt that there is “clearly much more work to be done” by Government and the wider development and environment communities, to link the interrelated objectives of environmental sustainability and poverty eradication. It stressed the importance of emphasising that the “delivery of the MDGs, even the primary economic development ones, are better achieved with strategies that include maintenance of ecosystems than strategies that simply prioritise economic development per se”.22 This failure adequately to draw a link between poverty and the environment in MDGs was referred to in our earlier report, *Trade, Development and Environment: The Role of DFID*:

Useful though the MDGs have been in focusing development efforts they are in essence flawed. Despite the recognition of many of those working in development, including DFID, that the environment and sustainability underpin much of what is being aimed for in the MDGs, the Goals themselves do not explicitly make these links. Furthermore, although attempting to meet the target date 2015 is important what is more important is that these achievements are made sustainably. Therefore in terms of development we need to be thinking 50 to 100 years into the future to ensure that the gains made by 2015 and beyond are maintained. The Goals do not reflect this need. For example efforts to improve water supply must go hand in hand with improving water catchment management and ensuring that water supplies, and ecosystems, are resilient to climate change as well as rising future demands. *How Millennium Development Goals are met will have a major impact on environmental sustainability and there is not necessarily a clear framework to ensure that all of the Goals are met coherently and simultaneously. This may well prove to be counterproductive in the long term.*23

38. The Government responded to this, stating that it recognises that weak progress towards environmental sustainability will undermine achievement of MDGs, but that “frameworks to achieve sustainable poverty reduction and the MDGs need to be developed and owned by countries themselves”. It went on to say that it supports the approach of the

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21 Ev57
22 Ev7
UN Agencies to “develop guidance and support to countries on how best to make the links to the MDG framework, including on integrating environmental considerations”.

39. The former director of the MA, Walter Reid, and the director of the UN Millennium Project, Jeffrey Sachs, stated that “both rich-country and poor-country governments overlook the policy links between poverty reduction and the environment”. However, they also felt that developing countries do not have adequate resources for dealing with the issues raised in the MA. They therefore called for:

… the rich donor countries to establish a Millennium Ecosystem Fund to give poor countries the wherewithal to incorporate environmental sustainability into national development strategies. The fund would support work that focuses on how poverty reduction can enhance environmental conservation (e.g., by giving farmers alternatives to slash and burn) and how environmental sustainability can support poverty reduction (e.g., watershed management to maintain clean water supplies).

40. Given that a functioning and healthy environment will be crucial for achieving long-term success on MDGs, and that the MA provides a framework for the successful bringing together of development, environment and economic policies, we are disappointed that governments and development agencies have been slow to grasp the importance of the MA and MDG7. Although we accept that developing countries must own and develop their own strategies for sustainable poverty reduction, the Government must face up to the fact that these countries do not have the capacity to adequately incorporate the environment into their strategies. The UK Government and other developed countries must seek to ensure, through a Millennium Ecosystem Fund, that all developing countries are equipped to incorporate the environment into their development strategies, otherwise the unsustainable actions that might result may jeopardise the long-term achievement of MDGs.

41. A review of the MA’s impact found that there had been “no evidence” of any impact of the MA on NGOs focused on development, poverty reduction, or health issues. It is, perhaps, telling that we received no evidence from any such NGO for this inquiry. Steve Bass from IIED pointed out that he had written a paper on the findings of the MA from a development perspective as “nobody within the development community was producing a response to the link between the MA and poverty reduction”.

42. Despite this lack of engagement with the MA, development NGOs have become increasingly aware of the importance of avoiding climate change for the long term eradication of poverty. This is exemplified by the production of Up In Smoke, produced by

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28 Q49 [Mr Bass]
a number of leading development and environment NGOs, which called for urgent action to tackle climate change as it "could threaten attainment of the Millennium Development Goals (MDGs) and even reverse human development achievements."

43. **We are frankly disappointed that development NGOs have failed to engage more with the MA findings.** Although we understand that these NGOs might focus on the immediate problems associated with poverty, such as access to clean water, their failure in the long term also to focus on the need to maintain ecosystem services will ultimately unravel their efforts.

### Governments: the need for national assessments

44. The March 2006 review of the impact of the MA concluded that amongst governments the impact of the MA had also been mixed. The review found that the MA had most impact where MA sub-global assessments had been conducted, although “significant impacts are also noted in regions and countries that did not undertake sub-global assessments such as the European Union, UK and France”. The variations in uptake of the MA might exist for a number of reasons, including disagreement with the findings. However, it is clear that a number of our witnesses believe that encouraging a wider uptake of MA findings will be hastened considerably by the undertaking of national and regional assessments. The MA itself included a number of sub-global assessments undertaken at local, watershed and regional scales. These were in part designed to validate the global assessment at a local scale as well as providing specific information for decision-makers at these scales. These sub-global assessments have been important for communicating the findings of the MA and increasing its influence in these regions. Neville Ash from the UN Environment Programme-World Conservation Monitoring Centre (UNEP-WCMC) said:

> Typically what we are finding is that the national response around the world is strongest in areas where there has been a sub-global assessment of the Millennium Ecosystem Assessment... Many of those are on-going, in fact some have been completed, and we are finding in some parts of the world where there have been completed sub-global assessments there has been a particularly strong follow-up. In China, for example, there is a Western China Millennium Ecosystem Assessment and the Chinese Government is now taking those concepts on board nationally and thinking about natural resources and assessment at the national level.

45. Witnesses pointed out to us that communication of the findings has played a large role in whether a country has acted upon them. RSPB highlighted the practical difficulties of obtaining MA documents in poor countries with inadequate access to the internet. Neville Ash from UNEP-WCMC felt that national and regional assessments had proven so successful due partly to the communication of findings in local languages and other forms of grassroots communication. He went on:

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30 Q66 [Mr Ash]
There is still a very significant language barrier in communicating the main findings in many parts of the non-English speaking world. That is slowly being dealt with as new translations are coming out and becoming available but, do not get me wrong, there is an enormous need still for much greater communication of the existing findings and by no means has that been a job done well.31

46. Steve Bass from the International Institute for Environment and Development (IIED) told us that he suspects that, in order better to communicate the MA, “messages produced at individual country level after this period of reflection on the MA could be simpler and more compelling”.32 He argued that making the MA more relevant to individual countries will encourage them to act upon its findings.

47. As outlined earlier, the former director of the MA, Walter Reid, and the director of the UN Millennium Project, Jeffrey Sachs, called for a fund to enable developing countries to undertake their own assessments. They estimated that the fund would need some $200 million over 5 years. Walter Reid elaborated on this for us:

… we believe that one of the most valuable activities at this stage is not a repeat of a global assessment (which would be better undertaken in about 3-4 years) but rather efforts to catalyze national, regional, and local assessments around the world. In a recent article in Science magazine, Dr. Jeffrey Sachs and I proposed a funding mechanism that could support such processes but to my knowledge there has not been any movement to create something like this. The primary hurdle, in my view, is that donors want their money to go into something that has immediate measurable results. An assessment, by definition, is providing the analytical basis for action, but isn't actually providing the action.33

48. More needs to be done to ensure that policy makers are fully aware of the ramifications of the MA, and what they can do to respond to these challenges. In order for this to occur, policy-makers need to see the direct benefits, primarily economic but also social and environmental, of sustainable ecosystem service management and the adoption of the MA conceptual framework. This must happen in such a way that effective national or local response options can be initiated. Therefore it should be a priority to carry out national assessments tailored to national needs. As developing countries do not have the resources needed to undertake such assessments, it is imperative that the UK Government galvanizes the international community to establish a Millennium Ecosystem Fund. Not only could this ensure that the MA findings are more widely communicated but also that developing countries are equipped to move themselves onto a sustainable development path.
**Business**

49. A review conducted one year on from the publication of the main MA report concluded that “MA findings were well-received by business journalists but the impact to date in the business sector has been relatively limited”.34 However the review did point out that Goldman Sachs had incorporated the concept of ecosystem services into its environmental policy, and the World Business Council for Sustainable Development is undertaking MA follow up activities.

50. John Forgách of Yale University told us in evidence that for business to better account for the MA and the issues which it identifies, more effort has to be put into valuing ecosystem services so that the costs associated with ecosystem service loss can be better accounted for. He believes that “the private sector is waiting for this to happen, because they would like them to come on to the balance sheet. Until they have dollar or sterling numbers on them, they are off-balance-sheet items, so they are not discussed in the boardrooms and in the corporations”.35 John Forgách argued that business would not resist moves to account for ecosystem services in this way, as they are becoming aware of the threat to themselves of ecosystem degradation. He pointed out that “already, Coca-cola cannot meet its water requirements, so what will they do in 2030 or 2050?”36 Mr Forgách felt that the MA established that the “whole system is unsustainable”, and as a result corporations are starting to look to governments to “establish the rules of the game”. He did concede that business is not communicating these fears and wishes as “no corporation likes to admit that there are problems of access to natural resources in the future; otherwise their shares go down”.37

51. Steve Bass from IIED told the Committee that he felt that the business community had started to pick up on the MA “because the analysis is fairly compelling”.38 He referred to the World Business Council for sustainable development, which has started a new programme of MA audits across a trial set of companies. He added that this process could be sped up by more targeted communication to business on a sector by sector basis. The Government in its written evidence said that it will “continue to work with the business community to ensure they are aware of the findings of the MA and how these influence their bottom line”.39 It also stressed that “the UK has championed involvement with the business community in addressing the loss of global biodiversity, and this priority is highlighted in our WSSD Delivery Plan for international biodiversity”.40

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35 Q48
36 Q49 [Mr Forgách]
37 Q51
38 Q49 [Mr Bass]
39 Ev37
40 Ev39
52. The MA showed that degradation of ecosystem services is a threat to businesses’ bottom line. Witnesses expressed optimism to us that the MA would act as a spur to business to address its impact on the environment. The development of robust econometric models for ecosystem services must be developed with some urgency to enable the internalisation of the full costs of business’ impact on the environment. The UK Government and international community must act to ensure that this happens. In line with our previous report Outflanked: The WTO, international trade and sustainable development, we recognise that ultimately the full environmental and social costs of products and services must be reflected in their final price.

53. In the meantime, the UK Government must ensure that businesses are made fully aware of the consequences for their short and long term profits of ecosystem degradation. The DTI and DEFRA must, with business, develop sectoral MA reports outlining these consequences, in order that ‘UK plc’ competitiveness is not damaged by ecosystem degradation.

Improving the MA

Improving the evidence base

54. The MA was developed to, *inter alia*: identify priorities for action; provide a baseline for future assessments, develop tools for assessment; planning and management; identify response options for achieving sustainable development; and guide future research. Given this wide-ranging scope and the complexity of the issues, the MA acknowledged that it was difficult to provide definitive information for some of the issues that it sought to address. The MA documents themselves pointed to gaps in knowledge “to help guide research and monitoring that may allow those questions to be answered in future assessments”.

55. Witnesses to this inquiry raised concerns about these gaps. The Natural Environment Research Council (NERC) accepted that the findings were based on the best available evidence at the time but that more work needs to be done to fill the gaps in the analysis. It stressed that this should not be considered a criticism of the MA, “but an indication of how much else needs to be done to ensure long-term human well-being”. In particular, NERC believes that future research should focus on a range of issues including how aims might be achieved through international agreements and an exploration of the importance of biodiversity for securing ecosystem services.

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43 Ev23
56. DEFRA in its written evidence explained that it had held a workshop, with the Joint Nature Conservation Committee (JNCC), in February 2006 to identify the strengths and weaknesses of the MA. It told us that:

This workshop identified gaps in the coverage and methodologies of the MA. Some identified gaps with regard to biodiversity policy are in the coverage of taxonomic groups (the MA scenarios relied heavily on models of terrestrial plant diversity), generally weaker treatment of marine biodiversity and scenarios that do not relate well to the more immediate context of decision making.44

57. The report from the workshop also noted that more information is required on the thresholds of abrupt ecosystem change, the valuation of non-market goods and services and the linking of human well-being and ecosystem services. However, it was thought that the MA provided a stimulus to improve the global evidence base for sustainable ecosystem management.

58. **We commend those responsible for the MA for producing the most complete and up to date study of the importance of the environment for human well-being and the current condition of the Earth. Although inevitably aspects of the MA were based on incomplete evidence, the assessment still provides a most robust analysis upon which to base action to tackle ecosystem degradation. Due to the serious conclusions drawn from the MA we call for urgent, concerted, research at all levels to fill the knowledge gaps identified.**

59. Given the complex interdisciplinary and global nature of the research that is required, effective coordination of this research will be needed. The former director of the MA, Walter Reid, and the director of the UN Millennium Project, Jeffrey Sachs, called for the world scientific community to “chart an interdisciplinary strategy for sustainable development strategy for sustainable development research, backed by increased funding”.45 They went on:

Leading scientific institutions should now coalesce behind a shared agenda on sustainable development and thereby help to draw governments into the challenges of the 21st century.46

60. In written evidence to this inquiry, Walter Reid stated that it would be logical that such a strategy for research be developed by the International Council for Science (ICSU), as the MA oversight committee has allocated money to ICSU “so that they can start a process to develop such a research agenda”.47

61. **To enable the MA knowledge gaps to be filled a new international interdisciplinary research strategy must be established to help coordinate research at a number of scales.**

44 [Ev39]
47 [Ev55]
This could be hosted by the ICSU, or ultimately within a new body to oversee a rolling programme of MA assessments.

**Communication of the findings**

62. The original MA document was comprised of 4 volumes containing over 2,000 pages of technical findings and a summary document over 100 pages long. This was followed by shorter synthesis reports tailored to specific audiences. A number of witnesses felt that the communication of the results had been weak, affecting uptake of the MA. The Royal Society, for example, criticised the “failure to provide resources and funding for the period beyond [the MA’s] release”, which “undoubtedly affected how widely it has been communicated and implemented”.48

63. The RSPB stated that the sheer size of the MA proves a “significant challenge” to policy-makers and that for the assessment to be better used by stakeholders its ramifications generally need to be put into clearer and more simple messages with “less technical jargon, a restricted number of key messages and feasible recommendations”.49 It pointed out that even the summary documents produced, the synthesis reports, have proven to some extent unwieldy as some organisations have felt it necessary to create a summary even of them. It added that there must also be a greater focus on the communication of MA findings at the grassroots level in developing countries, and highlighted the fact that on a practical level the MA report is inaccessible to many due to it being stored in an electronic form, and a very large electronic form at that. Paper copies of the five different volumes of the global assessment reports can be ordered from the MA website for between $75-$25. Other than making the report accessible in smaller sections to ease downloading, Ms Phillips and Dr Avery from the RSPB felt that the simple distribution of copies of the report in paper form, and having events, meetings and seminars in developing countries, would go some way to help communicate the MA.50

64. Steve Bass from IIED called in evidence to us for more work to communicate the findings of the MA to different stakeholders. He stated that consideration of the MA findings might be accelerated through the production of stakeholder-specific guides. These would be produced for sectors such as forestry, fisheries and business.51 He clarified that such guides should be produced by people within the sector for which it is being written. He pointed out that he has himself produced such a guide for the development community as there had been a failure to provide a clear and concise summary of the MA from a development agency perspective.

65. Neville Ash from the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) felt that there is an “enormous” need for on-going and increased communication of the findings of the MA. However he did point to a range of documents
intended to provide summaries to help communicate the MA, and added that “there is a really wide range of materials now that can be used for effective communication of the findings”. He felt that there should be better communication of effective response options to deal with the problems identified in the MA.

66. There appears to have been a breakdown in the effective communication of the MA findings which has led, to some extent, to a slow take up of the MA by stakeholders. The lesson which should be learnt from this for future assessments of this nature is that inadequate provision for the communication of findings will ultimately hinder their integration by stakeholders. More funds will have to be provided by the MA funding organisations, including DEFRA and DFID. Failure to do this will negate much of the impact we would expect from an assessment of this calibre.

67. There is an important MA communication role for the UK Government, at both national and international levels. Nationally, departments must engage with the constituencies they deal with, such as the agricultural sector for DEFRA and development NGOs for DFID, to produce sectoral guides to the MA and assess its implications for their work. There is also the need for civil society and the private sector to be proactive in engaging with the MA, for their long-term success will depend on them coming to terms with its findings. This engagement should include the undertaking of audits of individual businesses or organisations against the issues identified in the MA.

68. At an international level, given the importance of the MA’s findings for the development and environmental objectives of DFID and the Foreign and Commonwealth Office (FCO), country staff should be made fully aware of the implications of the MA. They should refer to the MA and frame their work with partner countries in light of it. The FCO should also undertake a seminar programme in partner countries in order to promote the sustainable use of ecosystem services, the MA conceptual framework, and the economic and development benefits that such effective management brings.

**Economic implications of the MA**

69. The MA made it clear that there are likely to be substantial economic benefits from better management of ecosystem services. However it recognised that these benefits may not be readily assessed in economic terms as they are not market-based. As most ecosystem management decisions are influenced heavily by those ecosystem services entering into markets, the non-market benefits are often lost or degraded. RSPB also highlighted the potential value of non-market benefits of ecosystem services:

> The Poverty and Environment Partnership (PEP), which DFID supports, has shown that the returns on environmental investments are multifaceted and extremely

52 Q68 [Mr Ash]  
significant. For example, investment in soil conservation greatly enhances sustainable agricultural practices, especially in dry-land regions. A 15-year programme to combat land degradation, costed at between £9 billion and £21 billion, is estimated to yield benefits 1.5 to 3.3 times higher in terms of avoided agricultural production losses alone (Martin-Hurtado, 2002). Further benefits have also been shown - improved food security, education, environment and access to finance. A specific challenge for the international community is to assist developing countries to integrate environmental and ecosystem issues into their national development plans such as Poverty Reduction Strategies.54

70. The major economic value of such non-market ecosystem services was made clear by the Stern Review. This established that the economic cost of failure to protect the climate ecosystem service from greenhouse gas pollution far outweighs the cost of effective management of the ecosystem service through reducing greenhouse gas emissions:

Using the results from formal economic models, the Review estimates that if we don’t act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP per year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more.

In contrast, the costs of action—reducing greenhouse gas emissions to avoid the worst impacts of climate change—can be limited to around 1% of global GDP each year.55

71. The Stern Review also highlighted the significant importance of the non-market benefits of forest ecosystems, which currently contain more carbon than the atmosphere and also have the capacity to remove carbon from it. The Review also stressed other benefits of forest ecosystems such as for biodiversity and flood protection, and called for ‘urgent’ action to preserve the world’s remaining forests.56

72. The MA found that capturing these non-market benefits using economic incentives can improve ecosystem management decisions. However the MA noted that there has been little research in this area. The Stern Review called for such economic incentives including international compensation schemes to be developed to cover the opportunity costs incurred by those who keep forests (i.e. the money they would have made by deforestation), as well as the development of international carbon markets.

73. Witnesses to this inquiry referred specifically to the importance of valuation of ecosystem services. The Royal Society told us that adoption of MA processes in some countries “had been slow because of difficulties in identifying the economic value of ecosystems”, and that “significant further work is required to identify appropriate valuation methodologies and to improve collaboration between economists and

54 Ev3
55 Sir Nicholas Stern, Stern Review: The Economics of Climate Change, October 2006
56 ibid
ecologists”. Steve Bass from IIED felt that the MA provides an excellent framework for action but that it has “not yet been described in ways that make the rest of the world pay attention”. He stated that if the findings are as significant as they seem to be, the MA needs to be better presented in economic terms.

74. Given the importance of the valuation of ecosystem services, we are heartened to see that DEFRA has included as part of the Natural Environment Policy (NEP) research programme, work “focused on the valuation of ecosystem services and the development of tools and methodologies to make use of these valuations”. We also welcome that the Comprehensive Spending Review 2007 (CSR) has recognised as an economic challenge:

… increasing pressures on our natural resources and global climate from rapid economic and population growth in the developing world and sustained demand for fossil fuels in advanced economies.

75. Given the existence of evidence demonstrating the substantial economic benefits of sustainable ecosystem service management we are gladdened to see that DEFRA is investing in research to quantify and take advantage of this. As the lack of empirical evidence of this value has made it difficult to motivate some quarters to engage with the MA, this research could have international consequences for its uptake. It is imperative that DEFRA’s efforts in this field are adequately funded and lead to tools which will enable decision makers across Government to appreciate and account for these non-market benefits.

76. Appropriate valuation of ecosystem services will help to demonstrate the importance to prosperity of our natural assets. Nevertheless, some environmentalists and economists have concluded that, for environmental and social issues to be truly reconciled with economic pressures, different econometrics of wealth to those currently used, such as Gross Domestic Product (GDP), must be adopted. This is because current measures ignore the depletion of resources and damage to the environment. Indeed, the MA itself highlighted this issue. Some have also argued that a focus on economic growth in decision making “can give greater weight to short-term economic cost considerations over long term social and environmental sustainability”. During a workshop on the MA held by the Global Biodiversity Sub-Committee (GBSC), a group considering the response section of the MA considered it “essential that the current debate on growth was moved beyond received economic views and onto a more appropriately sophisticated level, that recognised the value of natural assets and the costs of their

57 Ev57
58 Q47 [Mr Bass]
59 Q47 [Mr Bass]
60 Ev36
61 “CRS07: Reviews”, HM Treasury, www.hm-treasury.gov.uk
misuse appropriately”.

An example of a more sophisticated indicator is ‘genuine saving’ which was used by the World Bank in a recent report. This measure “provides a much broader indicator of natural resources, environmental quality, and human capital, in addition to the traditional measure of changes in produced assets provided by net saving.”

Proponents of alternative measures of wealth often point out that increases in GDP do not necessarily lead to improvements in human well-being and, due in part to the potential negative environmental impacts, may actually lead to a decline in well-being. Research commissioned by DEFRA described the complex nature of the factors influencing individual well-being, leading the authors to conclude, for example, that income offers “an incomplete picture of individual well-being”. Attempts have been made to create indicators that reconcile economic growth with environmental sustainability and measures of happiness. The New Economics Foundation (NEF), for example, has proposed the Measure of Domestic Progress (MDP) which incorporates additional factors such as the costs of crime and the breakdown of families. The Sustainable Development Commission has called for the Government to introduce such an indicator, to be considered “alongside GDP by 2008”. The SDC stated:

We see a society and a Government whose primary objective is still the achievement of economic growth as conventionally understood and measured, with as much social justice and environmental protection as can be reconciled with that central goal. We envisage a society whose primary goal should be the wellbeing of society itself and of the planetary resources and environment that sustains us all, with economic objectives shaped to support that central goal rather than the other way around.

We asked the Minister whether the Government was considering the use of a different measure of economic growth that accounts better for natural resources and their finite nature:

[I think this] is exactly the flipside, if you like, of what I said about moving to a metric and trying to get a proper system of valuation. Only if we do that, only if we can actually begin to quantify the value of ecosystem services and the cost of their

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degradation, are we going to be in a position then to start talking in the way that you have of measuring economic growth in this way.\textsuperscript{69}

79. He said that this is a “very attractive vision” but “first of all we have to [have a] basic agreement on a valuation system”.\textsuperscript{70} He stressed that they have renewed research efforts in this area. \textbf{We consider that the logical conclusion of research to value ecosystem services and to identify those factors that actually improve human well-being, will be the development of an econometric that measures growth in a way that recognises environmental limits and more accurately describes human well-being. Growth is, after all, not an end in itself. The Government must introduce an indicator of economic growth which incorporates the principles of sustainability and well-being as early as possible.}

\section*{The future of the MA}

80. The original thinking of the MA was that if the assessment proved to be useful to stakeholders it would evolve into a repeated assessment process similar to the Intergovernmental Panel on Climate Change (IPCC).\textsuperscript{71} Following its completion the leadership of the MA agreed that a repeating process is “desirable” but that it should differ from the IPCC in three ways:

- The global component of a repeating MA-like assessment should be undertaken on 6-8 year cycles rather than the 4 year cycles of IPCC
- In the intervening years between the global cycles of the assessment, there should be a much greater emphasis on national/regional assessments which tend to be of more direct benefit to decision-makers and can then ’roll up’ into the periodic global findings
- Although the assessment would need to become fully intergovernmental like the IPCC (for country ownership and funding reasons) it should retain a multi-stakeholder bureau much like the composition of the MA Board\textsuperscript{72}

81. There are a number of reasons why it would be beneficial to have a rolling programme. As the MA was a one-off, no provisions were made for an updating process so that its findings are rapidly becoming out of date. This is of particular concern in light of accelerating environmental degradation. A lack of follow-up may also leave the MA with the evidence gaps that affect its usefulness for policy-makers. Witnesses also commented on the value of the MA in that it drew together economists, ecologists and social scientists to work towards a common goal. This led to “new collaborations, partnerships and
networks across and between different disciplines – some of which provide important opportunities to tackle significant challenges. This has been described as the ‘social capital’ legacy of the MA”. The Joint Nature Conservation Committee (JNCC) stressed that the consideration of future assessments should be related to scientific assessment needs, and that assessments should not be conducted more than once per decade. It also stressed the importance of linking any rolling programme with other related initiatives.

82. We asked the Minister for his views on a rolling MA programme:

The first caveat that I would want to make is that there is always a danger of amassing more and more information and more and more research data and evidence and actually not getting round to applying it and making sure that it impacts on your policy delivery. That is the first thing I would want to caveat. It is of course important to continue to work with international colleagues in the scientific community to ensure that the provision of sound evidence on ecosystems and biodiversity is there. We need to make sure that that research is addressing the question that policy makers are asking and it is important that we focus our effort on finding ways to use that evidence, as I say, in decision making within the UK…

Of course, that is not to say that there is not a role for further ongoing assessments at global, regional or even national scales and we need to think carefully about the need and the form of any new mechanism for that. As I said before, we do not want to duplicate efforts of established bodies such as the global biodiversity outlook for CBD or UNEP’s global environmental outlook and so on.

83. We are concerned that the failure to establish an ongoing programme to undertake MA global assessments will result ultimately in the continued degradation of ecosystem services, which effective regular monitoring and assessment would help prevent. We strongly urge the Government to strive for the establishment of a rolling MA programme, the key features of which should include:

- Global assessments to be conducted at the least every 8-10 years
- A multi-stakeholder bureau to govern the MA secretariat to ensure the full participation of scientists, civil society, the private sector and governments
- A budget adequate to fund research to fill those gaps identified by the MA, as well as to provide effective monitoring of ecosystem services
- A focus on the identification and promotion of effective response options to ecosystem service degradation, including the development of economic incentives to ensure the full consideration of non-market ecosystem service values

73 Ev2
74 Ev54
75 Q96
• A continued focus on the value of sub-global assessments, between global assessment periods, in providing regional impetus and justification for better management of ecosystems

84. The institutions represented on the MA board originally planned to undertake an assessment of the impact and utility of the MA in 2006 or 2007, upon which a decision would be made as to the establishment of a rolling programme. This assessment has been postponed due to a recent consultation on an Intergovernmental Mechanism for Scientific Expertise on Biodiversity (IMoSEB), initiated by the government of France. IMoSEB would provide independent and regular scientific advice on biodiversity to better inform decision-makers and the public.76

85. The dramatic loss of biodiversity that is currently occurring requires an effective and forceful response. However, Walter Reid said of the proposals:

Unfortunately, the initial plans for IMoSEB seemed to have few of the features that we believed made the MA most useful and relevant to decision-makers. Most importantly, the MA was framed around the question of “how do changes to biodiversity and ecosystems affect human well-being?” and was thus as strongly focused on development as environment. IMoSEB however has focused more narrowly on biodiversity in its own right. It was also disappointing that the IMoSEB effort was developed without any linkage to the MA. Our thinking in the MA had been that after governments had experience with the MA they would be more likely to see that an ongoing process built on the MA would be acceptable. IMoSEB must instead ‘prove’ its utility just as the MA has done before it is likely to be accepted.77

86. The Minister told us that:

We have not yet responded to the IMOSEB consultation... We think that there is need for improved scientific information… which IMOSEB sets out in one of its questions, about biodiversity status, trends and ecosystem services. More multidisciplinary approaches are called for and that I think does go to what I said about getting the natural and the social scientists to speak with each other.

... We will want to look at the gaps in coverage and I do not think that we are persuaded that IMOSEB is necessarily the right sort of way forward. It is certainly raising some very important questions and we will want to make our response to those questions in a positive and constructive way, but I am not convinced yet that actually IMOSEB is the answer to achieving policy implementation in the way we would like to see of the things that the MA have set out for us.78

76 “Consultative process towards an International Mechanism of Scientific Expertise on Biodiversity; Connecting Biodiversity Knowledge and Decision-making”, IMOSEB, www.imoiseb.net
77 Ev55
78 Q93 & 94
87. Although we agree that there is a need to stem the continued devastating loss of biodiversity, we are not convinced that the current proposals to establish an IPCC-like body solely for biodiversity will be the answer. We argue that biodiversity loss is intricately linked to economic, development and other environmental factors and therefore a better solution must be to establish a body to consider these issues as a whole in a permanent MA body. In addition, the MA’s focus on the benefits that humans receive from ecosystem services will also help to convince those countries that may be less willing to subscribe to a solely biodiversity-orientated body to engage with the more holistic MA approach.

88. In our report, Outflanked: The World Trade Organisation, international trade and sustainable development, we highlighted a lack of consideration of the environment and development in international trade. We concluded that the current system must be changed to ensure that environmental issues are adequately accounted for in international trade. Given the right level of support an MA rolling programme with secretariat could facilitate this, acting as an interface between the WTO, Multilateral Environmental Agreements and other international organisations, as well as providing policy recommendations on sustainability through trade.

MA action in the UK

The implications of the MA for the UK

89. The MA gave evidence of the economic argument for more integrated management of ecosystem services. It also gave an insight into the extent of ecosystem degradation currently taking place and looked at ways in which the UK could respond to this. Bearing in mind the earlier critique of the MA in terms of evidence gaps, lack of economic analysis and poor communication to policy-makers, the evidence is nonetheless compelling as to the extent of ecosystem degradation and the implications it may have for our economy and long-term welfare.

UK Government action on the MA

90. We asked witnesses for their view on how successfully the UK Government had followed-up on the MA and incorporated its findings. The RSPB was critical of the Government’s response so far:

Our interaction with Government suggests that the MA findings have not successfully influenced decision making in the UK to date. While understanding of ecosystem services has grown within the Government, it is occurring at a glacial pace and has yet to be reflected in macroeconomic planning for which GDP growth
remains the dominant, overriding objective. Ecosystem services are still not systematically incorporated into policy and planning decisions.79

91. Witnesses were, in the main, of the opinion that the findings of the MA were starting to influence the Government’s thinking, particularly in DEFRA and DFID, but that as yet this had not fully translated into any real policy action. In written evidence to us, DEFRA stated that it is “keen to promote the findings of the MA. This awareness and promotion extends up to Ministerial level”. It pointed to a range of activities within DEFRA as well as “increasing use of the language of ecosystem services” as evidence of the MA’s integration into Government. It also highlighted an event it held with the JNCC in February 2006 to develop an overview of the strengths and weaknesses from the MA, an outcome of which was that “Government departments and agencies are currently taking part in a mapping exercise to assess current UK action in response to the MA”.81

92. In order to galvanise greater uptake of the MA’s findings across Government, the JNCC believes that an “internal government mechanism, such as [the Inter-Departmental Ministerial Group on Biodiversity (IDMGB)], is vital if the findings of the MA are to penetrate within and between departments and are to lead to coherent policy formulation which is then sustained in European and other international fora”. It stated that a range of departments would have to contribute to such a group including the DTI. This recommendation is similar to one made by RSPB which called for a Ministerial Committee or Task Force to ensure that “necessary actions are being implemented in a timely manner… to ensure the MA recommendations are effectively linked to the UK sustainable development strategy and core UK policy across Government”.83

93. The importance of cross-departmental action on MA findings is key in that the indirect and direct drivers of ecosystem degradation, according to the MA’s analysis, are rarely in the environmental field but are a function of wider political and economic issues. They are therefore controlled by departments without a primary focus on effective ecosystem management, such as DEFRA. The MA found that as a result of this division of management “there is seldom the political will to develop effective ecosystem management strategies, and competition among the ministries can often result in policy choices that are detrimental to ecosystems”. It therefore called for the “development of institutional frameworks that promote a shift from highly sectoral resource management approaches to more integrated approaches”.84

94. Barry Gardiner MP, Parliamentary Under-Secretary of State (Biodiversity, Landscape and Rural Affairs) in oral evidence to the Committee asserted that many of the key steps that the MA identified as being important to reduce the degradation of ecosystems “are

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79 Ev3
80 Ev37
81 Ev37
82 Ev52
83 Ev4
84 Millennium Ecosystem Assessment, Ecosystems and Human Well-being Synthesis (Washington 2005)
already part of the Government’s agenda and, in some cases, we have taken a leadership internationally on them, but we need to build on this in light of the MA”. Indeed, prior to the publication of the MA, the Government had already sought to better address the consideration of environmental issues in non-environment departments through, for example, the establishment of the Sustainable Development Commission to scrutinise all departments as to their action on sustainable development, and the production of Sustainable Development Action Plans by departments. Nevertheless the Minister conceded that the “key challenge for us is to mainstream the findings of the MA into policy and into decision making right the way across Government”.85

95. We commend the Government for being one of the main donors of this groundbreaking assessment. Nevertheless, the Government must now ensure that the findings are fully integrated into its work through the creation of a cross-departmental Ministerial group. The group should specifically manage inter-departmental coordination, implementation and monitoring of policies against the MA and coordination of MA-related research.

96. WWF in written evidence called for the Sustainable Development Strategy (SDS) to be re-evaluated to ensure that it is in line with the MA. The NGO pointed out the SDS is the “main tool for addressing ecosystem services in the UK”, and that it “cuts across Government departments, and requires reporting against sustainable development indicators”.86 The SDS was published around the same time as the MA, so was not able to draw upon it in its production. WWF believes that the SDS should be amended to report against the MA on ecosystem services.

97. The Government is committed to using the SDS as the basis for “integrating sustainable development into the 2006 spending review and later spending reviews which set Public Service Agreement targets and allocate resources”.87 The Minister told us that DEFRA is reviewing its Public Service Agreements (PSA) to see how they can be improved in response to the MA.88

98. Given that the main tool for the long-term cross-departmental maintenance of ecosystem services in the UK is the Sustainable Development Strategy, we consider it obvious that it must be reviewed to ensure that it is in line with the MA findings. Such a review should reflect the need to maintain ecosystem services both in the UK and abroad and therefore include the adoption of sustainable development indicators and PSAs that reflect this. Amendment of the SDS, sustainable development indicators and PSAs will enable incorporation of the MA findings in a more top-down way. The ultimate goal of this would be to, in effect, ‘MA-proof’ all Government activities.

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85 Q88
86 Ev65
87 Department for Environment, Food and Rural Affairs, The UK Government Sustainable Development Strategy, Cm 6467, March 2005
88 Q103
Action by departments

DEFRA

DEFRA is the lead department responsible for delivery of the Sustainable Development Strategy (SDS), and holds a Public Service Agreement for its delivery. DEFRA appears to have very much led in Government on MA follow-up activities. Much of the evidence received for this inquiry indicated that the MA had been incorporated into the thinking of DEFRA and DFID, but that the level of action required to reverse the degradation identified by the MA is not being implemented. For example, WWF stated that “the MA has had little direct influence on policy at either DEFRA or DFID, though there is some evidence that it has been discussed in broad terms in both departments”.89

99. RSPB agreed that DEFRA has started to internalise aspects of the MA, and pointed as evidence of this to David Miliband’s, Secretary of State for Environment Food and Rural Affairs, references to “one planet living”.90 Dr Avery from the RSPB elaborated on this:

Defra are in the middle of a strategy refresh at the moment, so they are looking at what their priorities are and how Defra should operate. I think they have got as far as “one planet, one climate”—which is a good first step—to recognise that this is a shared responsibility around the world in terms of what our climate looks like. I am not sure that we have got very far with “one planet farming” or “one planet house-building” or “one planet development”. We would be a bit worried at the moment that there is not much sign that Defra recognise that there is one planet but millions of species living on it, and that the loss of biodiversity is a big issue. So I think that Defra has only got part of the way in internalising some of the messages, which may be why they have cut Natural England’s budget—although it is a little unclear to us at the moment by quite how much that budget will be cut finally. The Environment Agency’s budget has been cut as well, which is relevant to the way that we manage the land in a more sustainable way. So neither of these impacts on important agencies, which should be helping to deliver some of the more joined-up thinking, is very positive.91

100. The RSPB did concede that DEFRA and DFID have started to undertake important research which will better enable the environment to be incorporated into economic and development decisions. However, it felt that this planned research “should not delay action to incorporate key MA recommendations as best as possible now. There are sufficient examples worldwide of sound ecosystem management for continued inaction to be inexcusable”.92

In its evidence to us, DEFRA outlined a range of actions that it was coordinating including:

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89 Ev65
90 Q29
91 Q29
92 Ev4
A Natural Environment Policy (NEP) programme to fund research into creating an ecosystems approach for England’s terrestrial ecosystems, drawing on the MA. The programme emphasises the MA conceptual framework for enabling decision-making across sectors.

Part of the NEP will deliver “practical tools, guidelines and methodologies to enable policy and decision makers to take account of limits, values and cumulative pressures”. This includes work on the valuation of ecosystem services.

Work to integrate climate change into biodiversity policy making, as well as an assessment of the economic value and cost effectiveness of the England Biodiversity Strategy.

Use of the MA as evidence for the natural resource protection aspects of the Comprehensive Spending Review.93

101. In oral evidence to us the Minister, Barry Gardiner MP, said that he believes the Government’s obligation now is “to try and see how we can use [the MA] to inform policy making and to inform decision making both within DEFRA and by developing tools that will help other Government departments make better policy decisions on the back of that ecosystem services approach and having a metric that enables them to do that”.94 He went on that “we have a heck of a job of work to do already trying to integrate into our thinking what the MA has already come up with and I think that we do have to take this in a systematic way”.95 He told us that the MA and the ecosystem services approach is feeding into a “strategy refresh” of the department.96

102. Given that a failing of the global MA was its lack of focus on the economic valuation of ecosystem services, as well as a lack of policy proposals directly relevant to many decision makers, we are very pleased to see that DEFRA is yet again funding important MA-related work that should lead to significant benefits to the environment, society and the economy. Nevertheless, due to the rate and extent of current ecosystem degradation, and the risk to society that such degradation causes, it is with some urgency that this research be completed. DEFRA must ensure that this research includes and takes note of independent research into policy options and has also led to concrete and robust policy outcomes, across Government, before the end of this Parliament.

DFID

103. We highlighted in two recent reports DFID’s failure adequately to act upon evidence as to the role of the environment in long-term poverty eradication.97 Therefore it is not

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93 Ev36
94 Q108
95 Q108
96 Q110
97 E.g. Environmental Audit Committee, Tenth Report of Session 2005-06, Trade, Development and Environment: The Role of DFID, HC 1014
surprising to us that witnesses to this inquiry have criticised DFID for failing adequately to respond to the MA. The RSPB argued that DFID’s 2006 White Paper on International Development “fails to prioritise the need to invest in a healthy environment for poverty eradication … even if it may not be a DFID role to lead on MA follow-up per se”.98 It pointed out that although the MA had “stark warnings and vital messages” for DFID, only one reference was made to the MA in the White Paper, and this was in the endnotes. 99 The Royal Society agreed that although DFID officials appear to have been influenced by the MA, this does not appear to be reflected in either DFID’s Approach to the Environment (2006), or its White Paper on International Development (2006).100

104. However, other witnesses were more upbeat about how the department has started to act upon the findings of the MA, specifically in relation to its research programme. Steve Bass from IIED thought that DFID was still considering the implications of the MA and what it might most usefully do in relation to it. He thought that this would include work looking at how economic incentives might be used to maintain ecosystem services.101 NERC elaborated on DFID’s current thinking by highlighting that it is working with the department and the Economic and Social Research Council (ESRC) on:

… a proposal for quite a significant project on ecosystems and poverty alleviation. This is to look at what is driving the degradation of a number of key services and using that scientific information as evidence as to how it can help with poverty alleviation. DFID are taking a strong role on this. They have already announced a major involvement with ESRC, and I think that quite a lot can be traced back to the Millennium Assessment and what it said about the degradation of services and the impact on the developing world.102

105. Neville Ash from the UNEP-WCMC also highlighted to us that DFID had commissioned a study from the UNEP-WCMC on the role of biodiversity and the supply of ecosystem services. He went on that “they are interested at the moment in the UK impact on international biodiversity as related to ecosystem services as well”.103 In response to our recent Report on DFID, in which we criticised its failure fully to consider the environment in its policy documents, DFID stressed that “we agree that the international community—including the UK—must do more to respond to the growing weight of evidence that our environment is under threat”. It went on:

If not addressed, much of our current and future progress in lifting people out of poverty—the mission of the Department for International Development—could be reversed. Tackling this means working for a collective response at a global level,

98 Ev4
99 ibid
100 Ev58
101 Q62
102 Q67 [Dr Wilson]
103 Q67 [Neville Ash]
getting UK policy right, and working with our multilateral and developing country partners. We fully recognise the need for action now.104

106. Given that DFID officials seem to realise increasingly the importance of the environment in reaching poverty reduction goals, and that DFID is looking to commission a range of important MA-related research projects, we are baffled as to why recent DFID White Papers have failed adequately to account for the role of the environment in development. This failure indicates to us that knowledge of the importance of the environment to development objectives has not permeated all levels of DFID. In its response to our criticism of its insufficient consideration of the environment, DFID stated that it “fully recognise[s] the need for action now”. Given this recognition, we expect all future policy documents to account fully for the MA’s findings.

**HM Treasury**

107. HM Treasury is currently conducting a Comprehensive Spending Review (CSR) that will “represent a long-term and fundamental review of Government expenditure”, and give departmental allocations for 2008-09, 2009-10 and 2010-11.105 The outcome of the CSR will have implications for the resources available for environmental research and management. Indeed, NERC also pointed out to us that its ability to undertake MA follow-up research will depend on a “good part” on the outcome of the upcoming CSR.106 Dr Avery from RSPB was optimistic that the Treasury would look positively upon the MA findings and cautioned that progress might be slow if it did not:

> I think that the Treasury would be keen to make progress on this. I said earlier that we pretend we live in an economic world when actually we live in an ecological world, by which I mean that we depend on things that grow and the water that we can drink, not on bits of money. […] Because the Treasury is in charge of the money and is in many ways—certainly they would think so—the intellectual powerhouse of a lot of government policy, I suppose we would see that if we could get the Treasury more hooked on the ecosystem services, the value of wild places to people, and to some extent to the economy, then that would be a way of cracking this problem. While it remains something for other government departments to pick up if they think it is a good idea, it will be rather slow progress.107

108. In its written evidence DEFRA stated that it had used the MA as an evidence base for its discussions with the Treasury on natural resource protection as part of its contribution to the CSR.108 The Minister also told us that his department is looking at how research

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106 Ev20

107 Q33 [Dr Avery]

108 Ev37
currently being conducted to quantify and value environmental impacts could feed into the CSR. We asked the Minister to clarify whether the MA was being drawn upon more widely in the CSR, outside of traditional DEFRA policy areas and into other departments. He told us that this is “precisely [what] I want to see”, and that the research projects to value ecosystems would enable other departments to take such better policy decisions.

When asked how involved the Treasury is with this process, the Minister said:

I am delighted to tell you that Treasury economists and Defra economists and World Bank economists are all engaging on this. I do not feel in any sense that this is something where Defra is waving a little flag in the air and saying, “We’ve got a good idea, is anybody out there prepared to take notice of us?” […] This is something that has been identified by the MA as one of the gaps that they want to see us move to fill. […] This is not something that is just confined to one area of government. That is not to say that we yet have the tool; we have not managed to develop it but we are all working together to try to achieve that because we see the potential benefits.

109. As the CSR is a fundamental and long-term review of Government funding we are concerned that failure to satisfactorily incorporate the MA’s findings might, in effect, lock in unsustainable practices for that period. It is therefore extremely important that the CSR effectively reflect the need to address the MA findings, particularly in relation to ensuring that the full non-market value of ecosystems are fully accounted for across all policies. Therefore the research projects to identify the true value of different ecosystem services must be completed quickly and fed into the CSR, at least in an interim form, in order directly to influence its outcome.

110. Better to inform the CSR the Treasury undertook a review involving a number of stakeholders to examine a number of long-term trends and challenges, including “demographic and socio-economic change, globalisation, climate and environmental change, global uncertainty and technological change”.112 This review, published 27 November 2006, drew heavily on the MA and the Stern Review in its analysis of global trends. It also drew upon the MA in a brief discussion on how its concept of ecosystem services can “improve established cost-benefit techniques for policy appraisal and evaluation, aiding understanding of the ongoing relationship between economies and the environment, in particular by recognising that changes to the environment may reduce or enhance its ability to perform these functions in future”.113 The review concluded that:

If the pressures associated with projected population and economic growth are not well managed there will be a range of stresses on resource provision, and existing regulatory and protective mechanisms. Climate change, as the Stern Review on the
Economics of Climate Change made clear, represents an urgent challenge. If left unchecked, the burning of fossil fuels and land use changes will lead to dangerous climate change with high economic costs... In terms of more localised environmental issues, pressures on waste and water will need to be carefully managed in the coming decades and continued action to prevent loss of biodiversity and make more efficient use of land will be needed too. 114

111. The Treasury said that in response to these challenges it would “work to release resources to meet [them]”, and that its priorities would also have to evolve if it is to achieve its four long-term goals.115 The MA has particular relevance to two of these long-term goals, sustainable growth and employment and a secure and fair world. The Treasury discussed further how these goals might be affected by the environmental challenges identified by the review. For sustainable growth and employment it said that it would be “important” to manage pressures on the environment “so that they do not undermine long-term prosperity” 116

112. We greatly welcome the analysis of long-term opportunities and challenges, commissioned by the Treasury, to feed into the CSR. The analysis relied greatly on the MA and highlights that long-term economic prosperity is dependant upon a healthy and functioning environment. However, we are concerned that the Treasury concludes that it would be “important” to manage these environmental pressures. We believe this understates the fact that it is essential that these challenges are met, for long-term prosperity to be achievable.

113. In relation to a secure and fair world the Treasury concluded that the UK alone would not be able to deal with “many” of the challenges identified. It stated that “[a]chieving focused UK engagement in multilateral efforts and the most effective use of the UK’s security, defence and development budgets will therefore be a key part of the Government’s response”.117 Given the interrelated nature of instability, terrorism, international poverty and climate change it is important that the Treasury accepts the need to create an environment in Government that enables action on these issues to be dealt with in concert, and provides the funding for this to occur. We would also like to point out that the UK can make a significant unilateral contribution to dealing with these issues such as though its procurement and taxation policies. Indeed, we have called on a number of occasions for more fiscal incentives and penalties to encourage more sustainable choices.

114. Although the Treasury is right to highlight climate change as being a major challenge in relation to its long-term goals, the importance of other ecosystem services, such as those provided by biodiversity, should not be underestimated or forgotten in the CSR. Given that the MA proved the importance of these other ecosystem services,

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114 ibid, p8
115 ibid, p9
116 ibid, p128
117 ibid, p131
resources for effective ecosystem management should not be squeezed in the CSR. The Treasury must ensure that the CSR reflect this need in the budgets decided for DEFRA, DFID and the relevant research councils.

115. Nevertheless, although we have these concerns, we are encouraged that the Treasury had the foresight to undertake the long-term trend and challenges review and the Stern Review, and hope that this reflects an increased awareness in the Treasury for the need for decisive action on these issues. We also hope that the Treasury’s statement that it would “work to release resources” to meet the environmental challenges identified is reflected in the decisive action needed.

The Barker Review of Land Use Planning

116. The Treasury published the Barker Review of Land Use Planning in December 2006, shortly after our last evidence session with the Minister. In light of the Treasury’s focus on the challenge of environmental degradation in the CSR, we were disappointed to see that the Review failed to give sufficient weight to the environmental or social consequences of the proposed changes to the planning system. The Review itself stated that its focus was on economic issues, albeit that “the recommendations have also sought to advance environmental goals”. The Review appears therefore to have failed to address one of the key findings of the MA, that ecosystem management must be fully integrated into other sectors. The MA pointed out that “the most important public policy decisions affecting ecosystems are often made by agencies and in policy arenas other than those charged with protecting ecosystems”.

117. Although some recommendations are welcome, the Review focuses on the need to meet future demand for land without considering fully whether it might be possible to reduce this demand. Therefore, in MA terminology, it did not seek to address the indirect drivers of the proposed ecosystem changes, such as demographics or cultural factors. For example the Review establishes that the number of residential properties required will increase greatly in part to increasing numbers of single occupancy households, and therefore calls for increased land to be provided for their construction. However, the Review neglected to consider fully how higher occupancy households could be encouraged, or how the impact of single occupancy households could be lowered. Bearing in mind that 72% of projected growth in households to 2026 will be a result of such single person households, this issue should have been better addressed.

118. The indirect negative impacts of a policy to expand development could be severe and need to be weighed up against the predicted benefits. An example of these potential impacts can be found in the UK CO₂ emissions projections to 2020, which have recently been updated to account for the increased population and household number forecasts.

119 Millennium Ecosystem Assessment, Ecosystems and Human Well-being Synthesis (Washington 2005), p20
120 “More single households and growth in the Midlands and North increase housing demand”, Office of the Deputy Prime Minister press release 2006/0044, 14 March 2006
The projections indicate that an extra 1.22 million tonnes of carbon will be emitted each year by 2020 as a result.\textsuperscript{121}

119. Without doubt the expansion of development into new areas will bring some economic benefits but, as we have seen earlier, economic growth without adequate consideration of the environment or social impacts is unlikely to translate into increased human welfare. Although we reluctantly accept that development may be required on certain green field sites, we are not confident that the Barker Review has attempted to balance economic, environmental and social considerations, or to consider the full range of policy options that might be available to reduce land pressure. It has therefore not followed all the principles espoused by the MA. We hope that the Government will seek to redress this imbalance upon implementation of the Review’s recommendations.

**A UK Millennium Assessment**

120. The former director of the MA, Walter Reid, told us that, rather than conducting another global MA (which would be better in 3-4 years), the focus should now be on “efforts to catalyze national, regional, and local assessments around the world”.\textsuperscript{122} He thought that it would be “extremely valuable” for the UK to undertake a national assessment, as “what is needed is the application of the general MA approach at national (or even sub-national) levels since these are the scales where decisions influencing ecosystems are actually made. Once there is more experience with the utility at these scales then the case will be stronger for periodic global assessments of this nature”.\textsuperscript{123} Other witnesses agreed that a UK assessment would be useful, particularly for validating the MA methodologies as the UK is unique globally in terms of the quality of data available.\textsuperscript{124}

121. Dr Osborn from NERC felt that much of the work required to undertake a UK assessment had already been done and that future information such as the Countryside Survey would add to this over the next couple of years. He felt that “there are some very promising ways in which we could do an MA but it is probably more for departments to decide whether they want to have that type of information available in the round or whether they want to make progress on specific ecosystems and make more rapid progress across a narrower front”.\textsuperscript{125} Dr Osborn stated that he does see the value in bringing together information in this way to form an MA-type assessment.\textsuperscript{126}

122. The JNCC, however, called instead for an assessment of the MA from a UK perspective rather than a full MA. It stressed that as the MA did not undertake more local assessments, other than the use of individual research projects to stress certain points, it is

\textsuperscript{121} Department for Trade and Industry, *UK Energy and CO2 Emissions Projections, July 2006*

\textsuperscript{122} Ev55

\textsuperscript{123} ibid

\textsuperscript{124} Ev6 & Ev58

\textsuperscript{125} Q81 [Dr Osborn]

\textsuperscript{126} Q82
difficult for MA findings to be effectively used at more local scales “without further work to assess the relevance or appropriateness of its findings at this scale”. It therefore recommended that work already conducted by the Global Environmental Change Committee’s Global Biodiversity Sub-Committee (GBSC) to appraise the MA from a UK perspective should be continued:

This is an essential step in trying to integrate the findings of the MA into UK policies and practices. It should not be a laborious and time-consuming replication of the MA process for the UK, but rather a consideration of the MA to identify the key issues for the UK. The recommendations made by the GBSC usefully outline the work necessary to undertake this type of UK assessment report.

123. Neville Ash from UNEP-WCMC told us that he believes that the research DEFRA is already conducting is, essentially, an MA-type assessment for England. He said that this was because “of the activities underway in terms of looking at data availability for ecosystem services, looking at trends of ecosystem services, looking at the evaluation of ecosystem services through time, and doing that at an England scale, and in this case four sub-England scales”. He recognised that there are some key differences between DEFRA’s research and what might be considered a full assessment, such as a lack of the development of scenarios and responses and the participation of stakeholders, but argued that many sub-global assessments were similar to DEFRA’s research. He concluded by saying that “in terms of the on-going follow-up and co-ordination and sharing of lessons learnt within a sub-global assessment within UNEP, we are seeing this England and sub-England assessment very much as one of the sub-global activities of the MA”.

124. The Minister, Barry Gardiner MP, told us that he does not consider the DEFRA research to be an MA assessment, specifically due to the lack of inclusion of scenarios. He did argue however that “it is a comprehensive assessment and it will advise on how we could achieve a full national assessment if that is the road that we then want to go down if we think that is the best thing that we could do at that stage”. He stressed that the research being conducted is “working to develop a strategic approach to conservation and enhancement of the environment and that will include the development of a framework for looking at whole ecosystems that draws on the whole approach of the MA”. He argued that it is the Government’s obligation now “to try and see how we can use the research that has been done through the MA to inform policy making and to inform decision making […] within DEFRA”. He also stressed that this obligation extended to the development of “tools that will help other Government departments make better policy decisions on the back of that ecosystem services approach and having a metric that enables

127 Ev53
128 ibid
129 Q82 [Mr Ash]
130 Q82 [Mr Ash]
131 Q96
132 ibid
133 Q108
them to do that”. The Minister did not rule out a full MA assessment for the UK in the future, accepting that it may enable better identification of effective policy responses. He stressed that the Government is trying to integrate the MA’s findings in a “systematic way”.

125. **We accept the Minister’s point that integration of the MA findings must be undertaken in a systematic and coordinated manner and therefore we call for a Ministerial group to be established to oversee this process. This group must undertake to assess and evaluate the MA from a UK perspective, and coordinate the various stands of research that are being conducted and planned. Ultimately the Government should conduct a full MA-type assessment for the UK to enable the identification and development of effective policy responses to ecosystem service degradation.**

### UK Overseas Territories

126. There are 14 UK Overseas Territories (UKOT) including Bermuda, the Falkland Islands and Pitcairn. These have:

… their own identity and governing structure and are not represented in the UK Parliament; however, they form part of the nation-state of [the] UK. The exact relationship between Overseas Territories and the UK differs for almost all the Territories, but generally the UK is responsible for defence and international relations (including international conventions), as well as other aspects in some Territories, and is expected to provide general advice and support in most aspects of government. The UK also has reserve powers in respect of legislation.

127. The biodiversity value of the UKOT is very great, and they support more than 200 endemic plants and over 20 endemic birds, with new species still being discovered. The UK Overseas Territories Conservation Forum (UKOTCF) notes that in the UKOT “ecosystem loss and global extinctions—which could be prevented—are still occurring”. One global extinction has occurred in the OTs since 2000, and some 240 species are at a high risk of global extinction in these territories.

128. Funding for conservation in the UKOTs is, according to UKOTCF, very poor. Due to their status as UK territories, the OT are “not eligible for most international grant sources,
but nor are they eligible for most UK funding”.140 Primary UK Government funding for important biodiversity conservation projects comes from the Overseas Territories Environment Programme (OTEP), run jointly by the FCO and DFID. The programme offers “advice and small grant funding to the UKOT to enable the implementation of their Environment Charters and environment management more generally”.141 This fulfils a DFID commitment in a 1999 White Paper to “provide additional assistance to the poorer territories in addressing global environmental concerns”.142 The FCO and DFID have provided the programme with £1.5m for a three year period 2004/05—2006-07.143

129. A review of the OTEP conducted by Steve Bass at IIED and published February 2006 concluded that it has proven “extraordinarily valuable” in supporting biodiversity conservation in the UKOT. It also concluded that there are “increasingly apparent environmental capacity gaps” in the UKOT. The funding system of the OTEP, although successful, is not suitable for larger-scale environmental problems over a larger time frame, and support is need also to fund additional capacity, such as staff, which “will be key”.144 FCO and DFID responded that “as a matter of policy (and because of resource constraints) OTEP does not support permanent salaried positions”. They went on:

It is our view that if governments in the territories are sufficiently committed to their Environment Charters, they should support such positions from their own resources, as indeed some already do. We will, however, continue to provide short-term technical assistance where appropriate (either through projects, or otherwise), and will use our best endeavours to source expertise from other agencies or charities.145

130. A recent review conducted by JNCC would appear to contradict this assertion:

Many of the Territories have limited capacity to address environmental issues despite some very talented and dedicated staff in governments and NGOs. This situation largely reflects the low population numbers (from 40 to 88,000 people) within the respective Territories and the attendant limited financial and human resources (and other competing priorities for resources). Even in those Territories where per capita income is high, the low population size greatly limits the funds available for nature conservation. Most biodiversity support from the UK is in time-limited projects which limit the ability of Territories to develop and retain capacity in the longer

142 ibid
143 ibid
144 ibid
term. The Territories may also be, or feel, isolated from one another and from the
UK.  

131. The UKOTCF is concerned that a lack of resources is jeopardising biodiversity in the
OT, and criticised DEFRA for failing to address the issue:

The Forum and its members remain concerned at the lack of financial commitment
by Defra to UK’s shared responsibilities for conservation in the UK Overseas
Territories. The Darwin Initiative is a scheme in which UK tries to help other
countries, and these are taken to include the UK Overseas Territories for this
purpose. However, this is UK acting as a good citizen of the world; it does not
address specifically those parts of the world for which UK has shared responsibility.
The UK Overseas Territories are the most important parts of the world in
biodiversity terms for which UK has responsibility. However, the human
populations resident on them are too small (whatever their average income) alone to
provide for all the conservation measures. The spend by UK per endemic species, or
per vulnerable species, or by whatever unit chosen, is several orders of magnitude
smaller for UK Overseas Territories than for Great Britain and Northern Ireland.
Defra has been unresponsive to this disgraceful situation, which has been noted to it
for several years by the Forum and others. Action is needed urgently, as endemic
species for which UK is responsible continue to disappear.  

132. It argued that failure to address this issue is “a fundamental reason why UK will fail to
meet its internationally agreed 2010 targets”.  

133. Considering the UKOTs lack of capacity, both financial and human, we find it
distasteful that FCO and DFID stated that if UKOTs are “sufficiently committed” they
should support environmental positions “from their own resources”. The continued
threat of the extinction of around 240 species in the UKOTs is shameful. If the
Government is to achieve the World Summit on Sustainable Development 2010 target
to significantly reduce the rate of biodiversity loss within its entire territory, the
Government must act decisively to prevent further loss of biodiversity in the UKOTs.

134. Defra involvement in the OTs “is currently limited to a few Darwin Initiative grants,
some support on issues around MEAs, and occasionally supporting greater access by OTs
to EU environment funds”. The reason for this is due to DEFRA having limited
responsibility towards the OTs, as the OT White Paper “conferred no additional resources
on DEFRA to support the OTs”. The review of the OTEP conducted by IIED proposed that
DEFRA:

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146 “UK Overseas Territories and Crown Dependencies: A review of JNCC’s current and future involvement”, Joint
Nature Conservation Committee, June 2006, www.jncc.gov.uk


148 Ibid

149 “A review of the Overseas Territories Environment Programme (OTEP)”, IIED for DFID & FCO, 6 February 2006,
www.ukotcf.org
…be requested to consider a lead involvement in reviewing progress in the Environment Charters (both OT and HMG commitments), perhaps through the JNCC. We further propose that the case for larger or more routine funding from HMG is explored, particularly for capacity development, in which the Environment Agency would be well-placed to play a technical role: a submission to the Inter-Ministerial Working Group on Biodiversity should be considered.150

135. The response from Government on these recommendations was unsatisfactory:

The matter of longer-term and more substantial HMG funding for biodiversity conservation and environmental management in the territories is one that has been raised by NGOs at the regular six-monthly meetings between the UKOTCF and representatives of HMG departments. We understand that the UKOTCF may be considering an approach to ministers.151

136. The issue of funding in the UKOTs was raised during this inquiry. The RSPB claimed that “about £10 million a year is all that would be needed to meet the conservation needs in all territories”.152 It went on that such conservation funding is crucial for the UKOTs as the environment “provides essential services, not least for nature-based industries on which many livelihoods there depend (e.g. tourism and fishing)”.153

137. Dr Osborn from NERC told the Sub-committee:

..there is a general appreciation in the UK ecological community that those territories are quite important in biodiversity terms. They have got some very unique resources. I see a slight trend in government that that is perhaps an area of biodiversity resource that has not quite received the attention it has deserved. Whether that translates into increased funding for that area is another issue, and I cannot comment on that, but I do detect an increasing recognition that there are important biodiversity resources that fall under the UK’s general responsibilities towards those overseas territories.154

138. In evidence to the Committee, the Minister stated that there is a complexity in addressing the conservation needs of the UKOTs, is legally complex as internationally the UK Government has responsibility for biodiversity there, but biodiversity is now a devolved issue for the UKOTs to deal with themselves:

I think that there is a difficulty that we need to acknowledge here—and I would actually find it quite interesting to get feedback from your Committee on this—in that we have a recognition that many of these overseas territories do not have the resources to tackle some of the biggest issues that they are facing at an environmental

152 Ev3
153 ibid
154 Q65
level and yet they are, as I say, to all intents and purposes devolved matters for them to administer within their own borders. I think that there is a tension here.155

139. According to the OTEP review conducted by IIED, this appears to be less of a hurdle than the Minister might believe, as the review concluded that the issue “is primarily a budgetary one” due to DEFRA not having being conferred additional resources to support OTs.156 When asked whether there was the argument for more UK Government resources to be channelled towards the UKOTs, the Minister responded:

I am sure that somebody could make it an argument! I am not seeking to do that. What I am seeking to do is genuinely say that I think we have to recognise that there is an issue here because it is clear that many of the overseas territories would find great difficulty in tackling the sorts of habitat degradation that may be affecting species that are located within their borders on their own and I do think we need to not just look at what we can do at an international level such as through conventions like ECAP and so on but we do need to recognise here that the overseas territories are facing.157

140. We welcome the DEFRA Minister’s recognition of the problems facing the UKOTs, and their lack of capacity to deal with the environmental challenges that they face. Given this and our international, not to mention moral, obligation to prevent biodiversity loss in the UKOTs, the Government must now move towards increased and more appropriate funding for conservation and ecosystem management there. The amount of resources required to undertake this work is miniscule in comparison to the environmental and social gains that would be expected. Such funding must be more long-term and strategic to enable the environmental capacity in the UKOTs to reach the levels required. DEFRA must be given joint responsibility for delivery of this.

141. In evidence to this inquiry the Royal Society said that “the UK overseas territories could provide useful case studies for the application of the MA framework as an alternative to an assessment of the UK as these are generally the UK’s biodiversity hotspots”.158 The undertaking of an MA-type assessment might prove particularly helpful in the UKOTs due to the range of challenges that they often face. Indeed, the review of OTEP found that interviewees in the UKOTs “frequently cited waste management, sanitation and pollution control as pressing local environmental needs (addressing both existing legacies of degraded land and polluted water, and the risks posed by continued development patterns)”. The review stated that addressing such problems will be “critical to the OTs’ future”.159 The range of environmental, social and economic challenges facing UKOTs will be better addressed by undertaking an MA-type assessment for each UKOT. The

155 Q98
157 Q100
158 Ev58
UK Government must work jointly with UKOT governments on an MA to ensure that their ecosystem services are not damaged further and preserved into the future. The Inter-departmental Ministerial Group on Biodiversity should seriously consider this as the route by which they can achieve their commitments to the UKOTs.
Formal minutes

Tuesday 12 December 2006

Members present:

Mr Tim Yeo, in the Chair

Mr Martin Caton
Mr Colin Challen
Mr David Chaytor
David Howarth
Dr Desmond Turner
Joan Walley

The Committee deliberated.

Draft Report (The UN Millennium Ecosystem Assessment), proposed by the Chairman, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 141 read and agreed to.

Resolved, That the Report be the First Report of the Committee to the House.

Ordered, That the Appendices to the Minutes of Evidence taken before the Committee be reported to the House.

Ordered, That the Chairman do make the Report to the House.

The Committee deliberated.

[Adjourned till Tuesday 9 January 2007 at 10.00am]
Witnesses

Wednesday 25 October 2006

Dr Mark Avery, Director of Conservation, and Ms Joanna Phillips, Head of Trade and International Development Policy, RSPB

Mr Steve Bass, Senior Fellow, Natural Resources Group, International Institute for Environmental Development (IIED)

Mr John Forgách, Research Affiliate and McCluskey Fellow, School of Forestry and Environmental Studies, Yale University, also Chairman of Forestre Holdings UK, Ltd.

Wednesday 1 November 2006

Mr Neville Ash, Head of Ecosystem Assessment, UN Environment Programme

Dr Steven Wilson, Director, Science and Innovation and Dr Daniel Osborn, Strategic partnerships broker, Natural Environment Research Council (NERC)

Wednesday 22 November 2006

Mr Barry Gardiner MP, Parliamentary Under-Secretary of State (biodiversity, landscape and rural affairs)
List of written evidence

Bio Sustainability/Diversitas (University of York) Ev48
British Ecological Society Ev49
Department for Environment, Food and Rural Affairs Ev36
Joint Nature Conservation Committee Ev51
Natural Environment Research Council (NERC) Ev19/27/35
Packard Foundation Ev55
Royal Society for the Protection of Birds (RSPB) Ev1
Royal Society Ev56
Secretariat of the Convention on Biological Diversity (SCBD) Ev59
UN Environment Programme (UNEP-WCMC) Ev25
WWF Ev63
Past reports from the Environmental Audit Committee since 1997

2005-06 Session

First Greening Government: the 2004 Sustainable Development in Government Report, HC 698
Second Sustainable Timber, HC 607
Third Sustainable Procurement: the Way Forward, HC 740
Fourth Pre-Budget 2005: Tax, economic analysis, and climate change, HC 882
Fifth Sustainable Housing: A follow-up report, HC 779
Sixth Keeping the lights on: Nuclear, Renewables, and Climate Change, HC 584
Seventh Sustainable Development Reporting by Government Departments, HC 1322
Eighth Proposals for a draft Marine Bill, HC 1323
Ninth Reducing Carbon Emissions from Transport, HC 981
Tenth Trade, Aid and Development: The Role of DFID, HC 1014

2004-05 Session

First Housing: Building a Sustainable Future, HC 135
Second Corporate Environmental Crime, HC 136
Third World Summit on Sustainable Development 2002: A UK Progress Report, HC 381
Fourth The International Challenge of Climate Change: UK Leadership in the G8 and EU, HC 105 (Reply Cm6617)
Fifth Environmental Education: Follow-up to Learning the Sustainability Lesson, HC84 (Reply Cm6594)
Sixth Sustainable Public Procurement, HC 266
Seventh Pre-Budget 04 and Budget 05, HC 261 (Reply HC 528)

2003-04 Session

First Annual Report 2003, HC 214
Second GM Foods – Evaluating the Farm Scale Trials, HC 90
Third Pre-Budget Report 2003: Aviation follow-up, HC 233
Fourth Water: The Periodic Review 2004 and the Environmental Programme, HC 416 (Reply, HC 950)
Fifth GM Foods – Evaluating the Farm Scale Trials, HC 564
Sixth Environmental Crime and the Courts, HC 126 (Reply, HC 1232)
Seventh Aviation: Sustainability and the Government Response, HC 623 (reply, HC1063)
Eighth Greening Government 2004, HC 881 (Reply, HC 1259)
Ninth Fly-tipping, Fly-posting, Litter, Graffiti and Noise, HC 445 (Reply, HC 1232)
Tenth Budget 2004 and Energy, HC 490 (Reply, HC 1183)
Eleventh Aviation: Sustainability and the Government’s second response, HC1063
Twelfth Environmental Crime: Wildlife Crime, HC 605 (Reply, HC 438)
Thirteenth Sustainable Development: the UK Strategy, HC 624
2002-03 Session

First  Pesticides: The Voluntary Initiative, HC100 (Reply, HC 443)
Second  Johannesburg and Back: The World Summit on Sustainable Development–Committee delegation report on proceedings, HC 169
Third  Annual Report, HC 262
Fourth  Pre-Budget 2002, HC 167 (Reply, HC 688)
Fifth  Waste – An Audit, HC 99 (Reply, HC 1081)
Sixth  Buying Time for Forests: Timber Trade and Public Procurement - The Government Response, HC 909
Seventh  Export Credits Guarantee Department and Sustainable Development, HC 689 (Reply, HC 1238)
Eighth  Energy White Paper – Empowering Change?, HC 618
Ninth  Budget 2003 and Aviation, HC 672 (Reply, Cm 6063)
Tenth  Learning the Sustainability Lesson, HC 472 (Reply, HC 1221)
Eleventh  Sustainable Development Headline Indicators, HC 1080 (Reply, HC 320)
Twelfth  World Summit for Sustainable Development – From rhetoric to reality, HC 98 (Reply, HC 232)
Thirteenth  Greening Government 2003, HC 961 (Reply, HC 489,2003-04)

2001-02 Session

First  Departmental Responsibilities for Sustainable Development, HC 326 (Reply, Cm 5519)
Second  Pre-Budget Report 2001: A New Agenda?, HC 363 (HC 1000)
Third  UK Preparations for the World Summit on Sustainable Development, HC 616 (Reply, Cm 5558)
Fourth  Measuring the Quality of Life: The Sustainable Development Headline Indicators, HC 824 (Reply, Cm 5650)
Fifth  A Sustainable Energy Strategy? Renewables and the PIU Review, HC 582 (Reply, HC 471)
Sixth  Buying Time for Forests: Timber Trade and Public Procurement, HC 792-I , (Reply, HC 909, Session 2002-03)

2000-01 Session

First  Environmental Audit: the first Parliament, HC 67 (Reply, Cm 5098)
Second  The Pre-Budget Report 2000: fuelling the debate, HC 71 (Reply HC 216, Session 2001-02)

1999-2000 Session

First  EU Policy and the Environment: An Agenda for the Helsinki Summit, HC 44 (Reply, HC 68)
Third  Comprehensive Spending Review: Government response and follow-up, HC 233 (Reply, HC 70, Session 2000-01)
Fourth  The Pre-Budget Report 1999: pesticides, aggregates and the Climate Change Levy, HC 76
Fifth  The Greening Government Initiative: first annual report from the Green Ministers Committee 1998/99, HC 341
Sixth  Budget 2000 and the Environment etc., HC 404
Seventh  Water Prices and the Environment, HC 597 (Reply, HC 290, Session 2000-01)
### 1998-99 Session

**First**  The Multilateral Agreement on Investment, HC 58 *(Reply, HC 45, Session 1999-2000)*

**Second**  Climate Change: Government response and follow-up, HC 88

**Third**  The Comprehensive Spending Review and Public Service Agreements, HC 92 *(Reply, HC 233, Session 1999-2000)*

**Fourth**  The Pre-Budget Report 1998, HC 93

**Fifth**  GMOs and the Environment: Coordination of Government Policy, HC 384 *(Reply Cm 4528)*

**Sixth**  The Greening Government Initiative 1999, HC 426

**Seventh**  Energy Efficiency, HC 159 *(Reply, HC 571, Session 2000-01)*

**Eighth**  The Budget 1999: Environmental Implications, HC 326

### 1997-98 Session

**First**  The Pre-Budget Report, HC 547 *(Reply, HC 985)*

**Second**  The Greening Government Initiative, HC 517 *(Reply, HC 426, Session 1998-99)*

**Third**  The Pre-Budget Report: Government response and follow-up, HC 985

**Fourth**  Climate Change: UK Emission Reduction Targets and Audit Arrangements, HC 899 *(Reply, HC 88, Session 1998-99)*
Oral evidence

Taken before the Environmental Audit Sub-Committee

on Wednesday 25 October 2006

Members present:

Colin Challen, in the Chair

Mr Martin Caton

Mr Edward Vaizey

David Howarth

Memorandum submitted by the Royal Society for the Protection of Birds

1. Summary

1.1 The stark picture painted by the Millennium Ecosystem Assessment (MA) is of critical importance to both developed and developing countries. However, despite the MA’s clear and stark warnings that ecosystem services underpin life on Earth, human prosperity and poverty eradication, our interactions with the Government suggest that MA findings have not significantly influenced decision making in the UK to date.

1.2 This seems to be the case internationally as well and is particularly worrying as the degradation of ecosystems will be a critical barrier to the achievement the UN Millennium Development Goals (MDGs). In light of this, the Government and the international community need to better invest in and manage environmental assets (such as soil, water and biodiversity). Such investment is central to cost-effective and efficient long-term strategies to achieve global goals for poverty, hunger and diseases and sustained economic prosperity—all depend on restoring a healthy environment.

1.3 The RSPB believes that the MA provides a valuable conceptual framework for linking ecosystems and biodiversity to human well-being which should be used and supported to help deliver sustainable development. Our specific recommendations to ensure the MA is not a wasted opportunity include:

(i) Increasing awareness of key policy makers responsible for decisions that affect natural resources on the importance of the MA findings and their implications for policy, institutional design and governance.

(ii) Providing senior-level leadership as well as financial and technical support towards the development and effective implementation of tools, methodologies, guidelines and clear examples to ensure decision makers at all levels in different disciplines use and mainstream the MA.

(iii) The Government should start a programme, if necessary beginning with a pilot, to “MA proof” all government activities and to provide the funding necessary to make this happen. This should clarify and strengthen accountability mechanisms and processes for environmental due diligence in all government departments.

2. Introduction

2.1 The RSPB is a leading UK conservation organisation and the UK Partner of BirdLife International, a network of over one hundred grass-roots conservation organisations around the world. We have been engaged with the MA process and participate in a number of Multilateral Environmental Agreements (MEAs) such as the Convention on Biological Diversity and the Ramsar Convention. We also actively engage with DFID on policy issues, including through the Development and Environment of Group (DEG) of BOND, which we currently chair.

2.2 The RSPB welcomes the MA as the first major international assessment of the consequences of ecosystem change for human well-being, providing vital analysis, options and stark warnings for conserving ecosystems while enhancing their contributions to people. Given the fact that ecosystem services underpin life on Earth and that Millennium Development Goal 7 (MDG7) “ensuring environmental sustainability” is off track, we welcome this important inquiry and hope that it will lead to the Government (and the international community) taking further urgent action to meaningfully address the problems and challenges the MA highlight. The RSPB will continue to work, including in partnership and with Government, to help ensure a sustainable and bio-diverse future.
3. THE MILLENNIUM ECOSYSTEM ASSESSMENT (MA)—STRENGTHS AND WEAKNESSES

3.1 The MA is the most comprehensive and wide-reaching analysis of ecosystems and human wellbeing ever carried out. Involving over 1,300 scientists and experts from 95 countries, it has global resonance and far-reaching implications. One key success of the MA is that it has provided a conceptual framework that demonstrates explicitly the links between dynamic ecological processes and human well-being. This approach presents an effective means to link biodiversity and ecosystems with other critical agendas—such as poverty reduction, agriculture, water, climate change and conflict, as well as to the economic mainstream.

3.2 The MA process has political significance through its UN origins (it was commissioned by the UN Secretary General) and its consensual messages. We believe that one of the biggest benefits of the MA is not so much to do with offering new information, but with building a universal and robust global consensus around that information and its implications. We believe that this consensus should be urgently strengthened at all levels, and at every opportunity—within and between different stakeholder groups.

3.3 One obvious benefit of the MA has been the creation of new collaborations, partnerships and networks across and between different disciplines—some of which provide important opportunities to tackle significant challenges. This has been described as the “social capital” legacy of the MA. The RSPB, in collaboration with Defra and English Nature, through its “Valuing Wild Nature” work for example, is bringing together a range of experts from the fields of policy, economics and natural science, to address the ways and means of translating the importance of ecosystem services into practical policy prescriptions.

3.4 We believe that major weaknesses of the MA are to do with communication and follow-through, and resourcing of that. Related to this is a lack of key policy-maker buy-in to the MA, a major weakness. The MA is an extensive assessment, it comprises more than 3,000 pages and 81 chapters, addressing multiple questions. For policy makers, this presents a significant challenge. To put research ramifications into direct and practical use they generally require clear, simple messages, less technical jargon, a restricted number of key messages and feasible recommendations. In the case of the Water and Wetlands Synthesis, despite concepts of “Summaries for Decision-Makers”, Ramsar felt it necessary to generate its own summary of the wetland report (a synthesis of the synthesis)—which was then approved at political level at Ramsar COP9 in November 2005. Policy makers should be provided with clear case studies showing that economic and social benefits of sound ecosystem and environmental management are multifaceted and extremely significant to different sectors such as health, education etc. This could be done through written briefings, meetings and events such as seminars, conferences, and receptions as well as focused media campaigns.

Recommendation 1

We believe that there is a pressing need to develop methodologies, guidelines and clear examples to help decision makers at all levels in different disciplines use and mainstream the MA.

3.5 More practically, MA reports are sometimes difficult to download from the MA website. This is particularly worrying given that internet speed in most developing countries is painfully slow. Better ways of making the MA reports more accessible and available to decision-makers and researchers should be explored and implemented.

3.6 Whilst the scientific component of the MA is no doubt strong and robust, we feel that the product has been under-valued through lack of foresight and investment in its public relations (PR) and out-reach, which seemed an under-resourced bolt-on dimension. This point offers a lesson-learned for future exercises. One of many missed opportunities was the lack of one major headline grabbing launch. This could have enrolled a high profile “ambassador” (eg a celebrity or individual with global respect) to help kick start a media and awareness raising campaign to increase the profile and application of the MA.

Recommendation 2

That lessons are learned from all aspects of MA process to inform any further work nationally or internationally, particularly to ensure it is relevant and accessible to key decision makers.

4. THE MA AND ITS IMPORTANCE TO DECISION MAKERS IN THE UK, EU AND INTERNATIONALLY

4.1 Part of the MA’s remit was to address policy responses, and not just to present scientific findings. One key conclusion was that: “The challenge of reversing the loss of biodiversity while meeting increasing demands for ecosystem services involve significant changes in policies (on investment, trade, subsidy, taxation and regulation, among other), institutions and practices. These are not currently under way”. This leaves no room for complacency and puts a huge onus on governments to ensure their policies and actions guarantee environmental sustainability at home and abroad. However, according to Sachs and Reid (2006), the world under invests in ecosystem management, and rich and poor country governments routinely overlook the policy links between poverty reduction, well-being and the environment.

4.2 In the UK, this has been recently illustrated by cuts to Natural England even before it is operational. The new chairman of Natural England, Sir Martin Doughty, in a recent letter to David Miliband, the Secretary of State for Environment, Food and Rural Affairs, raised concerns that proposed budget cuts...
imposed by DEFRA “threaten to cripple [the Agency] before it starts”(vi). Such budget cuts make it difficult to achieve environmental targets and give negative messages about the importance of investing in environmental assets. Resources and capacity are needed to deliver the necessary policy change and action in all departments and regions. At least, budgets for the Departments with major responsibility for tackling key problems highlighted by the MA should be increased, not cut.

4.3 RSPB research has shown clear economic benefits to investing in biodiversity. In the UK, our publication “Healthy, Wealthy and Wise”(vii) demonstrates the a broad range of services it yields whilst globally, the RSPB coordinated research working with Cambridge University and leading economists—“Valuing Wild Nature” which estimated that each year ecosystem services estimated at US$250 billion are lost because of habitat conversion globally (Balmford et al, 2002)(viii).

4.4 The Department for International Development (DFID), as recently highlighted by the Environmental Audit Committee’s report (August 2006), is currently failing to meet the challenge of incorporating the environment and sustainability into all its international development work. This is despite the fact that the environment represents a vital asset in poor communities and poor people themselves highlight that the environment matters to them(x) and an “Approach to the Environment” paper by DFID (February 2006) that articulates this.

4.5 The Poverty and Environment Partnership (PEP), which DFID supports, has shown that the returns on environmental investments are multifaceted and extremely significant(x). For example, investment in soil conservation greatly enhances sustainable agricultural practices, especially in dry-land regions. A 15-year programme to combat land degradation, costed at between £9 billion and £21 billion, is estimated to yield benefits 1.5 to 3.3 times higher in terms of avoided agricultural production losses alone (Martin-Hurtado, 2002)(x). Further benefits have also been shown—improved food security, education, environment and access to finance. A specific challenge for the international community is to assist developing countries to integrate environmental and ecosystem issues into their national development plans such as Poverty Reduction Strategies.

4.6 The UK Government is committed to achieving a target of transferring 0.7% of GDP as overseas development assistance by 2013. Achieving this target will necessitate a substantial increase in financial resources available for international development. It is essential that these resources are used, in part, to guarantee the maintenance of ecosystem services, on which many of the poorest and most marginalised people depend. It is also imperative, if sustainable poverty eradication is to be achieved, to ensure resources to enhancing the natural capital base of poor communities.

4.7 The Government is committed, under the CBD and WSSD to provide new and additional resources to developing countries to protect biodiversity as part of this. These are enshrined in PSA targets. We believe current funds, allocated though Global Environment Facility, World Bank, and the UK Government are wholly inadequate to achieving these goals.

4.8 In the UK, according a UK Biodiversity Action Plan Cost Summary Report, there is currently a £337.9 million shortfall for UK Biodiversity Action Plan targets(xii). The UK also has responsibility for its overseas territories (UKOTs), which are hugely important for biodiversity. We estimate about £10 million a year is all that would be needed to meet the conservation needs in all territories. Conservation in the UKOT’s provides essential services, not in the least for nature-based industries on which many livelihoods, there depend (eg tourism and fishing).

**Recommendation 3**

The Government needs to ensure that adequate financial resources are channelled towards achieving UK Biodiversity Action Plan targets and to its commitments to conservation in the UKOTs. Globally, the Government needs to continue its support for the Global Environment Facility, increase commitment to the Darwin Fund, and help ensure adequate resources to meet international environmental commitments and targets, including the work programmes of the UN Convention on Biological Diversity.

**Recommendation 4**

The Government is well placed to lead in encouraging the EU, the G8 and developing countries to use environmental information effectively and to help ensure sustainable development is at the heart of their domestic and international deliberations and policy making, including through leading by example.

5. **The Impact of the MA So Far On Decision Making in the UK**

5.1 Our interaction with government suggests that the MA findings have not successfully influenced decision making in the UK to date. While understanding of ecosystem services has grown within the Government, it is occurring at a glacial pace and has yet to be reflected in macroeconomic planning for which GDP growth remains the dominant, overriding objective. Ecosystem services are still not systematically incorporated into policy and planning decisions.
5.2 We understand however that DEFRA is carrying out research into taking an ecosystem approach, giving a more sophisticated and comprehensive understanding of the relationship between economic and environmental importance. We also understand that DFID has research planned within the ecosystem service field. This is important and welcomed—and we hope joined up across Government. Nonetheless, we believe that planned research should not delay action to incorporate key MA recommendations as best as is possible now. There are sufficient examples worldwide of sound ecosystem management for continued inaction to be inexcusable.

5.3 We were also pleased to be invited to attend a meeting of the Global Biodiversity Sub-Committee in February 2006. The purpose of this meeting (workshop) was to “Evaluate the Millennium Ecosystem Assessment: messages, knowledge gaps and policy implications”. bringing together key government stakeholders as well as representatives from the science, research and NGO communities. We understand that this Sub-Committee is tasked with taking forward the recommendations to government from the meeting and we would be keen to see progress on this, including in relation to the current Comprehensive Spending Review.

Recommendation 5

A high level cross-departmental Ministerial Committee or Task Force should be identified to ensure necessary actions are being implemented in a timely manner to work with the Biodiversity Sub-Committee and to ensure the MA recommendations are effectively linked to the UK sustainable development strategy and core UK policy across government. The Government’s Sustainable Development Task Force could be resurrected and work with the Inter-Ministerial Biodiversity Group to fulfil this role

5.4 At the Global Biodiversity Sub-Committee workshop, it was highlighted that the MA was used to illustrate the complexity of ecosystem functioning and the effects on the environment and society during a meeting to discuss the upcoming Comprehensive Spending Review. A central feature of the ecosystem services approach is the recognition that they are, to varying degrees, public goods. Without Government intervention ecosystem services will continue to be undervalued and overexploited. The RSPB believes that the onus is therefore on government to ensure the full incorporation of the importance of these ecological values in all policies which have land or marine use implications in the UK or externally.

Recommendation 6

There has been much talk (though little articulation) of “climate proofing” government policy and actions—we believe that the Government should go beyond this to seriously consider “MA proofing” all government activities. Effectively operationalising an ecosystem approach to policy and development could show real UK leadership. The Government must provide the funding necessary to make this happen.

5.5 Despite the fact that the MA explicitly made the links between ecosystem services and human well-being, this has been poorly reflected in UK international development policy (see paragraph 4.2 above). This is of particular concern as ecosystem services are declining most rapidly in developing countries. The 2006 White Paper on International Development, fails to prioritise the need to invest in a healthy environment for poverty eradication as recognised by the Environmental Audit Committee’s report (August 2006), even if it may not be a DFID role to lead on MA follow up per se.

5.6 As part of the recent DFID consultation process on the International Development White Paper, some 46 environment and development organisation came together through the Development and Environment Group (DEG) of BOND and emphasised the need for the White Paper to address environmental issues coherently and effectively—“otherwise gains [eradicating poverty] would be transitory and inequitable”. DEG’s input drew specific attention to the MA and its recommendations. However, DFID gives little or no emphasis to the stark warnings and vital messages from the MA. In fact, there is only one reference to it in the White Paper, and this is in the endnotes (Chapter 7 endnote 6, page 93). The small free booklet on the White Paper makes no environmental reference, beyond climate change, at all.

5.7 The International Institute for Environment and Development (IIED), with DFID and Irish Aid support, recently published a briefing paper analysing the development implications of the MA. A key message of the paper is that “development is achieved through growing and managing the ‘portfolio of assets’ available to a household or a nation such as soils, plants, water and animals”. Although the views expressed in the paper do not necessarily reflect those of DFID or Irish Aid, we strongly encourage DFID to address the papers recommendations.

5.8 The UK has, through both the Prime Minister and the Chancellor of the Exchequer delivered some impressive rhetoric, but this has not delivered action on the ground. It is damning that the UK is off track to meet its own 2010 CO₂ target, when climate change could do more to undermine ecosystems and human well-being globally and will compound the damage done through habitat conversion and pollution.
6. The Impact of the MA on Decision Making at the EU and International Level

6.1 Evidence of the influence of the MA in influencing strategic decision on the future of the European countryside is not apparent in current EU legislation. However, we welcome the Commission’s Biodiversity Communication, which makes key references to the MA and its findings. The forth-coming review of the EU’s 6th Environmental Action Programme also offers another important opportunity to further incorporate the MA into EU policy and practice.

Recommendation 7

The Biodiversity Communication needs to be endorsed at the highest level (Council of Ministers) and given effect by all Member States. This could be spearheaded by the UK Government. Progress in implementation needs to be regularly reviewed and publicly reported if its goals are to be achieved.

6.2 Progress towards meeting our national and international biodiversity targets should be a consideration of the ongoing reform of the EU Common Agricultural Policy. Despite EU agreement that some rural development measures deliver environmental benefits, the new EU Financial Perspective for 2007–13 (agreed under the UK presidency at the end of 2005) has dramatically decreased funds available for environment related programmes across Europe, therefore jeopardising all the conservation targets they have committed to.

Recommendation 8

The Birds and Habitats Directives must be implemented fully in order to help safeguard vital ecosystem services in the European Union. The EU should allocate sufficient funding to nature conservation measures, particularly NATURA 2000 and agri-environmental schemes, in order to halt biodiversity loss and to preserve ecosystem services. The review of the EU’s Budget in 2008–09 presents a unique opportunity to boost funding for such measures.

6.3 Despite biodiversity objectives being integrated in the Sustainable Development Strategy, the pace and extent of implementation has been insufficient. It is very apparent that the Lisbon Strategy dominates despite rhetoric about sustainable development. The MA presents a case for seeing natural assets as a vital to prosperity. A debate is needed on how this concept can be reconciled with the current growth model, leading to economic outcomes that also deliver social and environmental well-being.

Recommendation 9

The Sustainable Development Strategy adopted by the European Council in June must be implemented in full, particularly the commitment to halt the loss of biodiversity and to contribute to a significant reduction in the worldwide rate of biodiversity loss by 2010. The EU is currently way off track in terms of this progress towards this objective.

6.4 One problem seems to be that interest and knowledge about the MA has remained in DG Environment, despite it’s obvious relevance to other DGs. MA findings should be integrated into the work of all relevant Commission DGs, including DG Agriculture, DG Trade, DG Development and DG Regional Policy.

6.5 Regarding the EU’s external dimension, we welcome that the new European Consensus for Development Cooperation specifically includes environment and sustainable management of natural resources, and the need for Country Environmental Profiles linked to EU Country and Regional Strategy Papers. However, a recent European Court of Auditors Special Report (No 6/2006: The environmental aspects of the Commissions’ development co-operation) is highly critical of the Commission for its failure to effectively address environmental concerns in development cooperation. It lists institutional failures, failings in implementing strategies and project management failings, as well as suggests recommendations for change. Many of the conclusions echo those of the EAC’s inquiry into DFID and the environment. With up to a third of DFID’s budget going to the EU, this gives further evidence that decision makers are not heeding the warnings of the MA.

Recommendation 10

EU Thematic Programme for the Environment and sustainable management of Natural Resources and Energy (ENRTP) needs to be sufficiently resourced. This is in line with the EU Commission’s Communication on Policy Coherence for Development which specifies the EU should enhance funding earmarked for biodiversity and strengthen measures to mainstream biodiversity in development assistance, and could help support developing countries to respond themselves to the MA.
Recommendation 11

Recommendations from the European Court of Auditors Special report (6/2006) should be addressed as a matter of urgency, and in line with the principles and objectives of the Paris Declaration on Aid Effectiveness, the EU and Member States should support the integration of environmental considerations within development support and ensure that there is clear lead-donor country responsibility for this.

6.6 Globally, the MA has helped build a more universal and robust global consensus about ecosystem service decline and the implications for humanity. This helped raise the environment up the political agenda at the 2005 World Summit (review of the Millennium Development Goals)—but outcomes still fell far short of addressing the challenges the MA highlights. As part of the UN Reform agenda, environmental governance and its significance to global challenges seems to be gaining some momentum. In fact, our own Chancellor, Gordon Brown, can be commended for prioritising the environment in a recent speech that he gave to the UN. However, it is vital that these words are translated into action.

Recommendation 12

Government involvement in the process of UN Reform should reflect the urgency and importance of the MA’s findings. Sustainable development needs to be articulated as the overarching aim of UN and its members to address global challenges, such as peace and security, long-term poverty eradication and economic and social wellbeing. International environmental governance mechanisms need to be improved and strengthened to ensure greater coherence and a stronger institutional structure to the UN’s environment work.

7. Should the UK develop its own assessment and would it be relevant to include external UK impacts

7.1 The UK already has adequate information to know what needs doing—or at least what direction to head in—for many conservation issues, for example through the extensive work on biodiversity indicators. The UK should combine this existing information with the conceptual framework and methods of the MA to conduct a UK level assessment. Such a study could be used to design a uniquely formulated UK approach to ecosystem management, to improve knowledge of trends in biodiversity and, in particular, the values that our society derives from biodiversity, including its role in the provision of ecosystems services. This should be resourced from additional funds and not draw down resources necessary for current environment commitments. It should be in addition to existing and important biodiversity indicators work linked to UK sustainable development and quality of life.

7.2 Availability of good quality data about biodiversity and ecosystem services in the UK can then provide a test-bed to validate the MA models, to identify key drivers and measure their relative importance and to identify predominant pressures, inter-relationships and important interactions. This work would be valuable as part of the UK assessment and could inform other national and future global assessments.

7.3 Ecosystem service trends are inextricably linked with economic activity and we know most of the UK population’s consumption impacts on biodiversity and ecosystems overseas. We believe a rigorous quantitative examination of the UK’s global footprint will be very useful in supplementing our understanding of global impacts. The inclusion of UK global footprint should provide the basis for policies to address the sustainability of the UK’s patterns of production and consumption and their impacts on conditions of ecosystems at home and abroad.

Recommendation 13

The Government should begin to seriously apply MA concepts, information, and people-connections to the task of tracking progress against the 2010 biodiversity target (and what to do if or when we fail to meet it). A new robust assessment of UK’s global footprint and tracking achievement of UK sustainability targets are appropriate. However, further UK assessment should not delay initiatives for government action in this area now.

8. The MA and its impacts on NGOs: Development and poverty reduction NGOs

8.1 To date, there is no clear evidence of any impact of the MA on NGOs focused on development and poverty reduction in their own individual work. However, as stated previously, DEG-BOND did unite several influential development NGOs including Oxfam, Action Aid, Christian Aid, World Development Movement (WDM) and Tearfund in a strong submission to the International Development White Paper consultation which highlighted the MA. Disappointingly, though, DFID has pointed out to us that none of the individual submissions from the big development NGOs featured the MA—or environmental concerns beyond climate change.
8.2 There is clearly much work to be done both with government, but also by the wider development and environment communities to properly link these important agendas—crucial to addressing so many global challenges. It is important to keep emphasising the main messages of the MA—that the delivery of the MDGs, even the primarily economic development ones, are better achieved with strategies that include maintenance of ecosystems than strategies that simply prioritise economic development per se.

9. The usefulness of the MA in Addressing the Assessment Needs of Multilateral Environmental Agreements (MEAs) such as the Convention on Biological Diversity (CBD)

9.1 Several MEAs and international organisations, *inter alia* FAO, IUCN, UNEP, UNDP, United Nations Foundations, Global Environmental Facility, Convention on Biological Diversity (CBD), Ramsar, World Resources Institute played an active role in the whole MA process. As a result, we hope that the time and resources they invested met their needs.

9.2 The Convention on Biological Diversity (CBD) responded to the findings of the MA at the Eighth Conference of the Parties (COP 8) in Curitiba, Brazil (March 2006) in a decision which highlighted key findings and urged parties and others to take the measures necessary to slow biodiversity loss (COP Decision VIII/9). The COP invited the Global Environment Facility to identify funding gaps and needs for meeting the unprecedented additional efforts required to achieve a significant reduction in the rate of loss of biodiversity by the year 2010 and maintain provision of ecosystem goods and services. The COP’s recognition that financial support is crucial to achieving the 2010 target is welcome. The MA framework made it clear that biodiversity is responsible for the organisation and operation of ecosystems. Its vital role is highlighted in a recent consensus paper on biodiversity and ecosystem functioning (viii). Therefore, the RSPB would have preferred a much more robust response, including urgent action under the Convention to begin strengthening responses to biodiversity loss per se given the fundamental role it plays in determining and supporting the ecosystem services a specific region, habitat or ecosystem actually supplies.

9.3 The CBD has its own assessment process in the Global Biodiversity Outlook (GBO). GBO 2, which assessed status and trends of biodiversity and key drivers of biodiversity loss, including progress towards the 2010 target, was launched in March 2006 in Brazil.

9.4 In the case of the Ramsar Convention on Wetlands, probably the main new added value was in the conceptual models that came out of the MA (to the design of which Ramsar itself contributed). These give an important 21st Century update to the way people should be encouraged to think about things like ecosystem services and drivers of change. We believe it is as important to promote messages about this as it is to promote the factual findings about the status and trends of ecosystems. As a result, Ramsar has made important moves to overhaul and align its own policy frameworks and guidance materials to fit the new global consensus offered by the MA on such things; this is a significant outcome.

9.5 As far as we are aware, impacts of the MA on other conventions that we work with—the Convention on Migratory Species, and the World Heritage Convention—have been minimal, although the organisations, under whose auspices they work, UNEP and UNESCO respectively, have actively responded.

**Recommendation 14**

Any decisions regarding possible follow-up of the MA need to take into account risks of duplication and opportunities for making use of existing assessment processes.

*September 2006*

**Endnotes**


(vii) RSPB. 2005. Healthy, Wealthy and Wise. Sustaining Communities: Creating the right environment. RSPB.
Good afternoon. It is a pleasure to Q21Chairman: give evidence.

Dr Mark Avery, Director of Conservation, and Ms Joanna Phillips, Head of Trade and International Development Policy, Royal Society for the Protection of Birds, gave evidence.

Q21 Chairman: Good afternoon. It is a pleasure to see you here again. We seem to meet very often these days! This is the first evidence session of our next mini inquiry, looking at the Millennium Ecosystem Assessment. In evidence to the Sub-Committee, you have welcomed the assessment but have highlighted a number of weaknesses in the process, particularly in how the results have been communicated and perhaps communicated in an over-complicated fashion. You pointed out to us that Ramsar had found it necessary to summarise some of the MA on its wetland synthesis, and we end up with a synthesis of a synthesis—and maybe that needs an executive summary! However, in terms of communicating these results, do you think that they are overly complex and perhaps too difficult to comprehend, even perhaps among the professionals who have to interpret them?

Dr Avery: We think it is a struggle for people to understand the full complexity and the importance of these results. That is partly due to how they have been communicated, but quite a big part of it is that this is a big message and, for many people, it is an unwelcome message. Therefore, communicating the fact that we are trashing the planet—which is what this report says—and that we are trashing the planet in a way that does us no good, and all the millions of species with which we share this planet no good, is rather a big message, and it is quite difficult to get that over in one report and a few press releases. We believe, however, that there are some more detailed things that could have been done better to get that very big and important message across.

Ms Phillips: I would just back what Mark has said. Addressing the challenges posed by the MA, it states, will involve significant changes in policies on investment, trade, subsidy, taxation and regulation among others, institutions and practices. It basically says we have to change the way that we do business, and that is fundamentally very challenging to a lot of people. More specifically, on the communication side of it, there perhaps was not enough planning and investment in the PR side and the outreach of the publications themselves, which did not necessarily serve to create the groundswell, and the bang that it really needed to have major impact. I think that is something that can be learnt for the future. It maybe would have been useful to have some sort of ambassador, to have found somebody to speak for and highlight all of the aspects. There were multiple reports coming out for different audiences, giving very complex and subtle messages. Also, it would have been very useful to have worked specifically with those recipient audiences, so that policymakers were involved at the beginning, for example, to say exactly what they need and to work with the scientists to bring those out. So I think that it is a very, very valuable and important process.

Q22 Chairman: It has been very groundbreaking work, has it not?

Ms Phillips: Absolutely.

Q23 Chairman: But perhaps the impact has been lost somewhat. Can we retrieve that impact, so that it will not be lost or shelved or somehow sidelined?
Ms Phillips: One of the things that we are seeing is that it is happening almost by osmosis. We are hearing references to the Millennium Ecosystem Assessment and it is being used as a building block for lots of other publications. Another way that we could focus and give more attention to it—something that has come out in the analysis that the ME Assessment themselves have done and how it has been picked up—is where national MA reports, sub-global reports, have helped with that sort of nuanced, local understanding and application. It is just to keep highlighting it, to ensure that it is recognised as being fundamental to how we shape our policy and do our business.

Dr Avery: So perhaps your Committee, looking at this subject, might help our Government embed the thinking more into its policies and action, because we do not see much sign of that at the moment.

Q24 Chairman: Whose responsibility is it to simplify the presentation of the MA and to promulgate it, if you like, to make sure that everybody understands the seriousness of it?

Dr Avery: That is a good question. As a scientist by training myself, I would have to say that I think the scientists involved in producing this report have to be better at taking their findings further, to explain them and to promote them to decision-makers. Having said that, the message is pretty clear in this report and, if politicians and decision-makers are not seeking clarification and more information from those scientists, they are failing as well. I suppose that is an answer saying that both the communicators and those who should be communicated with share the responsibility. Ultimately, politicians will have the responsibility if they do not take notice of this report, though, and we do not think that the UK Government have, so far.

Q25 Chairman: There was a synthesis report published in June on marine and coastal ecosystems. Did that make things clearer than the earlier synthesis reports?

Dr Avery: I do not think we know the answer to that, I am afraid.

Q26 Chairman: You were concerned that communication of the MA is hindered by a lack of developing country access to the information. How can we engage developing country decision-makers with the findings of the Millennium Assessment?

Ms Phillips: The point that we were making in our written evidence was much more of a practical one than that. Speaking with BirdLife partners, it is very hard, when you have slow computer systems, to be able to download a document with a PDF and one which is extremely large in context. To be able actually to get the information out of where it is stored in an electronic form is a very practical hindrance to being able to use it. That was coming very much from an NGO perspective. One would like to hope that the governmental access and involvement in this would be stronger and that it was continuing; it would be great to see support for encouraging that.

Q27 Chairman: What practical support would you think that the British Government could offer in that regard?

Ms Phillips: I would have thought that DFID country office staff, FCO country offices, when they are doing business, could refer to and work with partner governments to help understand the implications of the Millennium Ecosystem Assessment, so that they are making informed decisions and choices with the best scientific knowledge and backing to support them.

Dr Avery: Simply distributing more copies of the report in paper form and having events, discussing meetings, seminars, which help to talk about the implications—that would be a step that we could take. I think.

Ms Phillips: Breaking the report down so that you can access bits of it rather than trying to download the whole thing at once may be helpful.

Q28 Chairman: Looking at the role of Natural England—and I was present at their launch a couple of weeks ago—what role do you think it will be able to play in addressing the concerns raised in the MA? How do you think the possible budget cuts to Natural England may affect its ability to respond to these challenges?

Dr Avery: It is not going to help, is it, having budget cuts?

Chairman: It makes them more efficient!

Q29 David Howarth: So we are told!

Dr Avery: So they would be infinitely efficient with no money at all, I guess! Before I move on specifically to Natural England, I think that there are signs that Defra has internalised some of the thinking in the Millennium Ecosystem Assessment. The way that the relatively new secretary of state, Mr Miliband, is taking about “one planet living”—which is BioRegional and WWF’s useful phrase for looking at how we do live sustainably on this planet—does seem to be something that the Secretary of State has picked up and which is exercising his mind a lot. Defra are in the middle of a strategy refresh at the moment, so they are looking at what their priorities are and how Defra should operate. I think they have got as far as “one planet, one climate”—which is a good first step—to recognise that this is a shared responsibility around the world in terms of what our climate looks like. I am not sure that we have got very far with “one planet farming” or “one planet house-building” or “one planet development”. We would be a bit worried at the moment that there is not much sign that Defra recognise that there is one planet but millions of species living on it, and that the loss of biodiversity is a big issue. So I think that Defra has only got part of the way in internalising some of the messages, which may be why they have cut Natural England’s budget—although it is a little unclear to us at the moment by quite how
much that budget will be cut finally. The Environment Agency’s budget has been cut as well, which is relevant to the way that we manage the land in a more sustainable way. So neither of these impacts on important agencies, which should be helping to deliver some of the more joined-up thinking, is very positive.

Q30 Chairman: Are you aware of any evidence that the MA has been used by departmental representatives, if you like, to argue for more funding? We know the reason why: Defra is faced with this problem of the single farm payments, and hopefully that is a temporary blip. In the meantime, however, here is the MA, hopefully providing the evidence for a significant increase in funding. Do you see them making that case, or is it all about re-branding?

Dr Avery: It is difficult for us to tell at the moment exactly what Natural England’s priorities will be, except that quite a lot of what they say they want to do—for example, habitat re-creation—is absolutely in tune with the Millennium report. If we could find a way of putting back some of the wild places that we have destroyed in this country, obviously the RSPB would like that to happen, solely for wildlife reasons. We would say that should be justification enough, in a country as rich as the UK, and that we ought to be putting back some of the wildlife and biodiversity that we have lost. However, the lessons from the Millennium Ecosystem Assessment are broader than that. If we think about this in the right way, by re-naturalising our countryside, by treating it in a more sustainable way, by farming it less intensively but also creating more wild places, then there is a real hope—and if we do this properly it is more than just a hope, there is a certainty—that we can produce more biodiversity, but we can produce those ecosystem services that we are losing across the world. Those include wetlands that would reduce the risk of floods; habitats that would act as carbon stores; places where people can go out and have healthy recreation and enjoyment. I think that one of the tasks for Defra is to try to pull together all those reasons for regenerating and restoring the countryside, to make a good case. The trouble is that we pretend we live in a world of economics, whereas we actually live in a world of ecology. If we ignore the ecology at the expense of the economics, then the lesson from the Millennium Ecosystem Assessment is that we will be poorer in the long run. As an example, Natural England acted more like a sponge, that was not happening. We are losing huge amounts of carbon from upland soils because of drainage, oxidation and over-grazing. So I think that the uplands are quite a good example. There is nothing that we are doing in the uplands which really makes any sense at all. Bringing together the flood risk management, biodiversity, the recreational aspects, maybe carbon sequestration, into one package which we can call “ecosystem services” is something we ought to be looking at. Natural England would have a role in looking at that type of thing and helping to make it happen, because many of these areas are SSSIs. That would be one example, therefore. With budget cuts, it clearly becomes much more difficult to do that type of thing.

Q31 Chairman: These tighter budgets seem to be a bit of a trend. If you look across Europe and the new Financial Perspective, do you have concerns about that and the impacts that will have on the maintenance of ecosystems?

Dr Avery: Absolutely. We are very worried about how much money will be available through agri-environment schemes to landowners to restore and regenerate the countryside. That stems from a disastrous EU budget settlement before Christmas, which unfortunately was brokered by the UK—so nothing for us to be proud of. That will make it much more difficult for lots of landowners and farmers in this country, very many of whom do want to put more back into the countryside, to make it more attractive and more ecologically rich. That will happen only if the money is available for them to do that. In England we have the Entry Level Scheme, which is a good scheme but was always seen as setting a floor to raise standards everywhere a little bit. We would still be worried about how much money will be available for the Higher Level Scheme, to do much more exciting, targeted and very productive habitat restoration work on individual farms.

Chairman: I think that might draw us into areas about the reform of the CAP, and so on, which I am a bit reluctant to go into right now. I will pass on at this point to Mr Vaizey.

Q32 Mr Vaizey: I have three brief questions I want to ask you. They are brief partly because I think that to a certain extent you have given the answers. The first is whether you think that other government departments apart from Defra have taken on board the Millennium Assessment. I suspect that the answer is no, but I just wanted to hear what you have to say about that.

Dr Avery: We could answer that quite quickly, because you are right: we think the answer is no.

Q33 Mr Vaizey: And that is a flat “No” or it is sort of, “It’s in the in-tray and they are aware that they have got to do something about it?” Or is it blissful ignorance?

Ms Phillips: As we showed in our written evidence, there is some awareness of the Millennium Ecosystem Assessment and it does seem to be
generating research projects and initiatives that are going on, both in Defra and in DfID. It will be interesting to see what the Treasury Spending Review comes out with, if that makes any reference to the Millennium Ecosystem Assessment and what impact it has on Treasury decision-making, in particular the Comprehensive Spending Review. In terms of actual change and action, however, our answer would probably be no. There is reference to it in things like DfID’s environmental policy paper, but again it is seeing it follow through into the way that actions, activities and engagement happen in other parts of the organisation and in partner government discussions.

**Dr Avery:** I think that the Treasury would be keen to make progress on this. I said earlier that we pretend we live in an economic world when actually we live in an ecological world, by which I mean that we depend on things that grow and the water that we can drink, not on bits of money. It sounds a bit radical, I know—a guy in a suit talking like this—but bits of money are supposed to help us find the right way to live on this planet. Because the Treasury is in charge of the money and is in many ways—certainly they would think so—the intellectual powerhouse of a lot of government policy, I suppose we would see that if we could get the Treasury more hooked on the ecosystem services, the value of wild places to people, and to some extent to the economy, then that would be a way of cracking this problem. While it remains something for other government departments to pick up if they think it is a good idea, it will be rather slow progress.

**Q34 Mr Vaizey:** Supposing we gave you a magic wand, or alternatively made you Chancellor of the Exchequer—

**Dr Avery:** I would not do that!

**Q35 Mr Vaizey:** What key recommendations would you want to drive through, based on the Millennium Assessment? You talked earlier about ecosystem services as a key reform. Are there any other key recommendations that you think should be made a priority?

**Dr Avery:** That would be where I would start. I would say that we need to look at the way that we exploit the natural world in a more sensible way, and that we have to build natural capital—the resources that we absolutely depend on on this planet—into our way of budgeting and our plan for development. Again, if WWF were with us today they would say, quite rightly—and I think it is excellent work—that if everybody in the world lived in the way that we individually do in the UK, we would need three planets to provide us with what we have at the moment. That is kind of economics but nobody sees it as economics, and it is really economics. If we could get that thinking more deeply into the way that all governments see the way that they are trashing the planet, then maybe that would help a bit.

**Ms Phillips:** One useful tool that the UK Government do have and which maybe is not being used enough is their sustainable development strategy, *Securing the Future*—

**Q36 Mr Vaizey:** You are telepathic!

**Ms Phillips:** ... as a basis for integrating sustainable development into the Spending Review and future spending rounds, and the setting of PSA targets. So those government commitments actually resulted in ensuring policies and spending are underpinned by the principles of the sustainable development strategy, including living within environmental limits and using sound science responsibly. That would be another step forward as well, and both of those clearly relate to the Millennium Ecosystem Assessment and what it is saying.

**Mr Vaizey:** That was going to be my next question.

**Q37 Mr Caton:** Perhaps we could move on to whether the UK Government should be undertaking Millennium Ecosystem Assessment-type research for the UK, which again you address in your submission. We have been told that the research being undertaken by Defra is to all intents and purposes, an MA-type assessment for England. Would you accept that?

**Dr Avery:** I think that Defra are doing some work somewhere that would fit into that category, but I do not think that we would say that they are doing the full Millennium Ecosystem Assessment for the UK in the way that it has been done for the world as a whole.

**Q38 Mr Caton:** Neville Ash from the UN Environment Programme has told us that the Defra research is, not the UK, but an England-scale assessment of ecosystem conditions, ecosystem services, including valuation of these services. He also refers to four more localised pieces of research. What more do you think should be added to that, apart from perhaps Scotland, Wales and Northern Ireland?

**Dr Avery:** I shall go away and check this, but what I have seen that Defra are doing does not quite add up to that full picture; but we will come back to you with a considered view on that, if that is okay?

**Q39 Mr Caton:** Yes, if you could let us have something in writing.

**Dr Avery:** Yes, absolutely. There are more and more seminars and workshops taking place round this subject. I think that interest in this is growing but we have not yet seen that full picture beginning to emerge. I am still slightly sceptical that the whole picture will emerge.

**Q40 Mr Caton:** Some other people who have provided evidence to us were concerned that a full MA-type assessment might consume too many resources. They prefer a simple appraisal of the MA from a UK point of view, identifying key issues for this country. What do you say to that?
**Dr Avery:** I would come back to my example of the uplands. I think that is an example of where we need quite a detailed study of all the different ecosystem services that we could get from what is, after all, about 40% of the UK upland areas. Those things need to be pulled together in a way that they never have been before, so that we can look at what the impacts over a wide range of issues would be of taking different directions in management perhaps. So maybe we ought to end up saying that we are not going to have any sheep in the uplands for the next 20 years, because it does not make sense to fund that type of farming, and society might—I am not saying it would—benefit more from that area reverting to a more natural habitat and woodland. The benefits we get as a society from that might be greater than we get from over-grazing it at the moment. That is the type of question that we really ought to look at. I have not heard anyone in government posing that type of question, which is the type of question that would come out of the Millennium Ecosystem Assessment.

**Ms Phillips:** I also think that, learning from the lessons as to where sub-global assessments have been undertaken, if we can work cross-government to ensure that you have Treasury, DTI, engaged with developing and understanding the implications of the results of these types of pieces of work, and have their buy-in and commitment to it, we are more likely to see the changes that are necessary to ensure that we are getting the right policies and the right actions coming out at the end of the day. If it is just a simple appraisal from one department, it is less likely to have the impact that it really needs to have for the changes that are necessary.

**Q41 Mr Caton:** Have you made any estimate of what a full UK-wide assessment would cost?

**Dr Avery:** I do not think we have, no. Turning it on its head, however, nobody has made a full estimate of how much in economic terms we are losing by not understanding what we are doing. It is incredibly important.

**Q42 Mr Caton:** Fair point.

**Dr Avery:** But the answer from that type of analysis at a global level has always been that we are losing more in terms of the ecosystem services than we are getting in the short term from trashing the planet, and I would be surprised if that is not the case at least in some areas of the UK.

**Q43 Mr Caton:** In your submission you stressed that a UK assessment would provide a useful test-bed to validate the MA models which you thought could then be used to inform national and international assessments. Are you aware of any work in other countries, looking at the application and validation of the MA on a national scale and, if so, what have they found?

**Ms Phillips:** Not specifically. Just to say that the World Resource Institute has been doing a lot of work and is due to publish a report very shortly on the Millennium Assessment and how it can be used more effectively.

**Q44 Mr Caton:** You called in your evidence for more consideration of the UK’s global ecological footprint. Would you like to see the adoption of a sustainable development indicator reflecting the UK’s ecological footprint?

**Ms Phillips:** Yes, I think that would be extremely helpful. Anything that can communicate to a wide audience in simple terms the impact that we have on the rest of the world is incredibly important. To understand our consumption and production patterns more effectively, to be able to recognise when we are living beyond our means and what that means in global terms for the rest of the planet is incredibly important.

**Dr Avery:** It is really necessary to understand what we are doing in this country as well. We cannot make decisions in this country to reduce our footprint in this country and merely export those problems, through our actions, to elsewhere in the world. So we have to have both sides of the picture of the UK’s activity to know whether we are really a force for good or ill in the world.

**Ms Phillips:** One of the things that the Millennium Ecosystem Assessment shows us is that the planet as a whole is very much a mosaic of systems, providing people and nature with different bundles of ecosystem services and dissipatives. To manage those effectively we need to be able to measure them and understand them, which is why a UK assessment would be useful. However, we also have to understand the trade-offs between them, both temporally and spatially, and we have to understand who is benefiting from them. That would be an important part of an ecosystem footprint-type analysis. From that, you can then consider a range of policies, incentives, technologies and regulation that could help encourage and lead to better management and sharing of the benefits.

**Q45 Mr Caton:** You mentioned ecological footprint analysis, and indeed you call for more of that in your written submission. We have been told that WWF has been involved in a project on this and that has led to a software tool called Resource and Energy Analysis Programme, to help decision-makers test the environmental impacts of policies. Do you know this project, and does it fill the ecological footprint knowledge gap that you identify?

**Ms Phillips:** Colleagues are aware of the tool and they do see it as a useful analytical tool to help identify the environmental impacts of our consumption decisions. We have also been working with and have endorsed the Regional Economy Environment Input-Output model, REEIO, which was developed for REWARD, the Regional and Welsh Appraisal of Resource Productivity and Development project. It focuses very much on
resource productivity as a means of achieving sustainable production and consumption at the regional level. Together, these tools have strong practical applicability and can be used for the "what if?" questions. For example, what happens to CO₂ emissions if a region increases its rate of GDP growth by 1%; what happens to domestic water consumption if new houses are built to BRE “very good” standard as opposed to “excellent” standard. However, what neither of them do or can indicate exactly, as far as we are aware, is what a sustainable development pathway actually looks like, or how to address the overall environmental quality of a region, or locally. So they are very useful but do not necessarily address the existing footprint gap.

Chairman: Thank you very much for your evidence today. I am sure that it will be very useful to us.

Witnesses: Mr Steve Bass, Senior Fellow, Natural Resources Group, International Institute for Environmental Development (IIED), and Mr John Forgáč, Research Affiliate and McCluskey Fellow, School of Forestry and Environmental Studies, Yale University, Chairman of Forestre Holdings UK Ltd, gave evidence.

Q46 Chairman: Good afternoon to you both, Mr Bass and Mr Forgáč. It is a pleasure to see you here. I think that the Committee has had evidence before from the IIED on a number of occasions, but I particularly wanted to ask Mr Forgáč if he would be willing to say a few words about your background, knowing that you are visiting the country and work a great deal in Brazil. Perhaps you could give us a little more background to your work and its relevance to this kind of inquiry.

Mr Forgáč: I would be glad to. I am a banker, a native of Brazil. I created the first green investment bank, probably in the world, some 15 years ago. We started with the first biodiversity fund, the first Clean technology fund—all the “firsts”. So they consider me to be a bit of a veteran in the green investment banking business. Most of these initiatives failed. Expectations were very high. This was the dot-com period, when we were expecting to make 30% returns on eco-tourism, organic agriculture business, and all that. So it is just the normal cost of pioneering businesses, but I am glad to see that it has become very mainstream in big financial institutions. I am glad about that. When we had the crash of 2001, the dot-com bubble burst, there was also a change of policy in Washington. There was a change of administration from Clinton to Bush; we saw that some priorities were changed from the environment to others. So a lot of the funds and the funding that we were receiving for these large, long-term investment funds were suspended. I received an invitation from Yale University to come and basically teach students how to do green business, and not repeat the mistakes I made. They can make their own mistakes! We developed the first joint programme between the business school at Yale and the environmental and forestry school. It has been very successful, in the sense that we have put a heart into the business school graduate and we have put a head on top of the biologist, zoologist and forestry engineer. The university has renewed my appointment now for the fourth year, so I am continuing to be associated with the faculty, teaching, and so forth. However, in the last four years of teaching there we have had a huge number of large private sector companies asking for help, in terms of their future access to natural resources. The resources are getting polluted, they are dwindling, and this is a big shift in the market. Before, these were all multilateral-induced initiatives; now, large corporations which are seeing their business endangered in the future are coming for help. So I agree completely with my predecessors’ point on the importance of recognizing the value of environmental services for the Conservation of our Environment. When visiting London—we have an insurance company here which we have started for forest investments—I was very pleased to come and share my opinions, as much as I can help.

Q47 Chairman: Thank you very much. My first question to you both is obviously about these initial assessments of the MA, which have found that their impact has been rather mixed. That has been corroborated by the evidence that we have heard this afternoon and which has been submitted in writing. There are concerns that the MA is not being used to help us develop the links between environmental protection and making poverty eradication programmes successful. I am asking you both, therefore, from your international experience, whether you would agree that this is true and, if it is, how it can be addressed.

Mr Bass: I think that what we have here is a kind of wiring diagram that could be very powerful. In a sense, the work was done by scientists in a way for scientists, and has come up with a very good framework. I think that, as the RSPB has been describing, the initial communication and policy plan in the MA process was weak. So what has happened is that it is very weak on political economy; very weak on what is going on in the market; no discussion with ministries of finance or business; no engagement with the aid system. Therefore, it was scientists of different types—environmental and social—meeting one another and exploring a way to, in a sense, create a theory of how the world works. What we have therefore is a great framework, but it is not yet described in ways that make the rest of the world pay attention. I have always thought that you need to move from—pardon the cliché—MA to MB, to a budget. If the findings are as significant as they seem to be,
then we really ought to be doing something about it. It should be presented in economic terms, for example. So, yes, we have a good wiring diagram which could bring together the institutions concerned. It has not happened yet because the driver, the motivator, in a sense the host of the party, has just gone home. I do think, though, that there is enough momentum amongst the scientists and the institutions involved to be able to make different entry points in different countries. In some countries, if you talk to the ministry of finance about the environmental sensitivities of the sectors upon which that country depends, you can use the framework to talk through the problems and the costs. If you are in the aid system, you can talk with those in charge of revising governance, because of course a lot of the problems are to do with poor rights of poor people to claim environmental assets. So there are lots of different entry points that are opened by this new framework. In a way, it is a framework that links all the endeavours of the environmental scientists—who, hitherto, were stuck in herbaria or looking down remote-sensing satellite images—to link them with those who have been looking at poverty in very different ways. The task is yet to come, I think.

Mr Forgáč: I agree. From the business point of view, on the issues involved and the relevance to society of these MAs, I think that it is more like taking the temperature. They took the temperature of the planet and they found that the fever is very high, and that the situation is really bad. It is not just bad from a multilateral, academic or scientific point of view, but we are definitely no longer able to meet the fresh water restrictions, nitrate limitation issues on land, climate, and so on. So the temperature is very high; the animal is very feverish. But the doctor went away. There is no doctor there. In the last year since the MA was put out, if I had to rank the reaction of society and governments to the MA, it has been probably a two on a scale of ten; and a two probably only on the issues of biodiversity. On issues of climate change, however, we have made some progress, especially in Europe, but it is still a two on a scale of ten; and a two probably only on the issues of biodiversity, pollution of their products—terms of biodiversity, pollution of their products —the dangers to their brand names in the future, in terms of pollution, in terms of costs to destroy an ocean or a sea or a coral reef. Until now, we have been talking about trashing the planet and free-riding the system, but we do not know how much we are free-riding. We have no measures to do that—in biodiversity, in soils, in habitat. We are beginning to know a little bit about climate change and carbon issues, but in reality it is still very rudimentary. The fact that the WTO has admitted that they will start looking at environmental services is a big step forward. We should not let this initiative die just as it raises its head, and so I think that we should do everything we can to make sure that this ecosystem services opportunity is fully explored. That means, first, finding resources to establish econometric models for biodiversity, for habitat, for water uses, and so on. The private sector is waiting for this to happen, because they would like to see these issues come on to the balance sheet. Until they have dollar or sterling numbers on them, they are off-balance-sheet items, so they are not discussed in the boardrooms and in the corporations.

Q49 Chairman: Would they not resist putting it into the balance sheet?

Mr Forgáč: No, I do not think so. I come more from the private sector side of things, and companies are becoming extremely worried about the dangers to their brand names in the future, in terms of biodiversity, pollution of their products—I mean mad cow disease, foot-and-mouth disease, listeriosis contamination. Today already, Coca-Cola cannot meet its water purity requirements in many regions, so what will they do in 2030 or 2050? These corporations are coming to speak to us, to try to find solutions for them and how we can bring this on. They are not going to pay for it, because they are concerned about the bottom line. What they are looking for is someone to extend a hand and to work together on this. There is a desire on the part of these corporations to find support from the governments involved, the institutional world, to do some of the homework, to do some of the research, to come up with the numbers, the econometrics, and so on. If they do not, then they will have to do it.

Mr Bass: I think that here and there people are picking this up, because the analysis is fairly compelling, but it is taking time and more might be done to accelerate this. The World Business
Council for sustainable development has started a new programme of MA audits, which they have been doing across a set of trial companies. They have picked this up as something that is important in the private sector. The sort of thing that maybe HMG could encourage through Defra or DfID is for different constituencies to produce their own reader’s guide to the whole assessment: a business reader’s guide, a forester’s one, a fisheries’ one. Not like the ones that were produced from the centre by the same people who produce the analysis, but people within a trade association or a professional association producing their own response. The reason I produced this short thing that you have here is because nobody within the development community was producing a response to the link between the MA and poverty reduction. Encouraging those constituencies to make their own short reader’s guides to get round the issues—for instance, if somebody could commission one of the very best writers to produce a three-pager on the whole thing—that would add value. Mr Chairman, you mentioned the IPCC. The IPCC asks only three questions: is there climate change? Does it matter? What can we do about it? The MA asks 68 questions, all highly complex and just as uncertain. On the one hand, the answer will be less clear and, on the other hand, it was less exciting for scientists to be involved in than something brand-new and potentially in the public eye—the IPCC. So we do not have a compelling message. I think that we need somehow to accelerate the message. One final thing I would say there is this. You do start to see the overall message about 15 out of 24 ecosystem services being degraded being put everywhere, in everybody’s problem statement, whether it is an aid document or a business document. So that analysis is there. I think that, with a bit of extra push in a range of constituencies, we can then start to say, “What are you going to do about this? You have to use the analysis”.

**Q50 David Howarth:** I think that this is mainly directed at Mr Bass. One of the entry points you mention is presumably the discussion of the Millennium Development Goals. The MA says that there are serious consequences to achieving the Millennium Development Goals in what is in the MA itself. How much progress has there been in bringing the MA into discussion of the future development of the MDGs? When international debates occur on MDGs, are people talking about the MAs in the way you were talking about them previously in other discussions?

**Mr Bass:** It is a good question. One of the craziest things was how the Millennium project, looking at the progress on the Millennium Development Goals and the Millennium Ecosystem Assessment—both commissioned by the Secretary General of the UN—went along separately, completely unlinked. The good thing was that last year, in the September review of the Millennium Declaration, things were beginning to be brought together. It was concluded at the time that the indicators to the seventh Millennium Development Goal, environmental sustainability, were inadequate. The UN has put together an inter-agency taskforce to revise those indicators, and that is informed by the MA. So, in terms of monitoring one of the MDGs, there is a little bit of progress there. In terms of the United Nations’ own campaign to roll out the MDGs and encourage better progress, there is a new thing called MDG service delivery, run by the United Nations Development Programme. They are using the MA framework to help countries think through progress in the various accumulation or degradation of assets. So it is beginning at the bureaucratic level. One thing that nobody has really tackled is that, essentially, the MDGs—and there are eight of them, goals on hunger, et cetera—are not all equal in any one circumstance. There are critical paths; some are foundations to others. Nobody dares talk about this yet, but a foundation for all of them, of course, is the findings of the MA. So it is slow, but it is happening.

**Q51 David Howarth:** My second question is directed more to Mr Forgáč, and you have already started to answer this. It is about the effect of the MA on business, the extent to which business is aware of the problems, and how we get business more engaged in the conclusions of the Millennium Assessment. Does it all depend on government action and on government changing accounting rules in the way you talk about? Or is there a more direct way of getting business engaged? I think you said at the end that if government does not do it, then the companies will have to. 

**Mr Forgáč:** It is always a question of leadership. This whole issue is a question of leadership. Corporations like to play by rules. This whole environmental issue—in other words, the awareness that we can no longer be free-riding the environment, because the resources are simply disappearing, under the pressure of too many people wanting to have a good life—this awareness is very new. Basically, the MAs help to start the recognition of the fact of what we already knew: that this whole system is unsustainable. So the corporations would like to see governments establish the rules of the game. Then they can adapt their policies and their strategies to the rules of the game. The whole development of the Kyoto process on climate change, from my point of view, was slow because they excluded the private sector from the discussions. The private sector was actually very interested in advancing these issues and in moving ahead. It was only when they started getting involved halfway through the process that the accelerator was pushed down and it went forward. It is still full of errors and problems, but it is when the government says, “Okay, this makes sense and we should establish the rules”, and it is the government that has to establish these institutional frameworks for these processes to be carried out. The private sector likes it because we do not like surprises. We like to have the rules of the game and then we try to compete in the system. In biodiversity, in environmental services, in forest
conservation, there are still no rules. It is a completely open field. You can do whatever you want. Everyone is free-riding the system, and we cannot afford to continue that way. So I would say that, yes, you will find them to be very discreet; they do not make a big story; they do not go to the press; they do not put themselves on television, because no corporation likes to admit that there are problems of access to natural resources in their future; otherwise their shares go down. It is a natural attitude on the part of corporations to be very discreet about it. However, I would say that 80% of all the food produced on this planet and put in the supermarkets—80% of the companies involved in that had already started 10 years ago to take stock of the environment and together, very quietly, are moving themselves to create sustainability. The sustainable agriculture initiative of the three biggest food companies in the world was started eight years ago, with Nestlé, Unilever and Danone. However, you will not even find their website, because they do not want to tell the public that they are concerned about the future. That means that they are concerned and, if you do establish a dialogue and seek to find the rules of the game, you will find a partnership there—and the private sector is probably the one that has the deep pockets for this kind of thing. So I am very encouraged by the change that has taken place. Because of the stalemate in the World Trade Organization, the Doha Round has stopped, everything has stopped, people are polarising this issue. I am very encouraged by the fact that, finally, the FAO has agreed to put ecosystem services on their agenda. It is a big step forward. I would like to see the governments take up this relay, continue this work, and not drop it.

Q52 David Howarth: You have both talked about the communication issue. First of all, I wondered whether there was anything more you wanted to add about how the results of the MA could be communicated, and Mr Bass has touched on that. Secondly, there is this issue. Some people say that the MA itself has gaps. I suppose it comes back to the type of people involved, and the private sector is probably the one that has the deep pockets for this kind of thing. So I am very encouraged by the change that has taken place. Because of the stalemate in the World Trade Organization, the Doha Round has stopped, everything has stopped, people are polarising this issue. I am very encouraged by the fact that, finally, the FAO has agreed to put ecosystem services on their agenda. It is a big step forward. I would like to see the governments take up this relay, continue this work, and not drop it.

Q53 David Howarth: You said it has not happened yet; is it happening, do you think? Mr Bass: I think it was Jo Phillips just mentioned that the World Resources Institute is producing a guide on how to do this. It is in draft at the moment. Should you wish it, I could make it available to you. UNDP has this programme called the Poverty and Environment Initiative in half a dozen countries and is about to start to work with multi-stakeholder groups in a few developing countries to do just this.

Mr Forgách: I attended a conference of the International Association of Agricultural Economists in Sydney two months ago, organised by the FAO. They meet every three years, and there are four initiatives already started now in terms of measuring land use change impact in terms of economics, so these four initiatives—there are two Asian ones, one African one and one Central American one—and they are basically trying to put an economic value on biodiversity, and then they are putting an economic value on biodiversity plus water, biodiversity plus water plus carbon and, in other words, the cost in terms of biodiversity, water and carbon of changing a forest into an ethanol source or alcohol or palm oil plantations. These initiatives are beginning to appear. I know that Berkeley University is going to be publishing a book next year—we are working with them. I am writing one of the chapters—on environmental services and how we are going to measure the land use change impacts, so that if you are going to tear down a forest to put a palm plantation or cattle operation, you have the alternative of knowing that you can value this at so much money or the returns that you are going to get on your palm plantation. This does not exist yet. We are working on it. It is going to take about three or four years to get these things out. The faster this type of process can be pushed forward, the more comfortable the people negotiating international trade arrangements will be in accepting environmental services “subsidies”.

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So it is absolutely vital, if we are going to redress the disaster that is going on right now, that these instruments be put together. They do not exist yet.

Q54 Mr Caton: From what you have said, it seems to me you share the concern of some other people who have provided us with evidence that the MA was a snapshot, and something needs to follow on from it. Some people have called for the establishment of a new body to run a rolling MA programme similar to the IPCC that we have already mentioned. Would you like to see such a body and, if so, how do you see it working?

Mr Bass: I think another global look in a few years’ time would be valuable; however, before then a few very solid national looks at real issues, real circumstances, real trade-offs is what we require first. One thing I noticed is that the United Nations Environment Programme produces this regular thing, the Global Environmental Outlook, which has become increasingly all-encompassing and deals with policy progress as well as the state of the resource. I think actually the UNEP, with its new leadership and more attention on the Global Environmental Outlook programme, could undertake the secretariat role for such a thing as a continued MA. They have a similar structure, with volunteer scientists and a single secretariat. I do not think we need to start something afresh. However, that programme ought to be populated with interest groups, the World Business Council, for example, and a group of research teams. So I think it is do-able. I think you should start again five years after certain countries have used this framework, after certain corporations have used the framework and know quite how best to link it to planning, to budgeting and so forth.

Mr Forgách: I agree, I do not think a new body has to be established; probably just a secretariat inside the existing UNEP organisation is enough. What I do believe is that you have to have a programme, and you have to have some goals and some accountability involved there, otherwise it can just become another ad infinitum study bench with very little relevance to what we need. Maybe the formula has to be change a bit but we do not need a new body for that.

Q55 Mr Caton: I hear your reluctance to support a new inter-governmental body, but can I just throw out another thing that seems to be being discussed in the international community at the moment, which is a proposal for the creation of a new inter-governmental biodiversity body. Do you think that could possibly be a runner, and could the discussions be expanded to include things like ecosystem services?

Mr Bass: If there were to be a new body like the IPCC, as a group of scientists and stakeholders and economists, industry, et cetera, I think that is a do-able thing if we have a focal secretariat, which I would propose at something like UNEP. I do not imagine a new institution but there might be a new group of people like the IPCC. That is do-able. The institution ought to be the United Nations Environment Programme. All efforts should go on making that the part of the UN system to integrate environment. Certainly, by implication from your question, an international biodiversity body would not be good enough because the MA looks at more than biodiversity, but beyond that I do not really wish to comment because I do not know the details of that proposal.

Q56 Mr Vaizey: What do you think of the idea of Sachs and Reid for this Millennium Ecosystem Fund, this idea that you give developing countries $200 million over a period of five years so that they can get on with implementing the proposals on a domestic front?

Mr Bass: If such a fund were merely a catalyst to bring together the kinds of people and the kinds of systems that would be needed in individual countries to have a first stab, that is fine. If it is about funding environmental investments, et cetera, that is all wrong because that is a different affair, to do with what kind of cash flows and value-added we can get for industry. $200 million is a small catalyst to build the environmental management information systems that poorer countries need.

Q57 Mr Vaizey: My impression is it is the former, but it is something that the UK should be doing as well?

Mr Bass: I think it is a very good idea. As I say, in most developing countries there are several entry points for getting the MA thinking going, whether it is the developing country treasuries who are toying with the idea of wealth accounting, looking at whether assets are going up and down, natural resource assets, what revenue they are getting out of them, how much they are spending, whether it is public expenditure reviews on environment, the MA can provide a good logic. On the other hand, if the ministries in charge of poverty reduction, their whole household census, poverty monitoring system, that is a way in; let us expand that system. There are many entry points in developing countries and a good think about what would be the incentives for each of them to encourage the wider development of that system would be a useful thing to do. I imagine the worst thing to do is to say every environmental authority in a developing country can have access to £100,000 or whatever it is, because that would just be marginalised. Talk with the ministries in charge of poverty development and the treasuries in that way, then that will create a kind of demand within the country.

Q58 Mr Vaizey: Is there any country that you are aware of that is doing this at all?

Mr Bass: There are countries that are close to this sort of thing. They have made progress in various areas. Some of course are middle income countries but in Africa I can think of Ghana, South Africa and Tanzania, who have all the right ingredients, and if only DFID or the Foreign Office would have the vision of what an MA framework could do to
bring together development monitoring, environment monitoring, it is a runner. I suspect that one or two of the countries I have mentioned are already thinking about it.

Q59 Mr Vaizey: Have they created an off-the-shelf model?
Mr Bass: No, as far as I know, they have not done this. You see, they have environmental information systems that are very often modelled on historical anomalies. They are what the West wanted to support: looking at rare species and that is it, rather than local, direct, biodiversity values for famine foods. So their whole systems monitor the wrong things, that are not related to development. Once they get the MA logic, they will start to say, “Well, hang on, Wildlife Department. You should be looking at these things. These are the kind of things we should be monitoring.” But nobody has been promoting that.

Q60 Mr Vaizey: You are saying that is working in places like Ghana?
Mr Bass: In places like Ghana and Tanzania the awareness is there but they have not wired the systems up to do that yet.

Q61 Mr Vaizey: But at least they are further advanced than anyone else. They have put the tracksuit on and they are about to start.
Mr Bass: Yes. If the Sachs and Reid idea was real, I suspect a couple of those would pick it up. Other countries I do not know about.

Q62 Chairman: Finally, Mr Bass, in terms of your really quite extensive knowledge of how DFID works, do you think that they are incorporating the MAs successfully into their programmes and development?
Mr Bass: Let us just say that DFID did actually partly support the MA. Such was the chaos with the MA process, they forgot to acknowledge DFID in their various documents but I think about £80,000 was put into the MA process, and I noticed a fair number of internal briefings when I was at DFID saying this is a useful process. I know right now they are thinking through the implications of the different types of response options. I believe this is for the inter-ministerial working group on biodiversity, which may be divvying up the ideas. I understand that DFID is thinking of how, if it focuses its attention in two areas, it would be doing the right thing. One is economic incentives for maintaining ecosystem services and indeed, they are already supporting research work on watershed management. That is one area. If they look at economic incentives in developing countries, whether this remains research or something else I do not know. The other area is the whole area of rights and access, which, again, is very much part of their new, making governance work White Paper. So within DFID buried somewhere, the people are thinking about this.

Q63 Chairman: There is always a danger, of course, with any government that one department might want to delegate the responsibility for something to another because they do not feel it is their responsibility. Do you think that is a correct characterisation of the UK government or could you say—very quickly, because the division bell has just gone—whether Treasury or DTI have also understood the importance of the MAs?
Mr Bass: I know that the Head of Science in Defra is very keen for a HMG-wide response, and that is why possibly each Department is looking at where it might focus. More than that, I do not know.

Q64 Chairman: We will have to wait till Monday for the publication of the Stern review perhaps to learn more. The division bell has indeed just started so we have to go and vote, but that is a timely conclusion to our evidence session this afternoon. I would like to thank you both very much for being able to give us evidence today. Thank you.
Wednesday 1 November 2006

Members present:

Colin Challen, in the Chair

Mr Martin Caton
Mr Edward Vaizey

David Howarth

Memorandum submitted by the Natural Environment Research Council (NERC)

1. The Natural Environment Research Council (NERC) welcomes the opportunity to comment.

2. NERC is one of the UK’s eight Research Councils. It funds and carries out impartial scientific research in the sciences of the environment. NERC trains the next generation of independent environmental scientists. Its priority research areas are: Earth’s life-support systems, climate change, and sustainable economies.

3. NERC’s research centres are: the British Antarctic Survey (BAS), the British Geological Survey (BGS), the Centre for Ecology and Hydrology (CEH) and the Proudman Oceanographic Laboratory (POL). Details of these and of NERC’s collaborative centres can be found at www.nerc.ac.uk

4. NERC’s comments are based on input from CEH, the British Oceanographic Data Centre (BODC), the National Oceanography Centre Southampton (NOCS), the Plymouth Marine Laboratory (PML), and Swindon O...sta...V.

Introduction

5. NERC notes the enormous scope of the Millennium Ecosystem Assessment (MA) that was called for by the UN Secretary General and believes the MA draws together a large body of information into a comprehensive whole. Not everyone will agree with all the findings and conclusions but the MA, representing the efforts of over 1,300 people, is the first time information on the world’s ecosystems has been drawn together and the links to human well-being repeatedly identified. Because of the massive scope of the MA it is not surprising that global and regional organisations are taking some time to absorb and respond to messages that challenge fundamental aspects of the way they appraise the use being made of natural resources and the ecosystem services delivered from them.

6. NERC agrees, in large part, with the findings of the MA and is comfortable that these findings are based in many instances on the best information available at the time. It should be noted that the data on which the MA is based are rapidly dating and that it is therefore possible that some of the issues raised by the MA are more critical now than they were a few years ago. Some of the conclusions of the MA appear to be contentious; for example, some of the points made on fisheries. There are a number of gaps in the MA and more work needs to be done to fill them and to develop sustainable resource management practices that take the vision and messages from the MA on board.

7. More proactive approaches to environmental monitoring will need to be developed if governments and agencies around the world are to be able to act on the findings from the MA. More research, at least some of it directed, will be needed to ensure that human well-being can be protected and enhanced by the sustainable use of natural resources and supported by services that will depend on a range of environmental and ecological processes operating within the limits of exhaustion and replenishment. Work in NERC Research Centres is directed towards developing these approaches and towards gaining the knowledge necessary to properly link ecosystem process to the delivery of ecosystem services. NERC is also supporting relevant research in the wider academic community, for example under the QUEST (Quantifying and Understanding the Earth SysTem) programme.

8. Effective Knowledge Transfer will be an important part of action taken on the MA and NERC is already contributing to developing and using environment-friendly technology through fundamental research on alternative energy sources and carbon sequestration. It is also supporting work to improve the prediction of future environmental conditions, ecosystem structure and function and environmental processes in general. This will help to provide the basis for effective strategies to protect the environment and the ecosystem services it provides, and thus to support continuing economic and social progress.
RESPONSES TO SPECIFIC QUESTIONS

Question 1: How successful has the MA been in influencing decision making at UK, EU and international levels? How can we encourage adoption of the MA response options in countries that have been slow to do so such as the US, Brazil and India?

9. The MA’s conclusions are far-reaching and it is only now that its impact is beginning to be felt in various organisations. The UK sustainable development strategy, Securing the Future, already aligns UK government policy positions with the overall broad ambitions of the MA. NERC’s new strategy (currently being developed) is expected to help address the need for fundamental research that will improve the evidence base for policy makers in the UK and internationally. NERC is also working with DFID to establish a joint programme in Ecosystem Services for Poverty Alleviation, which will facilitate adoption of the MA response options in developing countries. Whether NERC will be able to follow up its plans depends in good part on the outcome of the upcoming CSR. NERC has senior staff working on how to make the best use of the MA’s findings.

10. In its 2005 Environment Policy Review, the European Commission acknowledged the conclusion of the MA that “an unprecedented effort would be needed to achieve by 2010 a significant reduction in the rate of biodiversity loss at all levels”. It recognised that “ecosystems provide ecological services, essential to quality of life and economic prosperity”, and reported that the European Council had stressed the need for policy integration “given the importance of biodiversity for certain economic sectors”. The Commission “integrated biodiversity into the thematic strategies”—in particular those on the Protection and Conservation of the Marine Environment (adopted in October 2005) and on Air Pollution (adopted in September 2005). Thematic Strategies on the Sustainable Use of Natural Resources and on the Prevention and Recycling of Waste were adopted in December 2005—both clearly relevant to the resource limitation issues addressed by the MA. A Thematic Strategy on Soil was adopted in September 2006—acknowledging the role of soil as a substrate, resource, habitat and gene pool.

11. The rationale for Theme 6 (Environment, including climate change) of the European Union’s 7th Framework Programme (FP7) will emphasise that research for policy is a fundamental component. Research in FP7 (2007–13) will address the needs of EU environmental policies (the Marine Environment, Air Pollution and Soil Thematic strategies mentioned above), which in turn have been designed by the Commission to integrate biodiversity policy needs. Research in FP7 will also explicitly address EU international commitments. Notably in the context of the MA, the UN Convention on Biological Diversity (CBD) is a specific driver.

12. The FP7 Environment work-programme for 2007 will provisionally include three biodiversity/ecosystems project topics, one of which “Biodiversity values, sustainable use and livelihoods” will be specifically designed to include international partners. NERC understands from the Commission that subsequent FP7 annual work programmes will reflect the fact that biodiversity will continue to be a priority for the EU.

Question 2: To what extent have MA findings and processes been incorporated into UK departments? How aware are departments of the importance of the MA? What steps are being taken to ensure that the findings of the MA are being considered and, where relevant, acted upon in the departments? Is there any evidence of real change in government as an outcome of the MA?

13. Defra and DFID research and evolving policy positions are taking account of the findings of the MA. Defra initiatives in natural resource protection and sustainable consumption and production align well with MA findings.

14. With support from Defra and UK country executives in Scotland, Wales and Northern Ireland, NERC’s Centre for Ecology and Hydrology (CEH) is undertaking another Countryside Survey in 2007 that will provide information on change in the rural environment. This should be an important step towards an evidence-based position on issues raised by the MA for rural parts of the UK (for example, previous Surveys have provided evidence about the relative effects of climate change and nitrogen deposition on biodiversity resources).

15. A number of cross-Council research initiatives such as the Rural Economy and Land Use programme and the UK Energy Research Centre include projects relevant to the sustainable delivery of ecosystem services. NERC’s QUEST programme involves “Quantitative mapping of the risks associated with different degrees of climate change for ecosystem services related to water supply, food and fibre production, biodiversity and human health and well-being”. There are also large EU Framework 6 Integrated Projects addressing relevant issues. For example, ALARM (which involves CEH and a number of UK universities) is examining risks from alien species, and risks to pollination in the context of global change. The Tyndall Centre, a NERC Collaborative Centre established specifically to address interdisciplinary aspects of climate

2 http://ec.europa.eu/environment/newprg/strategies_en.htm
change (and which also receives funding from the Economic and Social Research Council and the Engineering and Physical Sciences Research Council), has recently produced material on interdisciplinary research that may help encourage the institutional change required if MA conclusions are to be addressed.

16. NERC believes there is evidence of a real change in government. The UK has been making substantial efforts in the directions that any constructive response to the MA would include. The UK Treasury’s Challenges take up several of the themes that can be found in the MA, eg the 5th Challenge—“Increasing pressures on our natural resources and global climate from rapid economic and population growth in the developing world and sustained demand for fossil fuels in advanced economies”. NERC’s developing strategy, with its likely emphasis on prediction and strengthening the evidence base for choosing sustainable development options, will try to respond to this and to lead appropriate scientific developments in both national and international research fora.

17. The concepts of protecting natural resources and ecosystem services are well embedded in the thinking of the NERC-led scientific community, eg the Oceans 2025 proposal from the marine science laboratories, and proposals arising from a 2005 joint study (for NERC, Departments and Agencies) on sustainable marine bioresources. The latter were conceived with the vision and findings of the MA in mind. Knowledge will become available to researchers in other parts of the world through international collaborations and NERC’s Knowledge Transfer and science-to-policy activities. This should influence thinking internationally as well as in the UK and EU.

18. The planned emphasis in NERC’s developing strategy on the evaluation of ecosystem services should result in important research outputs for policy makers. Although the outputs won’t directly alter the economic background to decision making, they should help policy makers integrate services that currently have no readily recognised marketable value into their thinking, alongside those traditionally associated with economic benefits.

19. A serious obstacle to success could be the pressure on funding being experienced by some departments that are leaders in MA-related policy-relevant research. NERC understands the difficulties that Defra is going through at present. NERC believes the issues raised by the MA are sufficiently serious to be given high priority in government. The nation’s health and economic well-being are, as the MA points out, underpinned by the ecosystem services the environment delivers.

20. The change to the funding position within DFID research is very welcome and provides renewed opportunities to address international development opportunities with science that will facilitate decision making on sustainable development in some of the world’s poorer regions.

21. NERC looks forward to discussing these matters with other members of the Environment Research Funders’ Forum and working with them to address issues raised by the MA.

Question 3: How has the MA been used to ensure that there is adequate policy coherence, placing adequate weight on non-financial impacts and environmental limits in policies? Are the issues raised in the MA adequately addressed by UK policy appraisal through Regulatory Impact Assessments? Can departments document examples where the MA has resulted in a change in the preferred policy option to one which is more sustainable?

22. NERC knows that Defra (a sponsor of the MA) is conducting research, some of it in conjunction with NERC research centres, university groups and consultancies, that is exploring the links between environmental limits and the delivery of ecosystem services.

23. Joint work between Defra and bodies supported by NERC is already organising the base environmental data into formats that make us more aware of the stock of natural resources and their current status (which may provide information on how close current use of natural resources is to the limits of exploitation). More work is undoubtedly needed to establish rates of use and rates of replenishment of basic natural resources.

24. NERC’s view is that Regulatory Impact Assessments are currently not primarily intended to take on board the issues raised by the MA. NERC believes that some form of strategic environmental assessment might be the best way of determining whether the policies, plans and programmes of government are consistent with the type of social and economic development the MA indicates should be adopted. A consistent framework is needed internationally—but this need not stop the UK moving ahead. There may be benefits in giving a lead to partners in Europe and the Commonwealth based on the approaches used in the MA. Defra is already funding appropriate research, albeit at a relatively low level.

Question 4: Should the UK develop its own assessment report and would it be relevant to include external UK impacts?

25. NERC believes there would be advantages to the UK having its own ecosystem assessment and that this should include external impacts. For a trading nation to do otherwise would undermine the basic principles advocated by the MA. NERC and Defra are supporting relevant research. One prime requirement would be provision of data regarding natural resources and the pressures on them that might compromise

3 “Science for Sustainable Marine Bioresources” www.nerc.ac.uk/research/emergingops/bioresources/scopingstudy.asp
the ability to deliver ecosystem services. A start has been made on this. Defra and NERC funds have contributed to an important report on marine resources (see the Defra report Charting Progress: An Integrated Assessment of the State of UK Seas\textsuperscript{4}). Substantial work on terrestrial systems is also in hand but needs bringing together, perhaps using Charting Progress a model.

26. There is a good case for starting on small relatively easily managed and well understood ecosystems to test approaches and principles and develop sound management practices. One key issue is whether there are enough basic data on natural resources and the rates at which ecosystem processes (eg for the supporting services) can support replenishment of provisioning or regulating services. This is an important issue, for, if rates of replenishment and rates of use or service delivery are out of balance, then there is a risk that environmental limits will be exceeded and problems such as non-linear effects will come into play that could undermine human well-being. To test MA approaches, economists and social scientists would need to be able to attach values of some kind to both natural resources (as capital) and to the services. Environmental scientists would have to improve predictive and process knowledge about the quantitative links between resources and services. All groups would have to put more weight on the supporting ecosystem services (eg biogeochemical cycles) than the MA does. NERC is endeavouring to do this in its developing strategy.

Question 5: How have international institutions adopted the findings and processes of the MA? Why has the World Bank been slow to respond to the MA? How should the findings of the MA be incorporated into the World Bank’s work?

27. There is substantial evidence that the World Bank has been engaged in the MA process. Its lead scientist, Bob Watson, has been a major player in the development of the MA. The MA challenges the current economic status quo by pointing to the need for environmental accounting procedures of some kind. This raises serious issues for organisations like the World Bank where internationally accepted economic metrics, such as GDP, would need substantial modification. This could lead to dramatic changes in the way the wealth of nations and progress on social and economic development was perceived.

28. It would be wrong to single out the World Bank. The MA challenges all large organisations (government and Research Councils amongst them) to examine their own practices to see how to respond. In implementing its new strategy, NERC expects to take at least some account of the MA.

Question 6: Are NGOs acting on the MA’s recommendations, particularly those involved in development and poverty reduction?

29. NERC knows that some NGOs are responding positively to the MA. Organisations such as the British Ecological Society are advocating adoption of the MA’s conclusions in the area of biodiversity and ecosystem processes. Much of its last annual meeting (Oxford 2006) concerned relevant issues and a member of the MA Board closed the conference (Prof Dasgupta FBA FRS, Cambridge).

Question 7: How has business risen to the challenges identified in the MA? Has the MA been used in strategic business planning?

30. NERC was pleased to note the engagement of business with the MA. UK-based multi-nationals seem to be responding favourably. The energy sector is responding to the need for more sustainable forms of energy production and NERC’s British Geological Survey (BGS) is active in the area (eg in carbon sequestration and storage in conjunction with the UK Energy Research Centre).

31. NERC is responding in terms of its own business by a policy of “greening” and all the larger NERC Centres have staff with responsibilities for reducing the size of their organisation’s environmental footprints. NERC accounts include items designed to help quantify and offset the environmental impacts of its operations.

Question 8: How useful was the MA in addressing the assessment needs of a number of Multilateral Environmental Agreements such as the Convention on Biological Diversity?

32. The more exact question might be how useful is the MA in such respects.

33. The MA was grounded in a number of Environmental Agreements, so it is natural to expect that those active in the implementation of a number of international treaties and Conventions will take note of the MA. The MA rightly emphasises the central role that biodiversity plays in planetary processes and in aspects of human well-being. As such, the MA demonstrates the importance of meeting the needs of Multilateral Environmental Agreements because it points to the interconnectedness of a range of physical and biological environmental resources and how these linkages are vital for the delivery of services to people.

\textsuperscript{4} www.defra.gov.uk/environment/water/marine/uk/stateofsea/chartprogress.pdf
Question 9: Were there any gaps or weaknesses in the MA? How should the MA be followed up? Are the mechanisms and expertise which were developed to create the MA now being lost due to a lack of confirmation of a formal follow up procedure?

34. The MA does contain gaps and weaknesses. This should not be considered a criticism but an indication of how much else needs to be done to ensure long-term human well-being on a planet that, in certain ways, has to be considered as a closed and finite system. As indicated in the introduction, the MA could only be based on the best information available to it at the time, inevitably incomplete. The MA has begun a debate that needs to continue.

35. The MA documents themselves point to gaps in knowledge. Although there is a lot of information available on environmental changes and the pressures driving these, new data and knowledge will be needed to manage the relationships between ecosystem service delivery and environmental processes.

36. The MA has concentrated very much on the provisioning and regulating ecosystems services. This has been done to avoid double counting since the provisioning and regulating services are dependent on the supporting ones. However, if the supporting ones collapse or are distorted (say, because of nitrogen pollution) then the state of the provisioning or regulating services may be imperilled in ways that might be difficult to predict. The lack of a full consideration of the supporting services is a major weakness but serves to illustrate how much more needs to be done. As an example of the importance of supporting services one has only to consider the positive feedback of widespread tundra melt on climatic conditions (because the melt would release large amounts of methane a potent “greenhouse” gas).

37. In the UK the ecosystem services delivered by the water and soils ecosystems might be ripe for study. For example, the forthcoming CEH water programme will address a number of the interactions needed to make use of MA findings and conclusions within the UK.

38. Other gaps or weaknesses include:

— There are no specific proposals for how the aims might be achieved through international agreements, national bodies or practitioners (be these economists, scientists or politicians).

— Although natural hazards are referred to, the need for the world to prepare to cope with these is probably underplayed in the MA documents. The voice of geology probably needs to be heard more clearly.

— Relatively little attention seems to be paid to services delivered by mineral resources.

— There is inadequate understanding of links between ecosystem change and human well-being, and of the importance of biodiversity for securing ecosystem services.

— The models used in the scenarios would be strengthened by integration of more faunal as well as floral data and through development of more dynamic approaches.

— There is a tendency to treat the marine environment as a mass, often alongside coastal matters, and to value it mostly from a fisheries perspective. In contrast, the terrestrial environment is considered in more detail, with finer divisions being made. This is perhaps not surprising, given that the MA focused mostly on provisioning and regulating services.

39. The MA should be followed-up by each country or region and needs wider exposure in a more readily digestible form and in specialist academic journals. Internationally, there probably needs to be an assessment of each ecosystem service. However, as the MA points out, information is lacking in many areas. This presents a substantial research challenge requiring co-operation amongst many disciplines and engagement with government and business. There is much scope for challenging research if we are to ensure the delivery of ecosystem services. Research is needed on the following topics and questions amongst others:

— Developing better measures of biodiversity decline—eg the relationship between floral and faunal declines. These types of questions need to be answered: What is the size of the stocks of natural resources and at what rate are they being used and replenished? Can these rates be managed and monitored?

— Improving understanding of implications of biodiversity loss for ecosystems—Which ecosystems provide which services and what ecosystem processes underpin delivery of these services? What links exist between ecosystem services, biodiversity and livelihoods (socio-economic issues).

— What gearing mechanisms do people use (such as fertilisers) to increase the rate or size of yields from ecosystem services and what negative mechanisms (such as pollution) are in play with respect to such mechanisms or the underlying processes themselves?

— What diagnostic and prognostic monitoring can be put in place to ensure ecosystem services are being delivered sustainably without approaching the limits of natural resource provision?

— How can prognostic monitoring and predictive process modelling be best linked together?

— Better understanding of non-linear systems—step changes, thresholds, complex systems and positive (and negative) feedback.
40. Lack of confirmation of a formal response procedure will tend to slow uptake of the MA’s findings and conclusions. This should not stop individual countries taking appropriate action. There will be a considerable requirement for institutional change.

41. The expertise assembled to do the MA still exists in the international community and a range of responses are developing. As ever, these need to be encouraged, by appropriate funding where necessary, else the pool of expertise and interest will dissipate. NERC is working with various government bodies on a number of fronts, eg marine bioresources, to draw together the putative interdisciplinary research teams needed to address MA findings and conclusions.

42. Some further points of detail on various aspects of the MA Board Statement and the MA summary findings set out in Living Beyond our Means are included in the attached Annex. These points illustrate some of the more contentious aspects of the MA.

October 2006

Annex

The following points were raised by members of the NERC community about various aspects of the MA. These concerns aspects of the MA not necessarily covered by the Inquiry questions.

1. THE MA BOARD STATEMENT

   (a) Various aspects of the MA Board statement summarising the MA findings probably need to be expanded. For example, amongst the demands people make on the environment is that for land. Such demands are in addition to those for “food, fresh water, fibre, and energy” quoted by the MA Board. The impacts of these “land” demands are currently more evident perhaps in developed than developing economies and include demands for infrastructure as well as demand for housing. On a related point, the pressures on ecosystem services should have included an explicit reference to habitat loss.

   (b) Concerns persist in some circles about the development of economic models based on the private ownership of common resources. However, there is a growing recognition that for a meaningful dialogue to take place between economists, and social and natural scientists, some common approaches to valuation of natural capital and ecosystem services need to be developed. This might be done alongside the development of indices of environmental resource use and service delivery. NERC staff have developed two relevant indices in recent years, the Water Poverty Index, and the Climate Vulnerability Index.

2. MAJOR ISSUES RAISED BY THE MA IN VARIOUS DOCUMENTS, SUMMARISED IN THE MA’S LIVING BEYOND OUR MEANS

   Biodiversity

   The MA perhaps underplayed the complexity of the causes of declines in biodiversity and thereby may have underestimated the overall challenge facing the world or particular regions. For example, the marine environment is struggling with two processes, linked to changes in the climate:

   — phenological changes, such as phytoplankton occurring before the zooplankton “needs” them, thus disrupting ocean food-webs; and

   — displacement/replacement of species due to changes in temperature and governing circulation patterns (for example in the North Sea).

   Complex interactions can also result in increases in biodiversity. Some argue that increases in seabird numbers around the UK coast over the past 50 years may have resulted from pressure on the structure of marine food webs caused by fisheries. Basically there have been more fish of a size taken by seabirds in recent times because of overfishing of larger fish. The feedbacks in such a system are uncertain and there is now evidence that the position is unsustainable as climate and increasing fisheries pressures on smaller fish combine to cause, in some years, complete breeding failures at some seabird colonies.

   Phenological changes are also very evident in the terrestrial environment with evidence already available on the importance of maintaining synchrony between bird breeding cycles and the availability of insect food for their young. Mounting evidence suggest migratory species are not doing well—whether this is due to climatic effects or habitat loss is unclear.

   Fisheries

   Elements of the MA account of fisheries are contestable. There are clear differences of view some of which may reflect the need to develop more sophisticated ways of solving problems for the people affected by declines in fisheries (however this is caused). For example:
The summary statement on fisheries contained in Living Beyond Our Means may reflect the view of the lead author of MA sections on fisheries. Other scientists, including the FAO Fisheries Department, would argue that fisheries yield has remained constant or only slightly declined, in the last decade; albeit at a time of increased capture efficiency. It seems likely that provision of protein in the future must be secured through better and more efficient utilisation of fish rather than through increasing catches. The declines in stocks are likely to deprive communities of protein, but this has not been demonstrated at the global scale (specific examples may well have been identified as illustrated by some examples in the MA reports).

The consequences of overfishing are probably more complex than the summary statements from the MA imply. For example, the Canadian cod fishery is one of the very few fisheries to have collapsed through human activity. And yet, the fishery for crabs and shrimps that replaced it provides more national revenue than the cod fishery ever produced. It just feeds different pockets and communities. Therefore the report’s implication that capture fisheries should necessarily be reduced (thus putting fishermen out of commission) may require further examination.

Some of the other statements on fisheries may not be fully balanced. For example, if 25% of stocks are overexploited, 75% are not, but the impression is given that the situation is globally very bad. The statement that current catches are less than 10% of what was historically available is heavily contested in some circles. Data are extremely patchy and the analyses leading to that conclusion have been criticised in scientific circles. The view may be correct but it is far from proven.

October 2006

Memorandum submitted by United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC).

OVERVIEW OF FOLLOW-UP ACTIVITIES TO THE MILLENNIUM ECOSYSTEM ASSESSMENT

The United Nations Environment Programme’s World Conservation Monitoring Centre (UNEP-WCMC), is the biodiversity assessment unit of the United Nations, located in Cambridge, UK. The Centre played a key role in the development and implementation of the Millennium Ecosystem Assessment (MA), including through providing technical support to the MA, co-ordinating the MA Conditions and Trends Working Group assessment, and the data management secretariat for the MA. As a member of the MA original Steering Committee, and distributed Secretariat, the Centre was pivotal in the MA global process, and is now playing a key role in follow up to the MA at global and sub-global scales.

The Centre is working with organisations both in the UK (including Defra, DFID, JNCC and various NGOs) and internationally (including with various UN agencies, World Bank, Multilateral Environmental Agreements, other IGOs and international NGOs) on various follow up activities, summarised below.

1. In addition to the outputs of the MA itself, where UNEP-WCMC played a key role in the Condition and Trends global assessment, and the biodiversity synthesis report (which was co-launched in Montreal, Canada, and Cambridge, UK), the Centre subsequently produced a synthesis report of MA findings on Marine and Coastal Ecosystems & Human Well-being, as one of the Synthesis reports of the MA (see www.MAweb.org/en)

2. UNEP-WCMC collaborated with Greenfacts and other organisations to produce a generalised summary of the MA Biodiversity Synthesis report, “Facts on Biodiversity” which is available on the web www.unep-wcmc.org, and has been distributed widely in Europe and elsewhere, including in the European Green Week (early June 2006)

3. Under the authority of the MA Oversight Committee, UNEP-WCMC is receiving funding from the Zayed Prize given to MA authors in 2005, and from Defra, to develop an Integrated Assessment Methodology Manual. The manual will collate the best practices for ecosystem assessment identified through the MA global and sub-global assessments, and make them available to assessment practitioners through ongoing activities of international institutions (governmental, business, and civil society) that serve as the conduits for training and for conducting assessments. This will serve to build capacity for conducting ecosystem service assessments at the national and regional scale.

4. UNEP-WCMC is supporting the World Resources Institute (WRI) to develop an Assessment Users manual, which will provide a tool to assist developing countries integrate ecosystem management and development decisions, focused on ecosystem services.
5. UNEP-WCMC has recruited a Commonwealth Scholarship position, to bring a scholar from the Caribbean and Trinidad Northern Range sub-global MA assessments to UNEP-WCMC for five months from October 2006. The Scholar will help develop a wider plan for MA follow up using the experiences of the CARSEA and Trinidad MA subglobal assessments, including enhancing the communications and dissemination of MA findings in the region.

6. UNEP-WCMC has also contributed to the development of a GEF proposal (medium sized project) for MA follow up activities, in collaboration with the World Bank, United Nations University, UNESCO, UNDP, WRI, the Packard Foundation and others. This will include hosting an MA subglobal partners meeting early in 2007, to bring together ongoing sub-global assessments with those newly emerging assessments (including in France, Germany, pan-European, England, Japan and elsewhere).

7. Since its involvement in the MA, UNEP-WCMC has established an Ecosystem Assessment Programme (EAP) to contribute to the global coordination of follow up activities to the MA. The EAP also undertakes work on other assessment activities, such as the Global Environmental Outlook, the Global Biodiversity Outlook for the CBD, the 2010 Biodiversity Indicators Partnership, in order to ensure that lessons learned from the MA are taken up in other biodiversity-related international assessment activities.

8. At the CBD 8th Conference of the Parties in Curitiba, Brazil, in March 2006, UNEP-WCMC convened an ad-hoc meeting to discuss follow up activities to the MA. This meeting concluded that there were two areas of work that required significant ongoing efforts. The first on the communication and dissemination of the current findings from the MA—across the global working groups, and from the sub-global experiences. The second area of priority was determined as the ongoing coordination of sub-global assessment activities to ensure that lessons learned from the global and MA sub-global processes can most effectively be brought to bear on new and future assessment activities. These priorities have been built into both the GEF MSP proposal, and the programme of work of the Ecosystem Assessment Programme at UNEP-WCMC.

9. At the national level here in England, UNEP-WCMC is linking with the England-scale assessment of ecosystems and their services, including valuation of ecosystem services (Defra current NEP projects), in particular with a view to supporting these activities with lessons learned from other MA-type assessments, and to drawing on these assessments for the best practices experiences with the MA methods manual.

November 2006

Supplementary memorandum submitted by United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC)

ADDITIONAL MEMO PROVIDED FOR ENVIRONMENTAL AUDIT SUB-COMMITTEE, IN RESPONSE TO FURTHER QUERIES ON THE EVIDENCE SUBMITTED ON 2 NOVEMBER 2006

The England assessment is in fact the most advanced of the various newly established assessments in the light of the MA—in Germany for example it’s little more than a proposal at the moment, and the status of the French proposal is uncertain. The England assessment is fully underway, being conducted by a range of contractors (ADAS, Uni Nottingham, Wildfowl and Wetlands Trust, Jacobs Babtie etc) from a Defra tender.

It is an England scale assessment of ecosystem condition and ecosystem services (including valuation of these services), and four local scale assessments (M6 link area, North Devon, Thames Gateway and Oxfordshire wetlands). Until very recently Defra have been reluctant to brand this as an MA-type assessment, concerned that it didn’t meet quite all the criteria for stakeholder involvement, and scope of assessment (it’s largely a “condition and trends” assessment, and is not developing scenarios, or assessing the effectiveness of responses). However, in both of these senses, it is no different to many of the original MA sub-global assessments, and various of the MA follow up activities going on in other parts of the world, and in terms of global MA follow up activities and co-ordination, we very much consider the England assessment to be an MA-type assessment.

These England assessments are being co-ordinated out of the Natural Environment Policy Team at Defra. Sarah Moon is the contact there. sarah.moon@DEFRA.GSI.GOV.UK and further details on these assessments can be found at www2.defra.gov.uk/research/project_data/More.asp?I=NR0106 (and through to NR0112)

November 2006
Witnesses: Mr Neville Ash, Head of Ecosystem Assessment, UN Environment Programme (World Conservation Monitoring Centre); and Dr Steven Wilson, Director, Science and Innovation, and Dr Daniel Osborn, Strategic Partnerships Broker, Natural Environment Research Council, gave evidence.

Q65 Chairman: Good afternoon. Thank you very much for coming in to give us evidence this afternoon. I am wondering if we could start perhaps by you introducing your relevant organisations and just telling us very briefly what their function is.

Dr Wilson: I am Steven Wilson and I am Director of Science and Innovation at the Natural Environment Research Council, NERC. NERC is one of the (currently) eight research councils. We fund and carry out independent environmental research. We of course also train the next generation of environmental scientists.

Dr Osborn: I am Daniel Osborn. I work for NERC centrally and I have a special role in looking at stakeholder partnerships within the NERC remit.

Mr Ash: I am Neville Ash from the UNEP World Conservation Monitoring Centre in Cambridge. The UNEP World Conservation Monitoring Centre is the biodiversity assessment and policy implementation arm of UNEP. It has a staff of about 50 based here in the UK. The Centre played a key role in the Millennium Ecosystem Assessment itself during the four years 2001–05 and we are playing a key role in the follow-up to the Millennium Assessment, mainly at the international level.

Q66 Chairman: Thank you very much. If I could kick off with the questions. Some witnesses to the Sub-Committee have said that they see a lack of progress in addressing the issues raised by the MA. How much impact do you think it has had so far and do you think that on internalising its results there is a lot of progress to be made on that front?

Dr Osborn: Neville will perhaps want to say something from the WCMC perspective, but I think with a document of this size and an enterprise of the kind it has been—and it has really gathered opinions from all around the world and looked at the best available evidence, et cetera, and come to some reasonably radical conclusions—it is going to take some time for bodies to respond. I can understand people so far saying that perhaps there has not been a great deal of response to date that people have seen in the public domain but certainly, for example, in academic circles there is quite a lot of activity now, designed to follow up the MA. There is something within the remit of the International Council of Scientific Union, for example. There is an initiative on biodiversity by IMOSEB, which although its recommendations from its latest meeting in Leipzig do not make specific reference to the MA, if we read the words, the philosophy and the concepts that were in the MA have definitely seeped into a number of international initiatives like that, so I think there is progress. At the moment it is perhaps a little bit under the surface and it will start emerging I would say in 2007, so there is quite a lot that is going on. Neville, you might want to add some specifics.

Mr Ash: Impact to date has been mixed in different parts of the world and different sectors and different disciplines. One must recognise that it is early days. The findings only came out themselves officially in March 2005. Many of the translations of the findings are only just becoming available on-line now and being distributed. Many parts of the world have not even received the findings yet. In terms of those parts of the world which have had access to the findings, and may even have heard of them, again the impact has been mixed. At the international level within the conventions, which were a key audience for the global process, certainly in CBD, the Biodiversity Convention and the Ramsar Convention on Wetlands, there has been some very significant uptake of the concepts of the MA. I think that is about as far as it goes on the impact it has had to date, in terms of the adoption of the concepts, in particular the notion of ecosystem services, and that has been true of the international community through the convention process. It has certainly been true at the national level where the notion of ecosystem services is allowing a dialogue to take place between development and environment ministries in many countries around the world. Europe is certainly taking a lead in that, particularly within Europe in Western Europe and Northern Europe, the Scandinavian countries. There was a conference recently in Paris on biodiversity and European development co-operation, which was not exactly off the back of the MA but the entire agenda and dialogue there was based on an understanding of ecosystem services, and the MA really informed that conference taking place. That was well represented from European and developing nation governments. At the regional level, the European Environment Agency, for example, is adopting the MA conceptual framework and is thinking about producing a European-wide assessment report in relation to the 2010 biodiversity targets. At the national level there has been a mixed response in terms of impacts of the MA. Typically what we are finding is that the national response around the world is strongest in areas where there has been a sub-global assessment of the Millennium Ecosystem Assessment. The MA itself was both a global process and a global assessment but also there were 34 sub-global initiatives under the auspices of the MA. Many of those are ongoing, in fact some have been completed, and we are finding in some parts of the world where there have been completed sub-global assessments there has been a particularly strong follow-up. In China, for example, there is a Western China Millennium Ecosystem Assessment and the Chinese Government is now taking those concepts on board nationally and thinking about natural resources and assessment at the national level. It is not just governments around the world where there have been some impacts; in the private sector there have been impacts too. For example, Goldman Sachs, the financial establishment has taken on board the notion of ecosystem services as they think about their environmental policies. The World Business Council on Sustainable Development is taking on board the notion of ecosystem services and aims to communicate environmental issues within the private sector. Within the non-governmental/ non-private sector, the NGO community, the
Millennium Assessment has been certainly been taken up, largely by environmental NGOs, as a useful tool for communicating the value of the environment in the development process, and to a much less extent by development-oriented NGOs. There has been a very significant gap there in its uptake. There have been regional gaps. In North America there has been relatively little uptake by government and in Latin America there has been relatively little uptake by government outside of the key areas where there have been sub-global assessments in Argentina, San Paulo and in Chile. So the uptake and the impact of the MA has been very mixed and largely at this stage conceptual where the greatest impact has been the notion of ecosystem services, allowing a dialogue between the environmental and development sector.

Q67 Chairman: I note that you did not use the word resistance from the development NGOs to the MA but perhaps they were not quite so enthusiastic. Could you say a bit more about that as to whether they are not really picking up the connection between the environment and poverty eradication. Is their attitude reflected at all within government circles, not just within this country but elsewhere as well?

Mr Ash: I think part of the issue is that the material has not been communicated to the development NGOs in the same way as to the environmental NGOs, in part because there were more environmental NGOs involved in the production of the MA, and typically the findings of the MA are being taken up more by the institutions which were involved in the process of the production of the Assessment itself and stakeholders involved during that timeframe. There is inevitably going to be a lag between the findings coming out and becoming mainstream in the environmental sector and then being transferred into the development sector, but there are promising signs of that happening, particularly in governments, and I think particularly in government here in the UK too, for example where the Department for International Development is taking up on some of the MA findings. They commissioned a study which we provided for them from the WCMC last year on the role of biodiversity and the supply of ecosystem services. They were interested in more specifics about the details of the ecosystem function and how that related to the ecosystem services. They are interested at the moment in the UK impact on international biodiversity as related to ecosystem services as well. Certainly there has been a much lesser response in the development community across NGO and governmental departments, but I see part of that as a lag in the findings getting into that community and part of it is just this is a new area for many of these individuals to work in and the environment has historically not been centrefold in development. I think the MA puts it on the map as an important component in the development agenda.

Dr Wilson: May I follow on that point specifically on the development side but first just briefly a more general point about the impact of the Millennium Assessment on the research communities and research administration, where I work. In NERC we cover the full range of environmental sciences, which means on a daily basis I am interacting with people who do physical science, people on the more biological side, and also with our sister research councils, for example in the Economic and Social Research Council. I am from the physical sciences myself which means that my background has not been particularly from a biodiversity or an ecosystem perspective. What the MA has provided—and this has been very clear for us over recent months—is a framework which allows all the different groups, each of whom have different research languages, to have a common framework because the Assessment deals with both provisioning services, food and so on, and also the regulation services like climate regulation, which means that it is pretty important to those different communities, both from within the NERC family that I see most often but also with our colleagues on the economic and social science side, in finding a framework that helps us to develop a common language, which is going to be very important to tackle some of these issues. If I may just briefly comment on the specific following on the development issue, and that is that NERC have recently been working quite closely with the Department for International Development (DFID) and ESRC the Economic and Social Research Council on a proposal for quite a significant project on ecosystems and poverty alleviation. This is to look at what is driving the degradation of a number of key services and using that scientific information as evidence as to how it can help with poverty alleviation. DFID are taking a strong role on this. They have already announced a major involvement with ESRC, and I think that quite a lot can be traced back to the Millennium Assessment and what it said about the degradation of services and the impact on the developing world.

Q68 Chairman: That leads me on to my next question really which is about how the MA can be followed up formally too. Some people have suggested that there should be some kind of rolling programme modelled on the IPPC to do that. Would you welcome the establishment of such a body and what do you think its key role should be, if you do?

Dr Osborn: I think the best way to approach that is following on from what Steven Wilson has already said about the framework the MA supplies for conversation between different research communities and different groups. When you are looking at a range of environmental problems, it is becoming clear that the points raised in the MA about the relationships between ecosystem services, their delivery and economic evaluation, want to be added to, in a sense, because there are the environmental processes that support the delivery of those services. If we were exceeding the rate of use of natural resources such that we were approaching the
limits of replenishment, so we were using them faster than they are being replenished, then that is something we need to know about, but we will only know about that if we understand the environmental processes properly. To some extent that is a gap in the MA’s overall concept. It does not say a great deal about the link between the environmental processes themselves and the delivery of ecosystem services. That is something the research community needs to focus on. We will only get the necessary drives to be able to use the MA properly if we do follow it up at a range of different levels. Several people have drawn to my attention the importance of the regional analysis that was done for sub-Saharan Africa where various multi-scale studies were undertaken. I think therefore following up on some of these regional and sub-regional assessments is very important and, as far as the research community in UK is concerned, there seems to be a general consensus that the way to make quickest progress is not necessarily to repeat an MA for the UK, for example, but to have a look at some specific ecosystems and specific services and see what the links are between environmental and ecological processes, the delivery of services, and the way we might then develop various management and policy options as a result of that kind of study. That is perhaps the most productive way in which the MA could be followed up at a national level. Neville, you perhaps have a view on how it might be taken forward internationally and some of the data gaps, et cetera, there are at that sort of scale.

Mr. Ash: I think there is again a range of ways in which the MA could and should be followed up nationally and internationally. If I focus on the international set, clearly there is a need for on-going and increased communication of the findings of the MA as they stand at the moment. There are a number of reports, and I guess you have access to those, the thick volumes of 2,000 pages of technical findings. They have been summarised in a range of shorter documents, some of which are very short indeed. Tim Hersh from the BBC has been putting together some very thin documents in plain English. Some of those have been simplified and summarised again in much shorter pamphlets to hand out. There is a really wide range of materials now that can be used for effective communication of the findings. The findings to date have been communicated in a way which focuses on the big, key findings on the degradation of ecosystem services, but what has not been communicated so well so far internationally, and nationally too, are some of the promising response options and what can be done about this problem of the degradation of ecosystem services into the future. That takes us to the two parts of the MA, the scenarios that were developed at a global level and also in some sub-global assessments, and the response options which analyse their effectiveness. So a key follow-up strategy is increasing communication of the existing findings. I have mentioned a number of these sub-global assessments which started off under the auspices of the MA, 34 originally, and at least half of those are on-going. There is an enormous need now for on-going co-ordination of those sub-global activities to share lessons learnt between them and experiences gained so the methodology coming out from the MA can be shared more widely. There is a process underway to document the best practice ecosystem assessment methodology at the moment and that has been underway within UNEP to get those findings out more widely so we can facilitate and build capacity for conducting ecosystem assessments at national and sub-national scale. That will be the focus of that document and the on-going co-ordination between the various sub-global activities and those new ones which are starting up in many parts of the world—I will come back to argue why I think the UK already has a sub-global Millennium Assessment underway at the moment. It is not just here in the UK, in Europe in France it has started and in Germany there are ideas for one. We have already had within Europe assessments in Portugal and Norway and a preliminary in Sweden. I have mentioned the European-wide assessment in 2010. There is a new assessment starting up in Japan and elsewhere. There is a large number of new assessment processes starting up and there is a need for co-ordination and the sharing of lessons learnt between those processes. In terms of the global follow-up there is certainly a critical need for more research. The MA identified a wide range of research gaps, some of which were extremely fundamental—the distribution of the world’s wetlands, a time series for global forest cover changes—really basic things which the world should know about by now. I think the UK could play a key role in encouraging strongly international and UN institutions to do a better job of tracking global change in many aspects of ecosystems, including biodiversity and ecosystem services. There are some projects underway at the moment relating to the 2010 targets to develop global indicators which could be built on. Thus some very fundamental science needs to be done to better understand the dynamics of the world ecosystem distribution and the relationship, as Daniel mentioned, between ecosystems and ecosystem services and between ecosystem services and people, there needs to be a lot more fundamental research done there. A key area where there were some interesting findings in the MA, where particular research can be done, is the notion of thresholds and non-linear changes, which are of particular interest to many user communities. The MA identified that in fact we know very little about how to predict the non-linear, dramatic, sudden changes. The collapse in fishing stocks would be the classic example there. There is certainly a lot more follow-up to be done in terms of research. As to an on-going mechanism such as the MA, the MA was already designed to be, in theory, repeatable in periods into the future. There has been talk about repeating some kind of MA process in five to 10-year periods. The MA itself is modelled on the IPPC and took many of the lessons learned from the IPPC processes (now coming up to a fourth release of the report) into the MA. There are still more lessons that I think can be learned now from the MA in a similar kind of follow-up process. These are being taken on, I believe, in the on-going consultation process for the
International Mechanism for Scientific Expertise on Biodiversity (IMOSEB). Despite my personal concerns about that being very much a science-led process at the moment where I think there could be more policy consultation going on too, I believe the MA has a lot of valuable lessons that can be passed on to those consultations under the auspices of IMOSEB. That said, I believe whatever the outcome of the IMOSEB process, if it turns into an ecosystem assessment in the same state of play as the MA, that would be very useful. If not, I think there would still be a gap in the science policy interface for a scientific assessment based around a similar kind of governance, stakeholder involvement and content of the MA.

Dr Osborn: Can I just follow that through at the UK level. There are a number of research initiatives that are going on at the UK level many of which are linked into European initiatives as well. For example, just within the NERC area we should be running the next Countryside Survey in 2007. That has been developed over the last two years with a very close link to policy and many of the lead scientists in that area, both in Defra and its agencies and in NERC research centres such as the Centre For Ecology and Hydrology, have very much got in mind that the results of the Countryside Survey will come in in a format that can be used to have a look at some of the issues raised by the MA. That is a way which for the rural environment in the UK we can have a look at change in various aspects of natural resources over a period of about 40 years. It is by far and away the most comprehensive way of looking at the rural environment there is in the world and that will be a very useful initiative. It is an example of the way in which we can monitor the environment over a period of time and analyse the data to find out what the causes of the changes we observe in biodiversity actually are. We can look at the relative strengths of the drivers like climate change effects and pollution like nitrogen deposition and things of that kind, so the UK itself is really very well placed.

There is research in Defra at the moment which is looking very much at this issue of ecosystem services and how we can use the data and information that we already collect in terrestrial and marine environments and in the atmospheric area as well, and look at how we can build that into this concept of ecosystem services so that we end up overall managing the environment in a more sustainable fashion. A very recent example of how important these things are is the Stern Report which came out yesterday. One of the gaps I notice that is identified there is the very area of where biodiversity and ecosystem services do not have a market value very readily at the moment; these need to be incorporated into the analysis to refine it somewhat further. So there is an immediate opportunity there for the MA findings to be taken into the mainstream of economic thinking. I have no doubt the Stern Report will have a big impact on economic thinking.

Q69 Chairman: It seems to me that one of the great strengths of the MA was its holistic approach, if you like, and I can see that the different scientific disciplines and professions will clearly dig into their piece of territory and follow it up in their own way. In doing so without a holistic follow-up, is there a danger that some disciplines and particular areas, which are perhaps not quite so sexy politically or indeed scientifically may just fall away again and be neglected?

Dr Wilson: Let me just give an initial answer to that. Whilst I may not be able to give a full answer as to whether some bits might drop away if there is no oversight body, what I can say is that there is clear work between the different research councils which have an interest here and the associated government departments. NERC and ESRC are forming a strong partnership, BBSRC is also getting involved, and we are being approached strongly by the relevant government departments, Defra and DFID. Whereas previously I am sure there have been a lot of cultural and language-type barriers between the different scientific communities involved on the physical side and the biological side and on the economic and social side, there is a strong willingness from the top of these at least, the funding organisations, to try to help them move forward, and the MA is there to give us a unifying framework just as you have said.

Chairman: Perhaps we will move on. Mr Vaizey?

Q70 Mr Vaizey: I was going to talk to you about communication but you have mainly covered that in your earlier answers where you said that you felt that there was a wide range of material already available. I have to say that your assessment of how the MA is being communicated is much more upbeat than the previous witnesses we have had. You have given the impression, and this is not a criticism, that the information is being disseminated quite widely. Is that a fair summary of your view?

Mr Ash: I think I said it varied enormously so there are patches of the world and sectors where the information is getting out very widely. That is certainly so in the environmental sector in Europe and North America and the non-governmental sector in North America. There are patches of the world where there has also been particular sub-global assessment. We mentioned Southern African and there is the Caribbean Sea in Trinidad and Western China, so there are lots of examples where the findings have been disseminated reasonably well.

Q71 Mr Vaizey: Just in terms of practicalities what do you mean by that? How does it happen that in Western China the findings get through, as it were, and acted upon?

Mr Ash: I think it is partly because things like brochures and pamphlets are making their way into schools in the local languages, that kind of activity.

Q72 Mr Vaizey: It is literally that kind of micro level?

Mr Ash: Very grass roots level communication going on locally in some parts of the world. That is not happening globally by any means. There is still a very significant language barrier in communicating the main findings in many parts of the non-English
speaking world. That is slowly being dealt with as new translations are coming out and becoming available but, do not get me wrong, there is an enormous need still for much greater communication of the existing findings and by no means has that been a job done well.

Q73 Mr Vaizey: How can it be done well or done better?
Mr Ash: One of the challenges was that the funding for the MA ran out by the end of 2005. There has been one secretariat staff member working through until about a month or so ago on communication of the findings, but they have been largely involved in arranging translations. I think two things need to happen. One is that the institutions and governments who are aware and taking up the MA need to do a better job themselves of disseminating the findings through their networks and processes. The other is that there needs to be a process by which funds are directly dedicated to the dissemination of findings, whether it be through television, radio, documentary literature or internet-based dissemination, so the full range of mechanisms by which the findings could be further disseminated.

Q74 Mr Vaizey: Is that similar to Sachs’ idea about the Ecosystem Fund where he talks about a fund of $200 million to help developing countries adopt the Millennium Assessment and integrate it with policy?
Mr Ash: It would help, certainly. The findings of the MA need to be communicated as well to non-environment departments in governments. They have done a reasonable job through the convention processes at targeting the environment departments of government but I think what has not happened in many cases is the development, the planning, the finance, the agriculture and fisheries and forestry departments have not been well-targeted by the findings of the MA. Funding constraints were a large problem there.

Q75 Mr Vaizey: I think that covers it for me.
Dr Osborn: Could I just emphasise one of the activities that seems to be happening in the scientific community. I have had some requests from colleagues to do a bit more communication within the scientific community to perhaps draw together some of the common points across disciplines, for example, and I think the research councils would pursue that type of activity or encourage it as a matter of normal business in many ways. However, at the international level, for example within Europe, there is an initiative to provide some policy focus briefing on, for example, which bits of European biodiversity are playing the greatest role in delivering ecosystem services. That is something that will hopefully report around Easter time. That is being done by a pan-European group of the European science academies.

Mr Vaizey: So there is a lot much communication of that kind?

Q76 Chairman: Is the British Government doing much to communicate any of this? We have heard about China but we are leaders in climate change, et cetera, so presumably every primary school in this country is receiving a pack or something of the sort. Are you aware of anything happening?
Mr Ash: Sadly, that is not the case yet. Primary schools in the UK are yet to become aware of the findings of the MA.
Mr Vaizey: Do you think they should do it at DFID?
Chairman: Okay, can we mince a moment’s silence! Mr Howarth?

Q77 David Howarth: Can I just ask you a few more questions about research funding. As the MP for Cambridge it would not be very surprising that I ask you those questions. You have already mentioned the gaps in the research arising out of the MA and obviously there are calls for an international interdisciplinary research agenda for sustainable development because it has to bring economics and not just the sciences, and presumably you all agree that needs to be done. Can I just ask you about how that might be done. What one person giving evidence to us has said is that it could be hosted by the International Council for Science, for example. We would like to have some feel for what options there might be for achieving that end and for getting the international inter-disciplinary research agenda going and what the advantages and disadvantages might be of different structures.
Dr Osborn: Certainly the ICSU mechanism is one way in which an international research agenda could be organised and I am sure a group doing that led by Hal Mooney will have a very significant influence on international thinking in that area.2 There is an enormous amount of interest at various levels in the scientific community and considerable feeling amongst some of our most distinguished scientists that this is an issue that cannot be dropped and that the research community should take forward. I think through the natural process and mechanism by which that community works and by the way in which the forthcoming NERC strategy is looking like it is beginning to develop, it looks as if there will be opportunities for people to pursue MA-type research, but Steven might want to say a little bit more about that.

1 Witness addition: The European Academies Science Advisory Council (EASAC) recently agreed to convene a working group on ecosystems services and biodiversity and invited Alastair Fitter FRS, Professor of Biology at the University of York. The Working Group aims to evaluate the importance of ecosystems services in Europe and the role of biodiversity in maintaining them. It plans to deliver its report during the German Presidency of the EU.

2 Witness Addition: Millennium Ecosystem Assessment (MA) Follow-up Group: Following discussions by the MA Oversight Committee, it was decided that ICSU, UNESCO, and UNU will take the lead on the development of a report on the gaps in scientific understanding at the global and sub-global levels identified though the MA process. A 15-member committee, chaired by Hal Mooney of Stanford University, has been established. See terms of reference at: http://www.icsu.org/5—abouticsu/STRUCT—Comm—Adhoc—MEA.html
Dr Wilson: Perhaps just to follow up on that, as well as research relevant to the MA, which I think is going to appear quite high up on the agenda in the next NERC strategy, it is also pretty much at the top of the pile of the cross-disciplinary programmes that the research councils are putting forward as part of the coming spending review, so it has been identified by the councils themselves as a serious priority.

Dr Osborn: And it is certainly something that we could do within the UK because of the amount of basic information we have about the environment and because of the standing that UK researchers have in this type of research internationally, so the UK can give quite a lead in this area if the funding opportunities are there. Of course, it all depends on the availability of those funds.

Q78 David Howarth: That was going to be my next question: what is the funding situation? We have heard concern that funding for research, indeed funding for ecosystem management itself, is inadequate and that the Government might actually reduce funds available for that sort of work. Is that what you are hearing and how would that affect your ability to meet these challenges you have identified arising out of the MA?

Dr Wilson: I guess I can probably only answer that, at least initially, from a NERC perspective. That is to say, as I have just said, both on our new strategy development and the cross-disciplinary activities across councils, this area and associated research and biodiversity and so on is coming out as a high priority, which to me means if that is what happens in our final strategy document that NERC and other councils will try to channel priority funding in that direction, so from a NERC perspective, biodiversity and issues associated with natural resources, all linked to the Millennium Assessment, are right up there at the top of the pile in our strategy development. For government departments I clearly cannot answer and you would not expect me to answer for ministers, but what I can say is that DFID have been more than upbeat with us. They have announced elsewhere in this building a financial commitment to a major programme with us, and Defra also appear to be very interested in the issue of ecosystem services. That is a little way further behind in terms of specific financial commitments, but the ministers are talking about it and they are talking to us about it.

Q79 David Howarth: What is the funding situation internationally? How does what is going on here compare with what is going on elsewhere? Bear in mind that the RSPB told us there seemed to be no funding at all for British overseas territories where there was some interest. There does not seem to be any funding for work there so could you just comment in the general context of the international situation.

Dr Osborn: As far as the overseas territories are concerned, there is a general appreciation in the UK ecological community that those territories are quite important in biodiversity terms. They have got some very unique resources. I see a slight trend in government that that is perhaps an area of biodiversity resource that has not quite received the attention it has deserved. Whether that translates into increased funding for that area is another issue, and I cannot comment on that, but I do detect an increasing recognition that there are important biodiversity resources that fall under the UK’s general responsibilities towards those overseas territories.

Q80 David Howarth: And the international funding situation?

Mr Ash: I have a small thing to add. I think there is some concern that the funding for international monitoring of biodiversity and ecosystem services is in fact in decline. For example, we now have less hydrographic monitoring going on around the world than we did 30 years ago. The data now is poorer than it was 30 years ago in temporal terms. There are a wide range of mechanisms going on internationally for monitoring both biodiversity and ecosystem services, for example some forestry resources assessments coming out from the UN FAO and others, some of the work going on to monitor global biodiversity in support of the 2010 biodiversity targets, and even within the Millennium Development Goals, where there are targets on forest cover and protected areas. Whilst the information is slowly improving, these processes are vastly under-resourced. In some cases—I mentioned the water monitoring programmes—the funding availability is in fact in decline.

Dr Osborn: We are trying to get a bit smarter in monitoring some of these things in the research communities and Steven might be able to say something about earth observation.

Dr Wilson: I will say something about earth observation. I also agree with Neville’s point that at an international level across the environmental domain observations and monitoring and doing that on an organised basis is still proving to be a real challenge. There are some sectors which are extremely successful internationally and very well co-ordinated. They tend to be, for example, those areas that have grown from meteorology, which has always had a very natural international outlook. On the remote sensing side, observations from satellites, which provide quite a lot of information relevant to this area, there is growing co-ordination of observations at an international level through the Group on Earth Observation (GEO) and at a European level something called GMES, Global Monitoring for Environment and Security, but I would say for other sorts of observations and monitoring and in general that the situation is probably far more patchy. I also suspect that there are issues here for us in the UK as to how we play into those international discussions and, without wishing to be too negative, we are not always necessarily as joined-up nationally as we could be in those international fora.

Dr Osborn: There probably will be some opportunities in the European Framework Programme as well for research of an appropriate kind. You might not find the words “MA” very
much in some of the programme documents but in the thematic document of the European Union the MA is right up there, and so clearly that is influencing thinking at that level and that should make sure that some of the international issues at least are dealt with.

Q81 Mr Caton: Can we go back to something that you have already touched on very briefly and that is basically the application of the MA approach within the UK. We have had a fair bit of evidence to this inquiry calling for a UK level assessment based on the MA methodology. From what you said in a previous answer, Dr Osborn, it sounded like you did not think that was very valuable and then, on the other hand Mr Ash, I think you are saying that Defra research is already following the MA approach, although perhaps it has some characteristics missing. Can you both expand first on the positions you are taking and then say whether you think there would be any value in actually upgrading that Defra research so it took on all the characteristics of the MA.

Dr Osborn: I suspect there is not as much between us as perhaps we have given the impression. What we have got at the minute within the research community is the fact that researchers are always looking to what is tractable and where they can have a good-quality research project that will test a hypothesis, for example, or develop a predictive model. For the research community, that is most easily done if the focus of the work is narrowed so you can address the issue and get a firm answer. That is where I said earlier people see opportunities for most progress perhaps by studying specific ecosystems. I did not mean to give the impression that we should not do the type of work that would lead us to have the knowledge necessary to follow through on the MA. In actual fact, you could envisage by putting together various pieces of research being done by the research councils and government departments, you would get quite close to a UK MA on the basis of what we already have to hand, let alone what we will have to hand in a year or two after, for example, we have done the Countryside Survey. So there are some very promising ways in which we could do an MA but it is probably more for departments to decide whether they want to have that type of information available in the round or whether they want to make progress on specific ecosystems and make more rapid progress across a narrower front.

Q82 Mr Caton: Before Mr Ash comes in because this will save me asking you another question in a minute, that approach you have said of tying the research together so you have got a MA; do you see value in that?

Dr Osborn: Yes, I do see there is value in that.

Mr Ash: The reason why I think that England (but not the UK) is already doing ecosystem service assessment is because of the activities underway in terms of looking at data availability for ecosystem services, looking at trends of ecosystem services, looking at the evaluation of ecosystem services through time, and doing that at an England scale, and in this case four sub-England scales. There is the Thames catchment, the M6 corridor link in Lancashire, the Parrett catchment in Somerset, and the wetlands in Oxfordshire, which are entirely analogous to many of the 34 sub-global assessments in the MA. There were certainly more characteristics in some of those assessments than we are seeing here in England and certainly in most cases the stakeholder arrangements were broader than we are seeing here in England. As Dan has mentioned, this is very much a research-led initiative going on at the moment which Defra is funding. That said, the findings that come out of the process will be very analogous to those coming out of very similar processes throughout the rest of the sub-global assessment. Although the global MA has the three key components of the condition and trends assessment, the scenarios assessment and the responses assessment, in fact many of the sub-global assessments focused almost entirely on the condition and trends assessment, as we are seeing here in this England scale assessment activity. I think by not looking at scenarios in this case and not looking at the effectiveness of policy responses, it is in no way dissimilar to other sub-global assessments of the MA. The stakeholder and institutional arrangements for this are more science-led than many of the other MA sub-global assessments. In terms of the on-going follow-up and co-ordination and sharing of lessons learnt within a sub-global assessment within UNEP, we are seeing this England and sub-England assessment very much as one of the sub-global activities of the MA.

Q83 Mr Caton: You make a good point that we are talking just about England. What is happening in Scotland, Wales and Northern Ireland and is there a case for trying to create a UK MA?

Mr Ash: Ecosystems do not stop at the borders so I would think the answer to the second question is yes. I do not know myself what is happening in those devolved administration countries.

Dr Osborn: Certainly in terms of Scotland and Wales, for example on the question of the Countryside Survey, which is very useful in MA terms, then the Scotland and Wales departments are fully engaged in that process. As far as I know, they are contributing financially to those activities. I think that shows that they are very much engaged with the process and certainly their scientific officials are fully aware of the MA findings and are engaging in workshops, et cetera, to address some of the issues. I think what Neville has said about where there has been a focus so far in the sub-regional assessments and that similar things are going on in England, what activity there is is very much determined by the data availability and the nature of the information that can be gleaned from that data. That suggests there is a gap in linking across to other disciplines other than perhaps the natural one, and that emphasises the point Steven Wilson made earlier about the need to link up between different groups such as economists and social scientists as well to be able to look at some of these...
policy responses. We need links between the medical sciences and natural sciences as well to look at some of these issues such as diseases and disease control. We need links to engineers to look at things like flood alleviation and issues of this kind. Where there are gaps there is also an awareness of that willingness to talk and take on some of these issues in a research sense.

Q84 Mr Caton: Is there anybody auditing the UK’s current policies and practices against the MA and, if so, is it going beyond the conservation biodiversity area to look at things like transport, taxation and other policies?

Dr Osborn: There is quite a lot of talk across government about issues like transport, as I am sure you are aware. The Foresight Office had an intelligent infrastructures project recently which took on issues that you could say were related to the MA—about what would the environmental interactions of a transport system be. I think there are a lot of appropriate discussions going on. I am certainly myself going to spend some time looking at the cross link at a strategic research level. Whether there is a specific person in a government department, I do not think that is something that we can necessarily answer, but I do know that Defra are taking this issue of ecosystem services extremely seriously and the work they are doing is, in fact, quite leading edge and would lead to questions being asked in the area which you have referred to. You would have to ask the departments if they have people actually doing this kind of work at the moment.

Mr Ash: I was encouraged by the workshop Defra held yesterday or the day before on the question of evaluation of ecosystem services. That has come up again and may be as an indirect consequence of the MA taking place and highlighting the importance of evaluation of ecosystem services. Defra is taking a strong lead in that area.

Dr Osborn: Defra is also joining with learned societies to try and get some of these issues discussed and to make sure that they get a wide spectrum of views from people on this issue of ecosystem services.

Q85 Mr Caton: If we went ahead with a UK MA how would we incorporate our international objectives into that?

Dr Osborn: This is the issue of the UK’s extended environmental footprint. How could we measure that and get a handle on that? I think there have been some interesting things of late. For example, there has been a study published quite recently under World Wildlife Fund auspices involving the Institute of Zoology looking at the different footprints of different countries to see, for example, how much land UK citizens use fundamentally with the lifestyle and approach to life that they have got at the minute. So there are ways of thinking about some of these issues at the moment, but I do not think necessarily we are terribly clear about how we would do that in great detail in terms of assessing the proportion of the ecosystem service degradation that might be going on somewhere else that could be tied to UK activities solely. I think you need an international effort to try and work that sort of thing out. I do not think the UK could do it, for example, by itself. It would have to do it in association with the EU and the Americans and Chinese.

Q86 Mr Caton: What do you feel about sustainability indicators to measure our environmental footprint, whether on an international basis or on a UK basis?

Dr Osborn: I think there have been a number of efforts to try and do things of this kind. Perhaps what is happening is that natural scientists have come up with a set of indicators which they think are good measures of sustainability and then some economists have tried to work with natural science data to come up with a number of indicators, shall we say, of how far different communities around the world are vulnerable to climate or something of this nature. Work of this kind has been done within NERC, for example. What we have not had is groups of natural scientists and economists combined together to develop indicators of that kind. Again, there is a gap there and people need to talk to one another. Again in the Defra workshop yesterday I believe it talked about some approaches that might be taken to that sort of issue, but it is quite a complicated and difficult one.

Mr Ash: On UK global impact, there are a couple of projects going on at the moment which are making some contribution to that, although I agree a much broader effort would be needed to get to the bottom of that issue. One is with JNCC going on at Peterborough and we are involved with that in UNEP, a global CMT, looking at the global impact of UK commodity trade, looking at a set of commodities, and looking at the ecosystems from which they are derived in different parts of the world. We are very much working with national contacts through UNEP and other organisations to get a handle on the kind of impact that UK trade (typically consumption) of these commodities is having, in terms of area of ecosystem affected by plantations, in terms of water diversions, and these kinds of things. That is a project going on at the moment under the JNCC global impact programme. I mentioned earlier that DFID are interested in commissioning a report at the moment on the UK global impact on biodiversity, although the scope of that could be vast and so needs to be prioritised in terms of the kinds of UK policies that are analysed in terms of their impact.

Q87 Mr Caton: One last question from me: have you seen the EC’s Biodiversity Communication and Action Plan and, if so, what are your views.

Dr Osborn: Yes I think I have seen that and the things that are coming out of that, like in so many other instances, line up rather nicely with what the MA is saying. The EU are translating that into action certainly on the research front in the Framework Programme, and I think it provides an opportunity for Member States to respond appropriately and say what they are doing in those
areas. I think that the plans that have emerged, if they are followed through, will do quite a lot to move the MA conclusions and findings into action on biodiversity in the Member States.

Mr Ash: I have not seen that document specifically, but on a point within the EC, in 2001 there was a lot of effort to bring on board the European Community to be involved in the MA process. There was strong resistance at that time for any kind of involvement from the EC, whether financial or otherwise, despite a great deal of involvement of EC nationals in the process and here in the UK, Cambridge University and other institutes around the country. That has changed dramatically over the four or five years since then, in fact the European Communities are now taking up on the MA in ways in which it would not have been envisaged five years ago. I have not seen that document specifically, but certainly within the Community there has been a much broader buy-in to the concepts of the MA than we had five or six years ago.

Dr Osborn: There seems to be a much wider appreciation of the role that biodiversity plays, not only economically but also in terms of social benefits et cetera, and the way in which biodiversity can be used in a variety of constructive ways. There is a lot more effort on coming to a balanced sustainable view about how resources in biodiversity could be best managed in future.

Chairman: That is a very suitable point at which to conclude our hearing this afternoon. Thank you all very much for your evidence, it has been very useful. If anyone was expecting to see the Minister, Barry Gardiner, immediately after this session, I am afraid he has been struck down ill and we will have to rearrange a new date for his hearing, so sorry if you were waiting for him. Thank you again.

Supplementary memorandum submitted by the Natural Environment Research Council

EASAC ECOSYSTEMS SERVICES WORKING GROUP

EASAC (The European Academies Science Advisory Council) exists to provide high quality, independent and impartial scientific advice to the EU institutions of governance, notably the Parliament and Commission.

EASAC Council recently agreed to convene a working group on ecosystems services and biodiversity and invited Alastair Fitter FRS, Professor of Biology at the University of York, to Chair the Group. The Working Group arises from a concern that the value of bio-diverse ecosystems is failing to be recognised in the processes of European policy development. In particular, economic development, following the Lisbon agenda, is taking place without regard to the importance of biodiversity in maintaining the flow of services from the environment. In the long run, it is considered that this will lead the EU away from the sustainable future envisaged in EU treaty. The Working Group aims to evaluate the importance of ecosystems services in Europe and the role of biodiversity in maintaining them. It will then provide advice on the measures needed to maintain the value of these services in future. It takes its frame of reference from the UN Millennium Assessment of ecosystems and human well-being and will focus on key elements of the European dimension.

The Working Group consists of members of European Academies of Science and plans to deliver its report during the German Presidency of the EU.

MILLENNIUM ECOSYSTEM ASSESSMENT (MA) FOLLOW-UP GROUP

Following discussions by the MA Oversight Committee, it was decided that ICSU, UNESCO, and UNU will take the lead on the development of a report on the gaps in scientific understanding at the global and sub-global levels identified through the MA process. A 15-member committee, chaired by Hal Mooney of Stanford University, has been established. The terms of reference are available at: http://www.icsu.org/5-abouticsu/STRUCT_Comm_Adhoc_MEA.html

November 2006
Wednesday 22 November 2006

Members present:

Colin Challen, in the Chair

Mr Martin Caton          David Howarth

Memorandum submitted by the Department for Environment, Food and Rural Affairs (DEFRA)

INQUIRY ISSUES

1. How successful has the MA been in influencing decision making at UK, EU and international levels? How can we encourage adoption of the MA response options in countries that have been slow to do so such as the US, Brazil and India?

   (a) Since the release of the full findings of the MA late in 2005, it has begun to influence Defra’s policy thinking domestically and abroad, particularly through the increasing use of the language of ecosystem goods and services.

   UK:

   (b) Defra’s Natural Environment Policy (NEP) programme is working to develop a more strategic approach to conservation and enhancement of the natural environment. The programme is in the early stages of formulating an ecosystems approach for England’s terrestrial ecosystems, drawing on the MA. The ecosystems approach promises to provide a framework for looking at whole ecosystems in policy making, to ensure that we can maintain a healthy and resilient natural environment, now and for the future. This work explicitly acknowledges the role of the MA in providing not simply an evidence base for policy making, but also a new conceptual framework through which decision making across sectors can take place.

   (c) A key part of the NEP work is the research programme, which is designed to support policy development through delivery of practical tools, guidelines and methodologies to enable policy and decision makers to take account of limits, values and cumulative pressures. The current research under this programme includes work on the state and trends of England’s terrestrial ecosystems in terms of ecosystem services, and work focused on the valuation of ecosystem services and the development of tools and methodologies to make use of these valuations.

   (d) The MA is also influencing future direction for UK biodiversity policy. The role of climate change as the dominant driver of biodiversity loss by the end of the century, as highlighted in the MA, further strengthens the need to integrate climate concerns into biodiversity policy making. Policy responses include the creation of the England Biodiversity Group’s (EBG) climate change adaptation work stream to

      (i) provide better guidance on impacts of climate change;

      (ii) identify research needs; and

      (iii) promote adaptation of policies and programmes within the England Biodiversity Strategy.

   Priorities for 2006–10 include developing a robust and accessible evidence base to support adaptation to climate change impacts, including an established network for detecting changes in biodiversity; integrating initial adaptations into all workstreams of the strategy and establishing processes to learn from experiences and adjust strategies accordingly; and raising awareness of impacts of climate change and means of adaptation in all relevant sectors, at national, regional and local levels.

   (e) The MA framework is also being used to guide proposed research into the economic valuation and cost effectiveness of the England Biodiversity Strategy.

   (f) The UK Marine Bill acknowledges the vital role of ecosystem services provided by the marine environment in the adoption of an ecosystem approach to management of the marine environment. The UK is also actively taking forward means to realise the MA’s call for the establishment of Marine Protected areas (in UK waters and beyond) to fulfil its obligation under the Habitats Directive. There are currently 146 marine protected areas in UK inshore waters, which includes 78 Special Protection Areas for birds, 65 marine Special Areas of Conservation (SAC) and three statutory marine nature reserves. These 146 sites are primarily coastal sites with a marine element. Defra will also be consulting next year on a first tranche of eight Special Areas of Conservation in UK offshore waters. We are continuing to survey potential areas for SACs and by the end of 2006 expect to have collected important data to assess these areas against the SAC selection criteria.
EU:

(g) Within the EU, the findings of the MA have been used to inform the development of the recent Biodiversity Communication from the European Commission, after consultation with Member States. The Communication highlights some of the key findings of the MA while making the case for the urgent need to conserve and use biodiversity sustainably. The Action Plan contained in the Communication calls on the EU (and Member States) to contribute to the planned 2007 evaluation of the MA as part of the commitment to strengthening the knowledge base for biodiversity (this call was also made by CBD COP8—see below).

INTERNATIONAL

(h) The UK continues to lobby through numerous multilateral fora for the consideration, adoption and use of the MA’s findings and methodologies:

— The UK has pressed the importance of Marine Protected areas and for an end to the detrimental effects of bottom trawling on sensitive ecosystems on the high seas, to support our positions at the UN General Assembly fisheries and marine discussions.

— The MA’s findings and recommendations were used to inform UK positions at the UN Commission on Sustainable Development (CSD), the UN Environment Programme Governing Council and during the Millennium Review Summit in 2005.

— Through substantial UK lobbying, the Convention on Biological Diversity’s eighth Conference of the Parties (CBD COP8) explicitly acknowledged the importance of the MA and agreed to integrate its findings into future review of its work programmes. The COP also encouraged the use of the MA methodologies and called for more research globally into some of the issues covered by the MA (such as monitoring systems, biodiversity valuation and ecosystem function and ecosystem services).

(j) These global processes are the key means whereby the UK can promote the consideration and implementation of the MA’s findings internationally.

(k) On behalf of the UK Inter-Ministerial Group on Biodiversity, the Joint Nature Conservation Committee (JNCC) has been asked by Ministers to inform the current HMG approach to international biodiversity. JNCC are using the MA to educate their deliberations on behalf of the group.

(m) The Global Biodiversity Sub Committee of the Global Environmental Change Committee held a workshop on the MA in February 2006 attended by UK participants in the Assessment and a wide range of science leaders and policy makers (Also see answer to Q9).

(n) The MA evidence base has been used by Defra in our discussions with HM Treasury on Natural Resource Protection, as part of our contribution to the CSR07.

2. To what extent have MA findings and processes been incorporated into UK departments? How aware are departments of the importance of the MA? What steps are being taken to ensure that the findings of the MA are being considered and, where relevant, acted upon in the departments? Is there any evidence of real change in government as an outcome of the MA?

(a) Defra is keen to promote the findings of the MA. This awareness and promotion extends up to Ministerial level.

(b) Defra and the Joint Nature Conservation Committee, on behalf of the Global Environment Change Committee—Global Biodiversity Sub-Committee (GECC-GBSC), organised an event in February 2006 aimed at developing an overview of the strengths and weaknesses of the MA (see Q9 below). Following on from this workshop, government departments and agencies are currently taking part in a mapping exercise to assess current UK action in response to the MA.

(c) The increasing use of the language of ecosystem services and their importance to the world’s poor is a sure sign of the integration of the MA’s findings into government, for example:

— The Secretary of State’s recent letter to Tony Blair covering Defra’s priorities includes reference to the “services that ecosystems provide”;

— Barry Gardiner MP, Minister for Biodiversity has made speeches promoting the MA’s messages on a number of occasions, including a speech to the World Bank; and to business leaders.

(c) Defra will continue to promote the MA messages to key stakeholders, in particular to groups identified in our WSSD Delivery Plan for international biodiversity http://www.sustainable-development.gov.uk/international/wssd/documents/biodiversity-2006.pdf. This will ensure the integration of the MA into other sectors:

— Within the Development community, Defra will advise on a joint DFID/NERC research program on ecosystem services and their role in poverty alleviation.

— Defra will also continue to work with the business community to ensure they are aware of the findings of the MA and how these influence their bottom line.
— Defra will continue to work with the scientific community (at home and abroad) to assess the continued decline in biodiversity, and provide support for global efforts to fill these information gaps.

3. How has the MA been used to ensure that there is adequate policy coherence, placing adequate weight on non-financial impacts and environmental limits in policies? Are the issues raised in the MA adequately addressed by UK policy appraisal through Regulatory Impact Assessments? Can departments document examples where the MA has resulted in a change in the preferred policy option to one which is more sustainable?

(a) The Defra NEP research programme has funded a number of scoping studies including one on environmental limits. This study looked at how limits are used and applied, and how they can be used in decision-making. This is being developed, along with the evidence on valuation and cumulative pressures in the second stage of the NEP research programme, through projects looking at the state and trends of England’s ecosystems, and case studies to develop tools and methodologies to deliver an ecosystem-based approach—including limit setting. The studies will run over a nine to 18 month time period.

(b) Defra intends that the tools and methodologies developed through the case studies will eventually be able to inform methods of cost and benefit analysis of the natural environment. However this is a long-term agenda and the current round of research studies are an initial step. Further work on valuation of ecosystem services is also ongoing. This should contribute towards the development of a methodology for aggregating and disaggregating values for the natural environment across ecosystem services to give values for whole ecosystems and across ecosystems to give values for English regions or nationally for England.

(c) Internationally, Defra continues to press for a change to a more sustainable policy in relation to marine biodiversity, where we are increasingly lobbying for the establishment of marine protected areas on the high seas, and an end to bottom trawling on sensitive ecosystems.

4. Should the UK develop its own assessment report and would it be relevant to include external UK impacts?

(a) Defra have commissioned the NEP phase II project (mentioned in 3 above) which is looking at the state and trends of England’s terrestrial ecosystems. While this is not a “full” MA for the UK, it is a comprehensive assessment of the current status and contractors have been asked to consider the use of the MA conceptual framework in their work. There are numerous other sectoral assessments already undertaken by Defra, the Devolved Administrations and agencies, though these are not currently brought together within a single coherent framework.

(b) The Secretary of State has highlighted in his letter to the Prime Minister on Defra priorities a move towards “one planet living”—a concept which involves taking account of the effects of UK actions and consumption on natural resources at home and abroad. Defra has recently completed an evaluation of the evidence base for assessing the impacts on international biodiversity from UK consumption of five key commodities. Our SCP Research programme will continue to build a robust evidence base to inform our policy on how to establish a more sustainable approach to global natural resource use.

5. How have international institutions adopted the findings and processes of the MA? Why has the World Bank been slow to respond to the MA? How should the findings of the MA be incorporated into the World Bank’s work?

(a) The World Bank played a major role in the preparation of the MA. Dr Robert Watson, the World Bank’s Chief Scientist was co-chair of the Board of the MA. The World Bank has recently published: Where is the Wealth of Nations? which embodies values for economic services to adjust macroeconomic indicators for different countries.

(b) Dr Watson continues to play a key role in the working committee derived from the MA’s oversight board, which administers the Zayed Prize funds. This Prize was awarded collectively to the MA team for their efforts; and the associated funds in turn are being used to support a number of follow up conferences (organised through IUCN) and a project running at UNEP- World Conservation Monitoring Centre (WCMC) to develop a handbook for carrying out future ecosystem assessments.

6. Are NGOs acting on the MA’s recommendations, particularly those involved in development and poverty reduction?

(a) The Committee will no doubt be taking evidence from NGOs. Defra is aware of a number of NGOs who have used the MA in their work. NGOs were represented at the GECC-GBSC workshop on the MA in February 2006.
7. How has business risen to the challenges identified in the MA? Has the MA been used in strategic business planning?

(a) Businesses are increasingly realising the importance of the MA's findings for their operations. Business representatives contributed to the MA business Synthesis report: Opportunities and Challenges for Business and Industry. The UK has championed involvement with the business community in addressing the loss of global biodiversity, and this priority is highlighted in our WSSD Delivery Plan for international biodiversity (http://www.sustainable-development.gov.uk/international/wssd/documents/biodiversity-2006.pdf).

(b) At the recent Convention on Biological Diversity Conference of the Parties (CBD COP8) Jim Knight MP (the then Minister for Biodiversity) hosted a breakfast for business and government leaders attended by 300 guests. At this event he emphasised the UK’s support for business engagement. His speech explicitly recognised the role business can play in reducing biodiversity loss. He also stressed the increasing recognition by companies of the business case for managing their impacts on biodiversity as part of their management of risks to their companies' operations, performance and reputation.

8. How useful was the MA in addressing the assessment needs of a number of Multilateral Environmental Agreements such as the Convention on Biological Diversity?

(a) The Convention on Biological Diversity (CBD) held a substantive discussion on the implications of the MA for the Convention at COP8 in March 2006. The UK was a leading contributor in these discussions, and our support for the MA process and findings were echoed in the final decision (COP VIII/31) from the meeting, including:

— Agreement to use the findings of the MA as a contribution to future reviews of the CBD’s programmes of work.
— A call for further research into areas promoted and pioneered by the MA (such as ecosystem services, valuation of biodiversity etc).
— An instruction to the CBD secretariat to contribute to the planned 2007 review of the MA.
— Encouragement of Parties to use the MA conceptual framework and methodologies to conduct national and other sub-global assessments of the state of biodiversity.
— A reiteration of the main drivers of biodiversity loss (as highlighted in the MA) and a call for action to address these drivers within the Convention.
— Agreement to consider outcomes from relevant processes (including IMoSEB) in assessing the need for another integrated assessment of biodiversity and ecosystems and the availability of scientific advice on biodiversity at COP9.

(b) The Ramsar Convention on Wetlands of International Importance received a special synthesis report from the MA on “Ecosystems and Human Well-being: Wetlands and Water”. A summary of this report was presented during the 9th Ramsar COP held in Uganda in November 2005. The Final conference Report included 14 “key messages” concerning the key findings of the MA for the Ramsar Convention and its future implementation. The findings of the MA were also referred to and endorsed in a number of documents and Resolutions agreed by the COP, including:

— A Conceptual Framework for the wise use of wetlands and the maintenance of their ecological character (Resolution IX.1 Annex A). The MA framework was used by the Ramsar Scientific and Technical Review Panel (STRP) to develop and update wetland wise use terminology.
— The STRP work programme for 2006-08 (Resolution IX.2) includes actions to make use of MA findings.
— The Resolution on wetlands and poverty reduction (Resolution IX.14) strongly supported by the UK referred to the findings of the MA and in particular the report on ecosystems and human well-being to encourage all parties to take action to contribute to poverty reduction.

9. Were there any gaps or weaknesses in the MA? How should the MA be followed up? Are the mechanisms and expertise which were developed to create the MA now being lost due to a lack of confirmation of a formal follow up procedure?

(a) Defra and the Joint Nature Conservation Committee (JNCC), under the auspices of the Global Environmental Change Committee's Global Biodiversity Sub-Committee (GECC-GBSC), held an event in February 2006 aimed at developing an overview of the strengths and weaknesses of the MA. This included an evaluation of those elements that could be used to support policy development; those elements that should be approached more cautiously; and the identification of priority gaps in the science to be addressed.

(b) This workshop identified gaps in the coverage and methodologies of the MA. Some identified gaps with regard to biodiversity policy are in the coverage of taxonomic groups (the MA scenarios relied heavily on models of terrestrial plant diversity), generally weaker treatment of marine biodiversity and scenarios that do not relate well to the more immediate context of decision making. Further information on identified gaps is available at http://www.ukgecc.org/dvl–Biodiversity–MEA.htm
c) The MA Board is still active in international circles, and its members continue to promote the findings of the MA in various fora.

d) Individual countries are also undertaking follow up work (for example, the Southern Africa sub-

Global assessment).

e) The MA Board, at its final meeting, recognized that a better appreciation of the impacts of the MA

would only be possible a few years after the MA findings were released The UN Environment Programme

(UNEP) will also be undertaking a review of the MA, and the CBD COP8 has tasked the CBD Secretariat

with contributing to this planned UNEP evaluation.

f) The UK is also contributing to the current consultation on the need for an international mechanism

that might support ongoing global assessment of biodiversity. This consultation on IMoSEB

(International Mechanism on Scientific Expertise on Biodiversity) is reviewing the gaps in the provision of

scientific advice on biodiversity to decision makers. The outcomes of this consultation should reveal whether

a follow-up assessment of the state of biodiversity would be considered relevant, timely and valuable to
decision makers.

(g) Meanwhile, Defra continues to promote efforts to fill identified gaps in biodiversity knowledge, for

example, through our work to survey the UK marine environment and through support for CBD process
to develop indicators of status and trends to measure progress towards the 2010 biodiversity target.

October 2006

Witness: Barry Gardiner, a Member of the House, Parliamentary Under-Secretary of State (Biodiversity,
Landscape and Rural Affairs), gave evidence.

Q88 Chairman: Good morning, Minister. It is very
good to see you here. Thank you for being so keen
to attend before this inquiry and helping us find this
new date and I hope you are fully recovered from
your recent illness. I do not know if you want to
make any introductory remarks before we begin
with the questions.

Barry Gardiner: If I may briefly, and again my
apologies for missing our last session but I was in
no fit state to speak never mind answer questions.
The MA has some very powerful messages for all
of us. We have known about the decline in global
biodiversity for some time, but what the MA has
done is to have illustrated it in a very graphic way.
It has shown us the importance of the services
provided by ecosystems to human beings and
indeed ultimately really to human survival. It has
highlighted that 60% of ecosystem services that the
MA assessed are either degraded or used
unsustainably and of course, as always, it is the
poor who are disproportionately affected by the
loss of those natural ecosystems and even we in
developing countries cannot shield ourselves
entirely from those impacts. The MA Board
expressed it very well when they said, “We are
running down the account”. The MA Board
identifies some key steps which governments can
and should take to reduce the degradation of
ecosystem services and, if you look at those key
steps, I think that many of them are already part
of the Government’s agenda and, in some cases, we
have taken a leadership internationally on them,
but we need to build on this in the light of the MA.
The key challenge for us is to mainstream the
findings of the MA into policy and into decision
making right the way across government. The first
set of steps which the MA Board talks about is
changing the economic background to decision
making. It recommends removing harmful
subsidies and introducing incentive payments for
land managers and of course, in the UK, we have
been one of the strongest advocates of reform to
the CAP and we have already made significant
progress by breaking the link between subsidy and
production. Increasingly, we are also moving to
reward farmers for good environmental practice.
Under the cross-compliance rules, farmers must
meet those basic environmental requirements in
order to qualify for the single payment and of
course last year we launched the environmental
stewardship including the entry level scheme which
is open to all farmers. However, we do need to do
more to ensure that the true value of ecosystem
services is fully taken into account in our decision
making. This is one aspect that we are prioritising
under our natural environmental research
programme which we hope will help support the
mainstreaming of environmental considerations
across government. Central to this will be the
development of tools and methodologies for
valuation to help us ensure that environmental
costs and benefits can be placed on an equal
platform with the social and economic cost and
benefits of decisions. I have been involved in a
number of discussions with the World Bank about
collaboration in this area and, like Defra, the
World Bank sees the necessity of integrating
environmental and ecological considerations into
its own lending decisions. This means measuring
and, where possible, valuing the environmental
effects of projects and, for this reason, the World
Bank has integrated its own sustainable
development team into its infrastructure team
whose Chair I know you know and we heard Kathy
Sierra outlining her views on that just a week ago.
In the field of markets for ecosystem services we are
beginning to make progress in discussion on
incentives for avoided deforestation and, again, as
I am sure you know, the deforestation accounts for
around 18% of carbon emissions globally. The MA
Board’s second set of steps is about improving
policy, planning and management and, in Defra,
we are drawing on the conceptual framework from the MA in the development of our natural environment policy. Our aim is to move away from traditional silo-based approaches towards a much more integrated or holistic approach to policy making and delivery, with the aim of delivering healthy and resilient ecosystems. We are currently working with delivery partners and stakeholders to agree what we need to do to embed this approach both within Defra but also a lot more widely. We are promoting an ecosystem based approach to marine policy through the negotiations on the EU Marine Strategy Directive, through the Marine Bill and in our approach to improving fisheries management. Our approach to marine spatial planning will ensure a holistic approach for managing and protecting the marine environment and will also help address cumulative environmental impacts. The third set of steps that the MA Board talks about concerns influencing public behaviour and particularly on sustainable consumption. Currently, we are collating existing data which may indicate the impacts of UK consumption on the global environment. Our long-term objective is to examine the impact of UK consumption of imported goods on global CO2 production and we are currently carrying out methodological work to support this. Supply chain issues natural require global solutions and Defra demonstrated its leadership in promoting a business and biodiversity initiative within the CBD earlier this year. That is still very much in its infancy but it will be looking at issues such as certification and sustainability reporting. The final set of steps concerns the development of environmentally friendly technology including restoration of ecosystems and there the Forestry Commission is currently chairing the Global Partnership on Forest Landscape Restoration and Defra is promoting the deployment of energy efficient technologies through a wide range of policy measures. These include the Energy Efficiency Commitment, support for combined heat and power, labelling of the most energy efficient products, advice and information provided by the Energy Savings Trust and Carbon Trust and working both within the EU and internationally to raise energy performance standards of appliances. As a final remark in this opening statement—and I am grateful to you for letting me speak at some length because I hope it establishes the ground that we may wish to explore further—I want to say something about our approach to our biodiversity strategy within the UK. In the past, we have tended to rely on detailed information about trends in species and habitats to tell us about the state of our biodiversity. This is important in its own right but I think that we actually need to explore much more how we can consider ecosystems as a whole and how the different components function and depend on one another especially as these relationships respond to climatic and other environmental changes. We have something like 463 separate plans related to species and habitat. That is a heck of a lot of information about the individual species, I think that what we need to do is to think through what the MA demands of us in taking an ecosystems approach to this. I think that that is in line with what the MA has guided us to. Rather than setting the large numbers of specific low level targets for species, we should be aiming to deliver healthy and resilient ecosystems that are needed to stop the common species becoming rare. Otherwise we are treating the symptoms and perhaps not the causes. Climate change in particular and other environmental challenges underline the need for a long-term ecosystem-based approach. Not only will habitats and species be affected directly by climate changes and sea level rise but also by policy and behavioural shifts in other sectors such as agriculture, water and energy. In making investments and undertaking actions to deliver biodiversity targets in future, I think it will be important to allow for major but as yet uncertain changes in climatic conditions and resource management regimes. In these circumstances, it must be the case that planning to improve ecosystem resilience and facilitate natural responses is most likely to actually deliver the benefits that we want in the long term. I hope that has set out some of the areas that we can explore further in our discussion and, as I say, I am grateful to you for allowing me to speak at such length.

Q89 Chairman: Thank you very much for that and indeed we will be returning to some of the areas that you have referred to in your opening remarks. Obviously, the remit of this Committee is looking at trade, development and environment and I would like to begin with trade. To what extent do you think the MAs have influenced international trade negotiations?

Barry Gardiner: If you look at the WTO and under the Committee on Trade and Environment, the negotiating mandate there gives us the opportunity to clarify that there is no legal hierarchy between WTO rules and trade-related provisions in multilateral environmental agreements. Through the EU, we have pressed for this particular opportunity—I think it is paragraph 31 of the Committee on Trade and Environment—to be included in that mandate. We want to be sure that environmental negotiators can be confident that the WTO dispute mechanism will not be used to unpick trade measures that are included in the MEA. So, outside the CTE, other WTO negotiating groups must reflect that part of the Doha Declaration which says that we recognise that, under WTO rules, no country should be prevented from taking measures for the protection of human, animal or plant life on health or of the environment at the levels it considers appropriate, subject to the requirement that they are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination and so on. The EU Access Committee which negotiates on industrial products reflects this and we are defending measures that we have taken to favour environmentally preferable products such as...
ecolabelling or sustainable timber certification schemes against claims that these constitute unjustifiable barriers to trade. If we look further afield, OECD are themselves preparing an environmental outlook to 2030 and beyond which will take into account the MA in its conclusions on biodiversity. I think that there are signs that there is a real impact of the MA in setting out the way in which trade should not be compromising our environmental objectives here, but we do have to pursue clarity on that and make sure that we follow it through.

Q90 Chairman: Do you think that the MA would be a help or a hindrance in kick-starting the Doha Development round back into life?

Barry Gardiner: If there were any one thing that were going to be the magic bullet on Doha, I think that it would probably have been thought of by now. Certainly, I think it will be a help rather than a hindrance. I think it is very important that we no longer see the environmental and the developmental agendas as being separate. Increasingly, we have to understand that this is one agenda and one of the things that I think the MA very powerfully brought out was that we are not going to be able to achieve our Millennium Development Goals if we do not pay attention to the sort of things that the MA was highlighting in terms of climate change, biodiversity and so on.

Q91 Chairman: We have recently had the Stern Report which tells us that the costs of not dealing with climate change now are far greater than the costs of dealing with it. Looking at the MA, how do you feel other countries are responding to the economic sense of adopting an MA-based approach? We seem to be fully engaged with it but do you think that other countries also acknowledge the economic sense of acknowledging the importance of the MA in their approach to international trade?

Barry Gardiner: I think there is clear evidence that the EU has responded to the MA in a very positive way. If you look at their Communication and Action Plan, they set out tools to encourage and promote action at a national, European and indeed international level. That certainly uses the findings of the MA to highlight the challenge that faces us in addressing biodiversity loss and achievement of the Millennium Development Goals in particular. The communication also calls for continuation to promote and support the implementation of CBD and of course that is absolutely vital, and action at local and country level in support of our 2010 targets. I think it is fair to say that the EU has taken the MA very seriously and that it is engaged and increasingly engaging in the sort of dialogue that needs to take place. I welcome the recognition of the inter-relationships between climate change and biodiversity that have been very clearly stated by the EU and also their call that there should be an increase in the knowledge and science base for biodiversity at both the EU and global level. I think that possibly some of the specific initiatives proposed in the action plan to meet the aim require more detailed consideration to ensure that what we do not do is duplicate the sort of research activities that are going on elsewhere. I think that we do need to coordinate this. It is not something where we should all be pursuing our own independent lines of research and simply coming up with the same answers out of different research programmes and multiplication of funding streams. I think that it does have to be properly coordinated.

Q92 Chairman: In your evidence, you said that you are working with the international scientific community to fill the information gaps in the MA. Can you tell us what steps you have taken on this and perhaps whether the creation of an international multidisciplinary research strategy might be appropriate, perhaps something similar to the IPCC or some other kind of organisation on that level.

Barry Gardiner: The way that we are pursuing the framework that the MA sets out is to look at the impacts of cumulative pressures on ecosystems in policy making and that means, as I think I said in my opening remarks, getting away from this sort of policy silo approach. If you look at the areas that we need to develop, I think that one of the most interesting of those is certainly what the MA calls valuation, what I would call the ecosystems services metric, where we can either use an ecosystems approach simply as a tool to help us do better, the sort of environmental policy work that we are currently doing it, doing it in a more integrated way and in a more holistic way, or we can try and get the social scientists and the natural scientists speaking the same language for once. I think that is absolutely the way in which we need to be taking the research programme of the MA into those areas/gaps that have been highlighted. I have spent quite a bit of time with Bob Watson who, as you know, is the co-chair of Millennium Assessment and Chief Scientist at the World Bank, talking through how we can work together his economists and our economists on this and working with Treasury economists as well because I think that it is really important that we pursue this area in such a way that it gives not just Defra but every department of Government the tools with which they can assess the true costs of their policy decision making. On that research programme, we have agreed to work up I think three or maybe four particular examples to see how an ecosystems approach looking at a metric here, a valuation methodology, can actually help us ascertain the true cost of policy.

Q93 Chairman: I was not quite sure from that whether you support the creation of an international body as such and how holistic that might be because we are looking at biodiversity, ecosystem services, trade, development and a whole range of different things which could perhaps be looked at separately but we do not get that holistic picture.
**Barry Gardiner:** I do not know whether you are specifically referring here to the International Mechanism on Scientific Expertise in Biodiversity (IMOSEB). That certainly is, if you like, the emerging front-runner in the sort of scenario that you suggest. We have not yet responded to the IMOSEB consultation. We are engaging at a number of levels with it including direct consultation with the Secretariat. We think that there is need for improved scientific information, as I said, which IMOSEB sets out in one of its questions, about biodiversity status, trends and ecosystem services. More multidisciplinary approaches are called for and that I think does go to what I said about getting the natural and the social scientists to speak with each other.

**Q94 Chairman:** Is that when you think the Government’s contribution to this consultation will be complete or is it an ongoing affair? **Barry Gardiner:** I would be reluctant to give you a date at this stage because we do not have an end process for that imminent. We will want to look at the gaps in coverage and I do not think that we are persuaded that IMOSEB is necessarily the right sort of way forward. It is certainly raising some very important questions and we will want to make our response to those questions in a positive and constructive way, but I am not convinced yet that actually IMOSEB is the answer to achieving policy implementation in the way we would like to see of the things that the MA have set out for us.

**Q95 David Howarth:** May I return to the point about international funding for research and I ask you to think about the importance of doing that work. Researchers often say to me that it is quite difficult to get research programmes going that include a US institution, a British one and a German one. You can do cross-European ones though they can be quite complicated but to go very multinational can be difficult. That would be made easier if there were some international funding stream and it would also help with the cross-disciplinary aspects because you are not always going to find all the relevant disciplines within one country. I ask you to take on board that possibility and not necessarily ask you to comment now. **Barry Gardiner:** I am happy to give an initial response in terms of what you have just said. I certainly understand what you say about the difficulty of putting together multinational research programmes. If you look at some of the most successful international research that the UK has been responsible for commissioning, it would undoubtedly have to be through the Darwin Initiative that we have set up and it is actually a relatively small amount of money—I think it is about £7 million a year going into these projects and they continue on for a three or four year basis—which are absolute jewels in terms of the research that they are doing but as important is that what they are doing is creating capacity in the countries where the research is being carried out and that element of cooperation between academics from the UK and from other countries is certainly a feature of the Darwin projects and taking young researchers and giving them the experience of doing an international project like this, which is of major ecological benefit, is fundamentally important. I had a meeting with the Chair of the initiative just a week ago and he was saying, “You cannot overestimate the value that you are getting for your money here”. I understand the importance of doing that international collaborative research work in this area. I want to touch on the sort of proposal that I think Jeffrey Sachs has recently made in this area that there should be a separate designated international fund for biodiversity. Here, I go back to what I said previously and that is that I believe that we should not be regarding biodiversity and development, environment and development, as rendered asunder. These are things that increasingly need to be brought together. Our approach and certainly the approach that we have adopted with DFID has always been a country-led development approach and looking at the way in which research in these areas can contribute to their poverty reduction strategies and so on. If you look at the UNDP and the UNEP Poverty Environment Initiative, then actually the findings of the MA have been mainstreamed into that programme. I suppose what I am saying is that I absolutely agree with you on the value of international research and on the value of collaborative international research that is bringing in expertise from different institutions around the globe and creating capacity particularly in developing countries. I do think that we should try and do this in a way that is not specifically isolating biodiversity research but actually trying to see it in the way that UNEP and UNDP have as taking on board the messages of the MA. Again, it is the whole principle of trying to do this in a holistic and coherent way.

**Q96 Chairman:** It was our suggestion that there should be a rolling programme for the MA assessment. We have heard in previous evidence sessions that of course various scientific disciplines are taking work further but should the overall MA assessment itself not have a rolling programme to ensure a holistic approach and, secondly, who should do it? **Barry Gardiner:** The first caveat that I would want to make is that there is always a danger of amassing more and more information and more and more research data and evidence and actually not getting round to applying it and making sure that it impacts on your policy delivery. That is the first thing I would want to caveat. It is of course important to continue to work with international colleagues in the scientific community to ensure that the provision of sound evidence on ecosystems and biodiversity is there. We need to make sure that that research is addressing the question that policy makers are asking and it is important that we focus our effort on finding ways to use that evidence, as I say, in decision making within the UK. The MA has only recently completed publication of its
global scale findings, so these are very early days. What we need to do is to apply what we have. Of course, that is not to say that there is not a role for further ongoing assessments at global, regional or even national scales and we need to think carefully about the need and the form of any new mechanism for that. As I said before, we do not want to duplicate efforts of established bodies such as the Global Biodiversity Outlook for CBD or UNEP’s Global Environmental Outlook and so on. I think that that is part of our thinking about the way in which we engage in IMOSEB. I also think that if we look at the work that is going on in the UK at the moment, our natural environment policy programme is working to develop a strategic approach to conservation and enhancement of the environment and that will include the development of a framework for looking at whole ecosystems that draws on the whole approach of the MA. I think that if you look at the ongoing policy that we are doing, that is going to be informed by the MA. I know that some people have talked about the natural environment research programme as being a sort of UK MA. I do not see it like that because of course what we are not doing there is exploring different scenarios as the MA did. It is a comprehensive assessment and it will advise on how we could achieve a full national assessment if that is the road that we then want to go down if we think that is the best thing that we could do at that stage and it will help us consider the benefits, as I say, of carrying out a full MA for the UK in due course.

Q97 Chairman: How can we help developing countries to do their own national ecosystem assessments? Some people have suggested that we create a millennium ecosystem fund. Do you support that idea?
Barry Gardiner: This goes back to the Jeffrey Sachs model. As I say, I am not persuaded that the separate fund on biodiversity and on ecosystems is the right way to go. In the UK, we have always adopted this country-led approach, this more integrated approach, seeing if there is part of development linking up environment with poverty reduction and so on. My sense of this is actually I am not saying that we should not be investing in that research but what I would want is for it to be done in that more integrated way rather than isolated out as a separate thing.

Q98 Mr Caton: Witnesses have pointed out to us that much of the UK’s impact on ecosystem services is abroad. How are the Government addressing our international impacts?
Barry Gardiner: One of the ways we are doing that is through the Darwin initiatives that I mentioned previously. We have of course global responsibility not just for biodiversity within the UK but we have the responsibility for negotiating conventions on behalf of UK overseas territories as well and that does give us a much wider brief. Last week, we had the convention meeting down in New Zealand on albatrosses and petrels, ACAP, and our officials were there negotiating for the UK primarily of course and for the overseas territories in taking on our responsibilities there. There is a sense here in which, whilst we have that responsibility at an international negotiating level within international conventions, whether it is Ramsar or ACAP or whatever, these are matters which in a sense are devolved and the responsibility for biodiversity within those overseas territories is properly the responsibility of those overseas territories. I think that there is a difficulty that we need to acknowledge here—and I would actually find it quite interesting to get feedback from your Committee on this—in that we have a recognition that many of these overseas territories do not have the resources to tackle some of the biggest issues that they are facing at an environmental level and yet they are, as I say, to all intents and purposes devolved matters for them to administer within their own borders. I think that there is a tension here. If I add on top of that my prompt, obviously all the ways in which the Department is dealing with one planet living and sustainable development and consumption procurement, then obviously that goes a great way to addressing the UK’s footprint at a global level. However, I am not sure that that was what you were seeking to elicit from me.

Q99 Mr Caton: My next question follows nicely on from that because some of our witnesses have suggested that we should be introducing sustainability indicators to monitor our global footprint to help us move towards one planet living that you just mentioned.
Barry Gardiner: I think there is a huge programme before us in terms of sustainable development and in terms of consumption and procurement and, in trying to make sure that those things which, even at a government level . . . Okay, we have now said that we are going to be carbon neutral by 2012 but, looking at the way in which we approach all of these things, these are genuinely innovative areas that we are dealing with and I think that we have to be open to considering all sorts of ways in which we can help ourselves do better, in which we can monitor our progress and in which we can ensure that we get to the outcomes—because it is outcomes that we are interested in here—that we will want to see.

Q100 Mr Caton: You mentioned the financial limitations of some of the overseas territories and that that might affect their ability to deal with conservation and ecosystem questions. Is that an argument for the UK Government to put in more resources to specifically help with those?
Barry Gardiner: I am sure that somebody could make it an argument! I am not seeking to do that. What I am seeking to do is genuinely say that I think we have to recognise that there is an issue here because it is clear that many of the overseas territories would find great difficulty in tackling the sorts of habitat degradation that may be affecting species that are located within their borders on their own and I do think we need to not just look
at what we can do at an international level such as through conventions like ACAP and so on but we do need to recognise here what the overseas territories are facing.

Q101 Mr Caton: I would like to ask you how we measure economic growth. Is there any consideration of using a different measure of economic growth which takes into account natural resources and their finite nature in order that we can better ensure that sustainability is at the heart of economic policy as well as environmental policy?

Barry Gardiner: I think this is very much one of the areas that the MA has highlighted as requiring further work. It is exactly the flipside, if you like, of what I said about moving to a metric and trying to get a proper system of valuation. Only if we do that, only if we can actually begin to quantify the value of ecosystem services and the cost of their degradation, are we going to be in a position then to start talking in the way that you have of measuring economic growth in this way. I would say that what you have put before us is a very attractive vision but first of all we have to learn how to walk and actually getting that basic agreement on a valuation system is something that economists have found very hard to do for a number of years and I think that we need to, as we are doing, renew our research efforts in that area so that ultimately we can get to the sort of position that you are suggesting where we really do have a much clearer picture of the total value of ecosystem services to the economy because what is absolutely clear is that for a long period of time we have regarded these as free goods essentially, whether it is pollination, water regulation, flood defence and climate control, all of these services that the ecosystem provides for us we have taken for granted and what we must now do is start putting a value on them either through carbon in terms of sequestration and so on or in some other way, but we have to get the economist and the natural scientist speaking the same language.

Q102 Mr Caton: I would like to bring you to the comprehensive spending review and environmental research is under threat in the CSR. Can you this morning reassure us that the CSR will meet precisely the objectives that you say? Yes, of course we do. We hope and we will be working towards achieving a greater role in the review in 2008 but it is absolutely essential and it has been highlighted—and again I go back to what the MA Board said—that we to move away from subsidy to paying land managers for the environmental benefits that they provide. They are very, very clear about this. If I sounded sanguine about the communication, that is in the true spirit of European collegiality that I have. If I am less than sanguine about the process to date in the shift of resources from subsidy through to environmental benefit in the CAP, then that is an indication that I share some of the frustrations that you have.

Q103 Chairman: Is the department considering new PSA targets and will the MA have an impact on that?

Barry Gardiner: The answer to that is, yes, we must always look at our PSA targets and see how they can be improved. There are some specific ones at which we are looking at the moment. The department is actually going through what we call a strategy refresh process at the moment which has been very positive and very healthy thinking within the department about exactly what our objectives are and, as part of that, one of what we are calling the enabling projects is an ecosystem services approach. Certainly what I hope you will see in the future is that that ecosystems approach is fundamental to the delivery of all the set of different complex problems that the department is dealing with because we really do want to break down the sort of silo mentality and try and make sure that we are looking at this from an ecosystems point of view.

Q104 Mr Caton: Sticking with the budgets but moving now to the EU Budget, you seem quite sanguine about the EU response to the MA and you have mentioned the European Commission Biodiversity Communication, but that itself pointed out that we were at risk of missing EU biodiversity targets and it also says that limited funds are part of the problem. We have been told that the recent EU Budget made this situation much worse by lowering the amount of money available for wildlife protection whilst neglecting to address the problem of inappropriate farm subsidies. Is it not a fact that the EU is completely failing to address the challenges identified in the MA?

Barry Gardiner: No other Member State has called louder or longer for reform of the Common Agricultural Policy than we have. Do we need to see a greater transition from pillar 1 to pillar 2 to meet precisely the objectives that you say? Yes, of course we do. We hope and we will be working towards achieving a greater role in the review in 2008 but it is absolutely essential and it has been highlighted—and again I go back to what the MA Board said—that we to move away from subsidy to paying land managers for the environmental benefits that they provide. They are very, very clear about this. If I sounded sanguine about the communication, that is in the true spirit of European collegiality that I have. If I am less than sanguine about the process to date in the shift of resources from subsidy through to environmental benefit in the CAP, then that is an indication that I share some of the frustrations that you have.
Q105 Mr Caton: What is your perception of how other Member States are responding both to the Biodiversity Communication and Action Plan that it proposes?  
**Barry Gardiner:** Are you talking about other Member States within the EU?  

Q106 Mr Caton: Yes.  
**Barry Gardiner:** It is clearly mixed. There are those who feel that certain of the ... For example, if you look at Natura 2000 in the Habitats Directive, there are certain Member States whose ministers have spoken up against some of what they see as constraints imposed upon them. I am not telling any tales here; this is their own public pronouncements. There are differences of approach. These, I think, to a certain extent are things that we should not be surprised at. Let me return to one of the other things that the MA highlighted and that the Board highlighted. What I think is very interesting about the approach which the MA adopted—here we are talking about 1300-odd scientists coming together and presenting us with the best state of our planet that we have ever had but their own expectations were not that there would be the turnaround and the halting of the loss of biodiversity. They themselves, whilst setting out very clearly what the strategy to reducing that loss in biodiversity must be, are clear that they are anticipate that it is something that will continue for some time and they expressed their own reservations about the capacity of the global community to turn that around in such a short timescale as we have by 2010, partly for the development pressures, pollutant pressures and so on, but also partly because of the climate change that is already in the system. I do think that we have to realistic here if the MA itself, whilst absolutely identifying the problem and whilst absolutely specifying what we need to be doing and the approach that we need to be taking to resolve it, was not optimistic that, in the short term, this could be turned around and the decline halted. I think that part of the reason why they were less than optimistic on that is of course because, in the same way that we hear from developing countries that the pressures for development, the pressures for growth and the pressures of taking people out of poverty often mean that issues of environmental consideration are of a second order of importance in their thinking. I think that one can see that to a lesser extent also even within the EU. I think it is important that we get across the Stern type messages, but actually there is no development without sustainability and that actually taking action now is going to make things a lot easier and a lot cheaper and we are going to achieve success a lot faster if we act within the next five to ten year period rather than delay.  

Q107 Chairman: Owing to the pressure of time, we will have to move on to the next set of questions; we will take this session up to 10.40 if that is okay with you, Minister.  

**Barry Gardiner:** Absolutely.  

Q108 David Howarth: I want to ask mainly about the place of the MA in UK policy making, which we have already touched on. May I return briefly to the research programme and put to you that you have mentioned two things that clash: one is you said, quite rightly, that you can have too much analysis and you have to get on with doing something but, on the other side, you said that the research programme, although it looks a bit like an MA, is not really an MA because, as you said, it does not cover different scenarios and it does not cover different policy responses. Could it be said that if we went the whole hog and we went for the full MA and put in different policy responses, then it would be more policy relevant?  
**Barry Gardiner:** Please, do not interpret anything I have said as ruling out going through to conducting a UK MA. What I was keen to do was to distinguish the research programmes that are currently under way, the natural environment research programme and the natural environment policy, with that and I was keen to clarify that they are not exactly the same because some people have suggested that in effect they are and that is why I wanted to be clear on that. I hope I did not say that one can have too much research, but you are right. What I was trying to get at was that actually there is no point in having more and more and more research unless you do something with it and I think that our obligation now, which I hope you will feel we are taking very seriously, is to try and see how we can use the research that has been done through the MA to inform policy making and to inform decision making both within Defra and by developing tools that will help other government departments make better policy decisions on the back of that ecosystem services approach and having a metric that enables them to do that. I take what you are saying that if you went the whole hog and feed in alternate scenario planning, that may ultimately enable us to identify the policy lines that are going to be most helpful in the future. I am certainly not ruling that out. I am saying that we have a heck of a job of work to do already trying to integrate into our thinking what the MA has already come up with and I think that we do have to take this in a systematic way.  

Q109 David Howarth: I suppose it is the difference between not ruling it out on the one side and having a clear direction of travel on the other side. If it were a clear direction of travel towards an MA as opposed to not ruling it out, would that not help to bring more coherence to it in terms of research programme? The Chairman has mentioned the idea of a UK, or perhaps it is technically an English, MA as a kind of Stern type review which would then help to make the case for ecosystems services policies in the way to which you seem to be quite clearly committed.  
**Barry Gardiner:** I am not yet at the stage that you are suggesting that we should move to. I do want to take things not slowly but methodically and I
want to be sure that we have incorporated all the lessons of the MA into our thinking. We are doing a tremendous amount of work on our own biodiversity action plan. In fact, earlier this month, we had a meeting with stakeholders about the future plans and, in January, we will be engaging with all of the ecological biodiversity community precisely to set out where we go from here and some of the remarks that I put in at the end of my opening remarks about how we integrate the ecosystem services approach into that thinking I think would be really relevant to the sort of stakeholder thinking that we do in January because we have tended to adopt a very species based approach. The species themselves of course are of intrinsic value. They are also of real value in terms of the indicators of the health of the ecosystem. When it comes to the point of having 364 or 367, whatever it is, separate species orientated and habitat-orientated action plans, I think that actually we do need to say, let us integrate the thinking of the MA here into all of this and, rather than simply pursuing more and more information, yes, let us use that information as a guide/indicator of what is happening with the ecosystems but how do we focus on the ecosystems themselves? How do we take a much more integrated and holistic approach to this to ensure the healthy ecosystems that are actually going to ensure the health of the individual 364 species?

Q110 David Howarth: I will leave the research programme now and move on to the place of the MA in UK policy making. We gather that a mapping exercise is going on to assess the UK response to the MA. That is obviously a good thing. I am slightly unclear about a couple of matters. First, what will that feed into? What is the endpoint of this? Secondly, are we talking about simply assessing new policies or are we talking about assessing all the current policies against the MA? For example, is the process we are talking about assessing new policies or are we talking about the current policies against the MA? For example, is the process we are talking about going to use the MA to reconsider what is in the UK Sustainable Development Strategy? You are talking about refresh and so on, is the MA integral to the refresh of existing policies?

Barry Gardiner: Yes it is, is my clear answer to that. We are looking at an ecosystem services approach as an enabling project within the whole strategy refresh of the Department, to help us think more clearly, to help us deliver more effectively on the goals that we have already set—which, by and large, you will not be surprised to hear, we think are the right sort of goals in sustainable development or sustainable consumption and production and so on—but we need to be feeding in the lessons and the approach of the MA in helping us deliver on that. I feel very confident that adopting that ecosystems approach will be helpful in enabling us to deliver better. We will be more effective in achieving our objectives if we use an ecosystems approach.

Q111 David Howarth: Might I come back to the CSR, one of our obsessions in this Committee—although my final question will be about another one of our obsessions. You have talked about using the MA as an evidence base for discussions between Defra and the Treasury. You have also talked about holistic approaches and mentioned other policy areas and getting away from policy silos. Is the MA being used solely as part of the discussion about natural resource policies and so on with the Treasury or is it feeding into transport policy, housing policy, economic development policy, way beyond Defra, into the other departments?

Barry Gardiner: It is precisely the latter that I want to see. In effect, the two questions you have just asked are flip sides of the MA ecosystems approach coin. One is that it should be able to help Defra be more effective in achieving our own objectives and our own targets and our own goals. The other is that if we can develop the evaluation approach that I have outlined through the pilots that we have set up—and, as I think I mentioned, they are with the Department of Transport, they are with DCLG, they are precisely in the areas that you suggest—we should also be able to help other government departments take better policy decisions because they will precisely be able, for the first time, to assess the true cost of policies because they will take in the effect of decisions on the environment, on ecosystem services into their calculations when making decisions.

Q112 David Howarth: That is very good, but that is coming from your end, from Defra. It needs to come from Treasury.

Barry Gardiner: I am delighted to tell you that Treasury economists and Defra economists and World Bank economists are all engaging on this. I do not feel in any sense that this is something where Defra is waving a little flag in the air and saying, “We’ve got a good idea, is anybody out there prepared to take notice of us?” It is something which the Treasury are keen to look at with us and with economists from the World Bank as well. This is something that has been identified by the MA as one of the gaps that they want to see us move to fill. I should have mentioned that DFID also are using the MA to educate their research programme on services1 and poverty. This is not something that is just confined to one area of government. That is not to say that we yet have the tool; we have not managed to develop it but we are all working together to try to achieve that because we see the potential benefits.

Q113 David Howarth: You see our view. The policy centre has to take this up.

Barry Gardiner: Absolutely.

Q114 David Howarth: Rather than saying just one department has responsibility for it.

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1 Witness Addition: ie ecosystem services.
Barry Gardiner: That is absolutely right.

Q115 David Howarth: My final question is about another one of those tools of central policy-making, the regulatory impact assessment.

Barry Gardiner: The environmental impact assessment.

Q116 David Howarth: We have heard evidence generally about the inadequacy of the present system for incorporating environmental concerns into policy making. Specifically on the MA, we have heard evidence from NERC that the present impact assessments in no way help to incorporate MA-type considerations to the policy. If you go to the summary, which covers one side of an A4 sheet of paper, it has one line that says something like “Does this policy meet the Government’s sustainability policy? Yes or no.” That does not give a very wide opportunity for discussion of specific policies of this sort.

Barry Gardiner: The past decade has been a time of incredibly innovative fast-learning of these issues. It is not to say that when the Government introduced environmental impact assessments all policy decisions were going to be able to bask in the glorious knowledge that the environment was secure as a result of what had been done. Of course this is the sort of thing that we need to refine, reappraise and improve upon. I would say to you that there is a commitment not just within Defra but wider in government to do that. It is equally important that we see here that this is not something that is just: “because it will keep those people in Defra quiet if we do”. It has to come from that fundamental understanding that this is the best way of making policy decisions because we will establish the true and proper cost of the decisions that we take if we incorporate that MA approach into our environmental impact assessments.

David Howarth: Thank you.

Q117 Chairman: Thank you very much, Minister. We have come to the end of our session with you. We are very grateful for your time this morning and your comprehensive answers.

Barry Gardiner: Thank you very much. I have enjoyed it.

Chairman: We will get our report out as soon as we can.

APPENDIX I

Memorandum submitted by bio SUSTAINABILITY, a core project of the DIVERSITAS programme—University of York

1. How successful has the MA been in influencing decision making at UK, EU and international levels?

DIVERSITAS has been involved with organisations that are beginning to incorporate the MA into their thinking, such as DEFRA, DFID, science funding bodies such as NERC and the European Environment Agency (EEA).

How can we encourage adoption of the MA response options in countries that have been slow to do so such as the US, Brazil and India?

There are many ways of raising awareness of the MA issues in the wider international community. One such mechanism is the proposed International Mechanism of Scientific Expertise in Biodiversity (IMoSEB), that DIVERSITAS is involved in. Lobbying through this mechanism means pressure can be put on such countries.

2. To what extent have MA findings and processes been incorporated into UK departments? How aware are departments of the importance of the MA? What steps are being taken to ensure that the findings of the MA are being considered and, where relevant, acted upon in the departments?

Is there any evidence of real change in government as an outcome of the MA?

We have experienced a real shift in thinking in UK government organisations, but this is work in progress.

3. How has the MA been used to ensure that there is adequate policy coherence, placing adequate weight on non-financial impacts and environmental limits in policies? Are the issues raised in the MA adequately addressed by UK policy appraisal through Regulatory Impact Assessments? Can departments document examples where the MA has resulted in a change in the preferred policy option to one which is more sustainable?

DEFRA is embarking on work in which DIVERSITAS is also involved, using the ecosystem approach for the management of natural resources.
4. **Should the UK develop its own assessment report and would it be relevant to include external UK impacts?**

   Yes the UK should certainly do this. In fact the merits of doing so were discussed at a workshop of the UK government’s Global Biodiversity Sub-Committee of the Global Environmental Change Committee, “Evaluating the Millennium Ecosystem Assessment: main messages, knowledge gaps and policy implications”.

5. **How have international institutions adopted the findings and processes of the MA? Why has the World Bank been slow to respond to the MA? How should the findings of the MA be incorporated into the World Bank’s work?**

   We know that the EEA have said that they will commit to an assessment in Europe.

6. **Are NGOs acting on the MA’s recommendations, particularly those involved in development and poverty reduction?**

7. **How has business risen to the challenges identified in the MA? Has the MA been used in strategic business planning?**

   We know that businesses are striving to address corporate environmental responsibility, but haven’t seen any evidence to suggest that businesses are aware or using the MA.

8. **How useful was the MA in addressing the assessment needs of a number of Multilateral Environmental Agreements such as the Convention on Biological Diversity?**

   The CBD ecosystem approach is very similar to the MA approach but we haven’t seen any evidence that would show the CBD has benefited as yet.

9. **Were there any gaps or weaknesses in the MA?**

   The biggest weakness of the MA was that it was not communicated to the policy sector, governments in particular.

**How should the MA be followed up?**

   Science needs to address the links between biodiversity and ecosystem services and human well-being. Also, how society values the services and how decisions can be made, whilst being aware of the trade-offs that have to be made. The MA approach needs to become an integral part of government policies in all sectors. There are some examples on the horizon—IMoSEB will be a good mechanism ensuring that scientific information on biodiversity, like that of the MA, can be communicated directly to governments. DFID are addressing how to build the MA into poverty alleviation and development and there are other projects for capacity building to take the MA recommendations forward in developing countries.

**Are the mechanisms and expertise which were developed to create the MA now being lost due to a lack of confirmation of a formal follow up procedure?**

   Yes, there is a real danger that the mechanisms and expertise will be lost if something more formal is not undertaken soon.

*October 2006*

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**APPENDIX 2**

**Memorandum submitted by the British Ecological Society**

**Introduction**

1. The British Ecological Society is the learned society for ecology in the UK. It was founded in 1913 and currently has over 4,000 members. The Society’s mission is to promote the science of ecology worldwide. The BES’s core activities are organizing scientific meetings, publishing scientific journals, giving small grants, supporting ecology in schools and providing policymakers with ecological advice.
2. The BES strongly supports the Millennium Ecosystem Assessment (MA). The MA developed a strong conceptual model to understand the value of ecosystem services to human wellbeing. The MA also raised awareness that many of the ecosystem services that society benefits from are being degraded. The UK should build upon the MA framework so that it can be better utilized by decision makers nationally.

**Influence on Decision Makers**

3. The MA provides decision makers with information about the current state of ecosystem services and those policy options that can ensure their continued delivery. It is important that the MA findings are considered throughout government. The MA is a useful tool for realizing the UK Sustainable Development strategies guiding principles of using sound science and living within environmental limits.

4. The Department for Environment, Food and Rural Affairs (Defra) has taken the MA seriously. The BES took part in a Defra sponsored workshop to look at how the MA should be followed-up. Furthermore, Defra is funding research projects on ecosystem services. Defra and its Non-Departmental Public Bodies (Natural England, Environment Agency, etc) have an important role in engaging other stakeholders with the MA’s findings, as well as integrating it into their work.

5. The Department for International Development (DfID) is aware of the MA. However, it could have given the MA and the link between ecosystem services and poverty reduction greater emphasis in its White Paper. The BES hopes that a number of projects between DfID and the scientific community will help to embed the importance of the MA in its work.

6. The BES is pleased that the HM Treasury has identified “increasing pressures on our natural resources and global climate from rapid economic and population growth in the developing world and sustained demand for fossil fuels in the advanced economies” as a long-term trend and challenge to be considered during the Comprehensive Spending Review 2007. HM Treasury needs to play a strong role in integrating the findings of the MA, especially the value of non-market ecosystem services, into government thinking.

**An Ecosystem Assessment for the UK**

7. The MA did sub-global scale assessments at the local, national and regional scales. It found that the scale at which an assessment is taken influences the problem definition and assessment results. This is an important insight since decisions affecting ecosystem services are taken at multiple scales in the UK.

8. The BES recommends that interested parties consider conducting ecosystem assessments at multiple scales in the UK. There would be value in conducting local assessments of key ecosystems. A national assessment of the state of ecosystem services in the UK would be extremely valuable in communicating the state and importance of the UK’s ecosystem services. However, since the UK imports goods from abroad which can degrade other countries ecosystem services it is important that the international dimension of a number of key ecosystem services are also examined.

9. The UK is in a good position to conduct multi-scale ecosystem assessments and make the MA more relevant to decision-makers’ nationally, because of its relatively strong evidence-base with regards to the state of its ecosystems, scientific expertise in environmental issues and engaged stakeholder communities (government, NGOs, business).

10. The BES is helping to bring together expert and user communities to examine how scientists could assess the contribution of ecosystem services to human wellbeing in the UK. However, it would take significant government and research council support for the UK to conduct multi-scale assessments.

**MA Gaps and Follow-up**

11. The MA highlighted a number of scientific gaps that limited its ability to fully answer the policy questions it was given. One crucial gap was the lack of monitoring systems needed to assess the condition and trends of ecosystem services. Another weakness in the scientific community was the ability of social and natural scientists to integrate their knowledge. Scientists involved in the MA had to look at environmental issues in novel way. The partnerships and understanding forged during the MA process could be lost unless action is taken to build upon the work of the MA.

12. The UK government should take a strong lead at European and international policy forums to move the MA forward. If there was international commitment to conduct future assessments, there would be a greater urgency in filling the research gaps and building the institutional capacity to undertake ecosystem assessments and act on the findings.

*October 2006*
APPENDIX 3

Memorandum submitted by the Joint Nature Conservation Committee

SUMMARY OF KEY POINTS

1. There is some evidence that the MA findings are beginning to influence policy development and decision making at UK, EU and global levels. However, much more needs to be done to adequately address the conclusions of the MA. In particular, we believe it is essential that there is greater engagement with non-environmental sectors on the value of ecosystem goods and services.

2. The MA has great potential to inform the development of a framework for the UK’s activities in relation to the conservation of international biodiversity. JNCC is currently undertaking various strands of work to take this forward.

3. Further work is desirable to evaluate the MA from a UK perspective, building on the work undertaken by the Global Biodiversity Sub-Committee of the UK Global Environmental Change Committee. Consideration of the global impacts of activities originating in the UK should form a key component of this work.

4. The MA is a tremendous achievement, although it has some weaknesses, for example in relation to assessment of the marine environment and the approach to scenario building. Some sort of follow-up process is highly desirable, and this should be linked to the assessment requirements of the Convention on Biological Diversity and other multilateral environmental agreements.

MEMORANDUM

The Joint Nature Conservation Committee (JNCC) is the statutory adviser to Government on UK and international nature conservation, on behalf of the Council for Nature Conservation and the Countryside, the Countryside Council for Wales, Natural England and Scottish Natural Heritage. Its work contributes to maintaining and enriching biological diversity, conserving geological features and sustaining natural systems.

We welcome the opportunity to provide evidence to this inquiry on matters relevant to our statutory remit. Our response is provided to each of the questions raised by the Environmental Audit Committee in turn.

1. How successful has the MA been in influencing decision making at UK, EU and international levels? How can we encourage adoption of the MA response options in countries that have been slow to do so such as the US, Brazil and India?

1.1 There is some evidence that the findings of the MA have been used to inform decisions within those sectors of UK Government concerned with biodiversity. For example, the MA is cited in the introduction to Defra’s World Summit on Sustainable Development Delivery Plan for International Biodiversity, Beyond Johannesburg: delivering our international biodiversity commitments (as amended 2006), and influences its subsequent objectives and actions. In addition, the MA has informed much of the work done by officials in support of the Inter-Departmental Ministerial Group on Biodiversity (see our response to question 2).

1.2 Within the EU, the MA has been cited as the evidence base in a number of cases of policy development, especially with respect to its findings on the deterioration of ecosystem services and the loss of biodiversity. These include the EC Thematic Strategy on the Protection and Conservation of the Marine Environment,1 the EC Thematic Strategy on the Sustainable Use of Natural Resources,2 the Commission’s proposal for the EU Sustainable Development Strategy (EU SDS), and the EC Biodiversity Communication (Halting the Loss of Biodiversity by 2010—and beyond),3 and its target- and action-orientated annex,4 all of which refer to the MA (though such references were lost in the adopted version of the EU SDS).

1.3 Within multilateral environmental agreements, the MA has been subject to the greatest consideration within the Convention on Biological Diversity (CBD), notably through the decision (VIII/9) adopted at the 8th Conference of the Parties.5 The Ramsar Convention on Wetlands of International Importance considered at its 9th Conference of the Parties a special report by the MA, Ecosystem services and human well-being: wetlands and water, the findings of which influenced the content of a number of resolutions arising from the Conference. Whilst these actions (including the CBD’s intention to discuss the MA with the other biodiversity-related conventions to enable joint actions to respond to the drivers of biodiversity

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5 http://www.biodiv.org/decisions/default.aspx?m = COP-08&id = 11023&lg = 0
loss) are welcome, if the MA’s influence is restricted to biodiversity-related agreements (many of which have themselves yet to address the findings of the MA) then it will have failed to make the impact that is necessary to maintain the ecosystem services upon which humans depend.

1.4 In summary, it is not yet clear to us that the MA has had a strong influence on policy development at UK, EU or global levels. Where policy responses have been formulated, we are not convinced that they are adequate to the challenge—most fall well short of the “unprecedented effort” which the MA suggests is required. Moreover, we see little evidence that the findings of the MA have penetrated to sectors that are not directly responsible for measures related to biodiversity. For example, we see little evidence of the MA being considered, or influencing policy, in spheres such as agriculture, fisheries, trade and energy, all of which have a fundamental impact upon how, and if, natural resources are managed sustainably.

1.5 Despite the question, we are not clear that the USA, Brazil or India have been especially slow in adopting the various policy responses suggested in the MA. Nevertheless, the UK’s sustainable development dialogues with countries such as India and Brazil offer the opportunity to explore these issues further.

2. To what extent have MA findings and processes been incorporated into UK departments? How aware are departments of the importance of the MA? What steps are being taken to ensure that the findings of the MA are being considered and, where relevant, acted upon in the departments? Is there any evidence of real change in government as an outcome of the MA?

2.1 We see evidence that the findings of the MA have been incorporated into the thinking and processes of some Government departments and their agencies, notably within parts of Defra, DFID and FCO with which we deal. This is most evident in the work that has been undertaken by JNCC for the Inter-Departmental Ministerial Group on Biodiversity (IDMGB) and which has been guided by officials from the aforementioned departments. This work has examined the various mechanisms (such as multilateral environmental agreements), policies and obligations for the conservation of biodiversity internationally, and has assessed their effectiveness at mitigating the direct and indirect drivers of biodiversity loss. Subsequently, we have been looking at the impact of the various drivers of biodiversity loss and how these affect ecosystem services, especially those upon which the world’s poor depend. The MA has been fundamental in shaping and enabling these analyses. The work is ongoing; ultimately, we hope it will guide the prioritisation of UK effort on the conservation of international biodiversity and the ecosystem services that such biodiversity provides.

2.2 We cannot comment on how the MA has been incorporated into other departments (or other parts of the departments mentioned above) with which we do not routinely deal. However, the MA’s findings are relevant across a wide range of departments because, as the MA itself notes, the policies and international agreements with the greatest impact on biodiversity are not in the environmental field but, rather, deal with wider political and economic issues. Indeed, we regard the MA as providing an important means of engagement with non-environment sectors on the value of ecosystem goods and services. Furthermore, the emphasis in the MA on dealing with all the drivers of biodiversity loss, especially the indirect ones (such as socio-political, economic and cultural factors and human population growth) that are rarely effectively addressed in policy responses and which are typically the responsibility of non-environment departments, enables policy makers to focus on the fundamental causes of biodiversity loss rather than simply treating the symptoms. We believe that an internal government mechanism, such as the IDMGB, is vital if the findings of the MA are to penetrate within and between departments and are to lead to coherent policy formulation which is then sustained in European and other international fora. In light of this, we believe it is desirable for other departments, such as the Department of Trade and Industry, to participate in the IDMGB.

2.3 JNCC is developing a framework for UK nature conservation that sets out the main drivers of ecosystem change and the actions required to mitigate these at five scales: the wider world, the national territory/regional sea, terrestrial ecosystems/marine landscapes, protected areas and priority habitats/species. This work was guided and inspired by the MA. JNCC is currently experimenting with extending this approach as a planning tool to identify corporate priorities. This has involved sub-categorisation of the direct drivers into a series of human activities and identification of the factors that make each of these activities unsustainable; the relationship between human activities and factors has then been determined at UK and global scales. An assessment of the relative impact of each driver in terms of biodiversity loss has also been made.

2.4 The UK Global Environmental Change Committee (GECC) is an inter-agency committee which helps to co-ordinate UK involvement in the science and technology of climate change and other global environmental change, both nationally and internationally. It aims to ensure that UK government policy is informed by a robust science base. The GECC has a Global Biodiversity Sub-Committee (GBSC), one of the objectives of which is to identify significant gaps in scientific understanding of global biodiversity change and propose options for addressing them. As a starting point for work towards this objective the GBSC organised a workshop on 3 February 2006 to review the MA’s findings, policy responses and gaps in
scientific knowledge from a UK perspective. The conclusions of this workshop have been summarised as a series of recommendations\(^6\) which are a good starting point for planning further UK work around the types of question asked by this inquiry.

2.5 Within the UK Biodiversity Action Plan (UK BAP) the MA has hardly featured at UK level. Country biodiversity strategies have also been adopted, but we are unsure to what extent the MA was considered in their development. The MA never ventured below the geographic scale of sub-regional assessments, other than through the use of individual research projects to illustrate certain points. As such, the MA is difficult to use directly by countries within the UK without further work to assess the relevance or appropriateness of its findings at this scale. Therefore it is almost impossible for the UK BAP to use the MA at anything other than a strategic level.

3. **How has the MA been used to ensure that there is adequate policy coherence, placing adequate weight on non-financial impacts and environmental limits in policies? Are the issues raised in the MA adequately addressed by UK policy appraisal through Regulatory Impact Assessments? Can departments document examples where the MA has resulted in a change in the preferred policy option to one which is more sustainable?**

3.1 We feel that it is too early to provide substantive evidence of any greater policy coherence resulting from the MA and responses to it. However, we refer again to the creation of the IDMGB which, we believe, offers the best hope of gaining a coherent approach within and between departments to the UK’s policy on biodiversity internationally. Indeed, JNCC recommended to the IDMGB that Government needed to undertake a critical analysis of the impact on international biodiversity of its full range of non-biodiversity policies as a first step towards a) enabling the integration of biodiversity and ecosystem service issues into the wider policy arena, and b) ensuring that that these different policies are not working at cross-purposes. We are pleased to note that terms of reference for this study are under development.

4. **Should the UK develop its own assessment report and would it be relevant to include external UK impacts?**

4.1 In our response to question 2 we outline the difficulty of applying the MA results at a national level, through the example of the UK BAP, and we refer to the work that the GECC-GBSC has done to review the MA to make it more applicable at a UK scale. We recommend that the UK should continue the work started by the GBSC to make an appraisal of the MA from a UK perspective. This is an essential step in trying to integrate the findings of the MA into UK policies and practices. It should not be a laborious and time-consuming replication of the MA process for the UK, but rather a consideration of the MA to identify the key issues for the UK. The recommendations made by the GBSC usefully outline the work necessary to undertake this type of UK assessment report.

4.2 We strongly recommend that the external impacts of activities originating in the UK should not be ignored. The MA comprises an extensive source of biodiversity information and provides a mechanism to highlight priority ecosystems and associated threats. In collaboration with the World Conservation Monitoring Centre in Cambridge, JNCC is exploring mechanisms to link information from the MA to the influence that the UK has through trade, aid and investment on specific ecosystems in particular areas of the world, and highlighting actions that are being taken, or need to be taken, to protect these ecosystems. Through this means the MA provides a standard, global reference source.

5. **How have international institutions adopted the findings and processes of the MA? Why has the World Bank been slow to respond to the MA? How should the findings of the MA be incorporated into the World Bank’s work?**

5.1 The World Bank was one of the primary partners in the MA, providing both technical and analytical contributions. In January 2006, the World Bank published a report, *Where is the wealth of nations? Measuring capital for the 21st century*. It complements the MA report, which played an important role in signalling the importance of environmental services to human well-being. The World Bank report places an economic value on natural resources and argues that many of these values are underpinned by environmental services that may be at risk. The report specifically states that the degradation of ecosystem services is a block to achieving the Millennium Development Goals.

5.2 The World Bank also referred to the MA in its 2005 Annual Report, which recognises the need to build on the MA, take responsibility for understanding the lessons, and turn the findings into operational work. These commitments seem to represent a useful starting point for trying to further incorporate the findings of the MA into the World Bank’s work.

\(^6\) [http://www.ukgecc.org/Documents/Biodiv%20SG/MA%20documents/Recommendations%20from%20the%20MA%20Workshopv2.pdf](http://www.ukgecc.org/Documents/Biodiv%20SG/MA%20documents/Recommendations%20from%20the%20MA%20Workshopv2.pdf)
6. **Are NGOs acting on the MA’s recommendations, particularly those involved in development and poverty reduction?**

   6.1 JNCC has no specific knowledge or experience to answer this question. However, despite the fact that the MA highlights how the protection of ecosystem services can contribute significantly to reducing poverty, we fear that in a growing global climate of famine and hardship, those NGOs concerned with poverty relief and development may be reluctant to divert resources away from very immediate and important life-saving activities.

7. **How has business risen to the challenges identified in the MA? Has the MA been used in strategic business planning?**

    7.1 We are not able to offer any opinion on this question.

8. **How useful was the MA in addressing the assessment needs of a number of Multilateral Environmental Agreements such as the Convention on Biological Diversity?**

    8.1 The Convention on Biological Diversity (CBD) undertakes scientific assessments predominantly through its Subsidiary Body for Scientific, Technical and Technological Advice (SBSTTA). The assessment work is supported by a variety of mechanisms, including ad hoc expert groups, preparatory work undertaken by the CBD secretariat, commissioned reports, and workshops. A spirit of collaboration with other organisations is adopted across all types of assessment.

    8.2 At the 5th Conference of the Parties in Nairobi in 2000, SBSTTA was asked to identify and explore scientific assessment methodologies and to identify opportunities to work with the MA on the CBD’s assessment needs. At the 6th Conference of the Parties in the Hague in 2002, parties were urged to provide expertise to support the MA, and SBSTTA was requested to review the MA findings and report back. The CBD secretariat was also charged with facilitating implementation of the MA. At the 10th SBSTTA meeting in 2005, SBSTTA decided to focus half of each of its meetings on scientific assessments of status and trends and to enhance engagement with the scientific community. The 9th Conference of the Parties in Germany in 2008 will consider the evaluation of the MA due for publication in 2007 as a precursor to debate on the need for another integrated assessment of biodiversity and ecosystems.

    8.3 In summary, the MA has played a prominent role within the scientific assessment processes of the CBD and has generally raised the profile and understanding of scientific assessments and how they can be used.

9. **Were there any gaps or weaknesses in the MA? How should the MA be followed up? Are the mechanisms and expertise which were developed to create the MA now being lost due to a lack of confirmation of a formal follow up procedure?**

    9.1 Although it has some weaknesses, the MA is a tremendous achievement that pulls together in one place an enormous quantity of biodiversity information and expertise and interprets it in a policy-relevant manner. The strong clear messages, the variety of levels of summary and the availability of cross-cutting interpretive reports (biodiversity, wetlands, etc) all make the vast quantity of information accessible to users.

    9.2 In terms of weaknesses, the MA was generally less comprehensive for the marine environment than for terrestrial ecosystems, possibly because of gaps in knowledge.

    9.3 The MA also tried to illustrate the state of ecosystems in the future through the use of a number of scenarios that represented some of the extreme positions to which current developments might lead; the effects these might have on biodiversity were then modelled. For many, including JNCC, this approach was not credible enough for the results to be taken very seriously. Each scenario was too far away from any form of modern-day living to be tangible. This leads to doubts about the abilities to model current trends against such scenarios and whether there is any likelihood that the scenarios could ever exist. A more reasoned extension of current trends through a modelling and hindcasting approach, set in context by a clear discussion of the types of interaction or event that could disrupt the model, would have been more useful.

    9.4 The delay in final publication and release of synthesis reports before the main body of evidence was available to substantiate the conclusions was regrettable.

    9.5 Any consideration of future assessments, eg as planned for the 9th CBD Conference of the Parties, should try to relate the requirement to scientific assessment needs, and should not recommend assessments more frequently than once per decade. It will also be important to ensure that scientific assessments are explicitly undertaken in full collaboration with other related initiatives, such as the International Mechanism of Scientific Expertise on Biodiversity (IMoSEB), progress reporting, publication of biodiversity indicators, etc.

*October 2006*
APPENDIX 4

Memorandum submitted by The David and Lucile Packard Foundation

I understand that the House of Commons Environmental Audit Committee (UK Parliament) is conducting an inquiry into the Millennium Ecosystem Assessment (MA), including exploring the question of whether a process like the MA should be repeated in the future. I was the Director of the MA and actively involved in the creation of the MA process and offer the following observations that may be helpful to your inquiry.

The original thinking behind the creation of the MA was that if this “pilot” assessment proved to be useful to decision-makers then we anticipated that it would evolve into a repeating assessment process analogous to the Intergovernmental Panel on Climate Change. Based on the experience of the MA, the leadership of the MA believes that a repeating assessment process would be desirable, but it would differ from the IPCC in three respects:

— The global component of a repeating MA-like assessment should be undertaken on six to eight year cycles rather than the 4 year cycles of IPCC.
— In the intervening years between the global cycles of the assessment, there should be a much greater emphasis on national/regional assessments which tend to be of more direct benefit to decision-makers and can then “roll up” into the periodic global findings.
— Although the assessment would need to become fully intergovernmental like the IPCC (for country ownership and funding reasons) it should retain a multi-stakeholder bureau much like the composition of the MA Board.

At the final meeting of the full MA Board in 2005, the institutions represented on the Board committed to undertake an evaluation of the utility of the MA in 2006 or early 2007 (after there was sufficient time to see what had happened as a result of the assessment) to determine whether it was in fact being used by decision-makers. If this evaluation provided strong evidence of the utility of the process, the expectation was that there would then be an exploration of the possibility of creating an ongoing IPCC-like process. That plan, however, has been put on hold for now because of the presence of the consultative process for the Intergovernmental Mechanism for Scientific Expertise on Biodiversity (IMoSEB) launched by the government of France in 2005. Unfortunately, the initial plans for IMoSEB seemed to have few of the features that we believed made the MA most useful and relevant to decision-makers. Most importantly, the MA was framed around the question of “how do changes to biodiversity and ecosystems affect human well-being?” and was thus as strongly focused on development as environment. IMoSEB however has focused more narrowly on biodiversity in its own right. It was also disappointing that the IMoSEB effort was developed without any linkage to the MA. Our thinking in the MA had been that after governments had experience with the MA they would be more likely to see that an ongoing process built on the MA would be acceptable. IMoSEB must instead “prove” its utility just as the MA has done before it is likely to be accepted.

As noted above, we believe that one of the most valuable activities at this stage is not a repeat of a global assessment (which would be better undertaken in about three to four years) but rather efforts to catalyze national, regional, and local assessments around the world. In a recent article in Science magazine, Dr Jeffrey Sachs and I proposed a funding mechanism that could support such processes but to my knowledge there has not been any movement to create something like this. The primary hurdle, in my view, is that donors want their money to go into something that has immediate measurable results. An assessment, by definition, is providing the analytical basis for action, but isn’t actually providing the action.

In this regard, it would be extremely valuable if the U.K. were to undertake a national assessment of the consequences of changes in ecosystems for human well-being and options for responding to harmful changes. What is needed is the application of the general MA approach at national (or even sub-national) levels since these are the scales where decisions influencing ecosystems are actually made. Once there is more experience with the utility at these scales then the case will be stronger for periodic global assessments of this nature.

One other important follow-up to the MA is to stimulate necessary data collection and research addressing some of the major gaps identified in the MA. A logical host for an organization to help develop the necessary interdisciplinary research agenda is the International Council for Science (ICSU). The MA oversight committee has allocated some of the Zayed Prize money that the MA received to ICSU so that they can start a process to develop such a research agenda. (The remainder of the Zayed funding will go to UNEP-WCMC in the UK for a project they are doing to create a “methods manual” that could be used by countries or institutions who would like to carry out their own assessments along the lines of the MA.)

November 2006
APPENDIX 5

Memorandum submitted by the Royal Society

This document is the Royal Society response to the UK House of Commons Environmental Audit Committee’s Inquiry into the UN Millennium Ecosystem Assessment (MA)\(^1\). It has been approved on behalf of the Royal Society Council by Professor David Read, the Vice-President and Biological Secretary. Our response has been prepared in consultation with members of the Society’s Environment and Marine Advisory Networks, the Global Environment Research Committee and other experts in the field.

SUMMARY

— We are supportive of the MA process and its findings, and believe that the MA Framework provides a useful mechanism for enabling the implementation of the ecosystems approach to policy.

— The MA framework and conclusions have had an impact on environment and biodiversity policy and science in the UK, EU and internationally, but they have had little impact on other areas of policy and science. To maximise impact the MA must influence sectors like the international development cooperation, trade, and financial sectors.

— The real impact of the MA will become evident in the coming years when governments have had an opportunity to incorporate the MA’s findings into their policy strategies.

— A UK Assessment report could be a useful exercise for testing the assumptions of the MA models and current knowledge of UK drivers of ecological change, and could provide a helpful model for other countries.

— The UK government Global Environmental Change Committee has successfully reviewed the current gaps and weaknesses of the MA at a workshop hosted by its biodiversity sub-committee in early 2006.

— We believe that the priorities for international and UK follow up to the MA should include:
  — internationally coordinated funding and resources for the MA’s long-term implementation, communication, development, monitoring and review;
  — the continuation of an appropriately funded MA Secretariat (or equivalent body) to co-ordinate the above;
  — the production of successive MAs in the future with the possibility of inter-governmental efforts to standardise the production of future assessments;
  — an increase in internationally coordinated funding for research into the role of biodiversity in ecosystem functioning, and the linkages between biodiversity, ecosystems, and human well-being;
  — funding and resources to improve the links between ecological and economic research, improve ecosystem valuation methodologies, and to improve dialogue between economists, ecologists and social scientists;
  — the full integration of MA processes into existing national policy processes, such as implementation programmes for the Millennium Development Goals (MDGs) (with a higher priority given to MDG7), and national sustainable development strategies; and
  — prioritisation of the MA into UK cross-cutting policy, and high level political support for the MA processes.

GENERAL COMMENTS

1. The Royal Society is supportive of the MA process and its findings and believes that it provides the most complete and up to date expert summary of the links between ecosystems and human well-being and the status of biological diversity. It identifies the variety of ways in which biodiversity and ecosystem goods and services have contributed to human wellbeing over the last century and highlights the importance of including this information in the economic analyses of climate change and sustainable development plans for the future. The MA framework provides a useful mechanism for enabling the implementation of the ecosystems approach to policy.

2. The Royal Society is aware of only two assessments carried out to date on the strengths and weaknesses of the MA and its implementation. The first was a report on the initial impact of the MA from the Director of the MA, Professor Walter Reid (Reid 2006); and the second was a report produced by the UK Government Global Environmental Change Committee’s (GECC) Biodiversity Sub-Committee (GBSC) following a workshop held in London in February 2006 to evaluate the MA and identify priorities for future implementation (GECC 2006).
3. We welcome the Committee’s inquiry into the MA which we believe will help to increase the profile of the MA and add momentum to its implementation in UK Government. However it is difficult for us to comment on the impact in detail at this stage because of its relatively recent release (the Technical Assessment volumes were published in January 2006, and the last synthesis report on Marine and Coastal Systems was published in June 2006). The real impact of the MA will become evident in the coming years when governments have had an opportunity to incorporate the MA findings into their policy strategies.

RESPONSES TO THE EAC INQUIRY QUESTIONS

4. In our submission we have chosen to respond only to questions 1, 2, 4 and 9.

Inquiry Question 1. How successful has the MA been in influencing decision making at UK, EU and international levels? How can we encourage adoption of the MA response options in countries that have been slow to do so such as the US, Brazil and India?

5. There is a general feeling amongst the scientific community that although the MA framework and conclusions have had a relatively high profile in the environment and biodiversity policy and science sectors in the UK, EU and internationally, it has as yet had little impact on other areas of policy and research. For example, the MA findings have been considered and taken into account to varying degrees by the Conventions responsible for its establishment: the Convention on Biological Diversity (CBD), the Convention to Combat Desertification (UNCCD), the Ramsar Convention on Wetlands, and the Convention on Migratory Species (CMS).

6. The Royal Society believes that to have any real impact the principles of the MA need to be implemented outside of the environment sector, for example in the international development, trade, and financial sectors. This however will be dependent on whether or not funding and resources are made available for further communication of the MA’s findings, for further development and implementation of the MA framework, and for future monitoring and reporting (further clarification is provided in paragraphs 17–19).

7. Within the scientific community there appears to be a growing use of the frameworks and ideas put forward in the MA, and evidence that they are beginning to influence research agendas. On an international level, the International Council for Science (ICSU) has adopted the MA conceptual framework as the basis for its environmental program. In July 2006, ICSU also set up a joint UNESCO, ICSU, and United Nations University (UNU) scoping group of experts to assess the gaps in scientific knowledge identified through the MA and to produce a report before mid-2007 on the priority research gaps that need to be filled in order to improve any future global or sub-global Millennium Ecosystem Assessment.

8. On a European level, the European Academies Science Advisory Council (EASAC) recently launched a project to investigate the importance of biodiversity for certain priority European ecosystems defined using the MA framework. The aim of this work is to build on, and contribute to the evidence base provided by the MA process. At the UK level, we are aware that the UK Biodiversity Research Advisory Group (BRAG) is currently developing a strategy for research on the role of biodiversity in ecosystem function. This draft strategy draws heavily on the MA framework and conclusions in identifying research priorities for the UK.

9. Some of our Fellows felt that adoption of the MA processes in some countries including the US, Brazil and India had been slow because of difficulties in identifying the economic value of ecosystems. Although the MA went some way towards identifying the linkages between ecosystem services and human wellbeing, significant further work is required to identify appropriate valuation methodologies and to improve collaboration between economists and ecologists. This is essential if the economic contributions of ecosystems to society are to be identified and communicated to policy makers.

10. Furthermore, the current momentum behind the implementation of the Millennium Development Goals (MDGs) in developing countries could be a useful mechanism for communicating and implementing the MA framework. This however requires that strategies aimed at delivering the MDG’s be revised to ensure that they are compatible with the MA framework. In particular we believe that it is important that more emphasis is placed on the importance of MDG7 (to ensure sustainability) in international development cooperation policy.

Inquiry Question 2. To what extent have MA findings and processes been incorporated into UK departments? How aware are departments of the importance of the MA? What steps are being taken to ensure that the findings of the MA are being considered and, where relevant, acted upon in the departments? Is there any evidence of real change in government as an outcome of the MA?

11. Although there has been little evidence of the incorporation of the MA findings and processes into UK departmental strategies, we have observed a growing appreciation in both the academic and policy communities of the achievements and utility of the MA.

12. The Royal Society is aware that Defra has been proactive in communicating and implementing the results of the MA in addition to the GBSC workshop referred to in paragraph 2 and the ongoing work of this group. Defra has for example used the MA methodology to develop draft environmental reporting
In a recent speech to delegates attending a meeting held at the Royal Society, hosted by the Foundation of Science and Technology (July 2006), the UK Minister for Biodiversity, Landscape and Rural Affairs noted that Defra was developing “a more holistic approach to natural environment policy”. This approach is based on the findings of the MA with an emphasis on the development of an ecosystems approach, integrating policy making around the conservation and enhancement of entire ecosystems. The programme of work includes the funding of research and improved dialogue between Defra and the research councils and aims to improve the coherence and consistency of research funding to develop the evidence base on the condition and value of ecosystems. Similarly, we are aware that some of the Defra bodies (eg the Joint Nature Conservation Committee (JNCC) and Centre for Environment, Fisheries and Aquaculture Science (CEFAS)) have been using the MA to guide their corporate work programmes and research strategies.

13. Although one of our respondents noted that The Department for International Development (DFID) officials appear to have been influenced by the MA we note that the principles of the MA do not appear to be reflected in either DFID’s approach to the environment (DFID 2006a) or its White paper on International Development (DFID 2006b).

**Inquiry Question 4. Should the UK develop its own assessment report and would it be relevant to include external UK impacts?**

14. The Royal Society is aware that there has been some debate about the development of a UK assessment report in the scientific community. However, the conclusion of Royal Society discussions has been that a UK assessment report could be a useful exercise. The UK is unique globally in terms of the quality of biodiversity and ecosystems information available. Therefore the application of the MA framework to the UK could provide a useful model for other countries. A country level study using MA methodologies could be useful to the future development of the MA by testing the methodologies and identifying any issues relating to scaling up and scaling down processes. Smaller case study assessments to investigate specific issues within a designated area could also be useful for testing the assumptions of the models and current knowledge of key drivers of change in the UK.

15. There was general agreement that external UK impacts would have to be considered for a UK MA assessment to be useful. It was also felt that the UK overseas territories could provide useful case studies for the application of the MA framework as an alternative to an assessment of the UK as these are generally the UK’s biodiversity hotspots.

**Inquiry Question 9. Were there any gaps or weaknesses in the MA? How should the MA be followed up? Are the mechanisms and expertise which were developed to create the MA now being lost due to a lack of confirmation of a formal follow up procedure?**

16. The strengths and weaknesses of the MA were reviewed at the GBSC workshop held in February 2006 “Evaluating the Millennium Ecosystem Assessment: messages, knowledge gaps, and policy implications” where scientific and policy gaps and priorities were identified. Fellows and staff of the Royal Society were involved in this workshop. Rather than repeating the results of this meeting we refer you to the meeting report (GECC 2006).

17. The Royal Society believes that one of the greatest weaknesses of the MA was the failure to provide resources and funding for the period beyond its release. This has undoubtedly affected how widely it has been communicated and implemented and many of our Fellow’s recently voiced concerns that despite having established how vital ecosystem services are to the global economy the MA will cease to be relevant unless funding is provided for further development, implementation, monitoring and reporting. We believe that the absence of a formal and coordinated monitoring and review process is a major shortcoming and that this will compromise the ability of the MA process to achieve its objectives.

18. We suggest that development, implementation, monitoring and reporting will require coordination at the global, regional and national levels. An MA secretariat if appropriately resourced could provide this coordination function. The CBD secretariat or the proposed International Mechanism of Scientific Expertise on Biodiversity (IMOSEB) body may be suitable alternatives, however these bodies would also need to be appropriately resourced and their biodiversity focus taken into account.

19. In terms of future development and implementation of the MA some of our respondents felt that inter-governmental efforts should be made to standardise the production of successive global and sub-global assessments to ensure a continuity of effort in the future. It was felt that this would help to encourage and channel scientific work on ecosystem services in a globally coordinated manner and that this would have the additional benefit of encouraging the development of the production of high quality science in the world’s poorest countries. We believe this should be accompanied by a significant increase in research funding from governments and international agencies to improve understanding of ecosystems and biodiversity, and the linkages between biodiversity, ecosystem functioning and human well-being.

20. There are obvious mechanisms for the integration of MA processes into national policy. These include strategies for the implementation of the Millennium Development Goals (MDG’s), national sustainable development strategies, poverty reduction strategies, and national biodiversity strategies. In the
UK, government policy must encourage more basic and applied environmental research. Our Fellows have voiced concerns about the reduction in government support for biodiversity and ecosystems research, particularly following the recent restructuring of the Centre for Ecology and Hydrology and the announcements regarding the Defra budget.

October 2006

REFERENCES

1 DFID (2006a) DFID's Approach to the Environment. DFID: London
Available online at www.dfid.gov.uk/pubs/files/approach-environment.pdf

Available online at: www.dfid.gov.uk/wp2006/default.asp

Available online at www.ukgecc.org/dvl—Biodiversity.htm

Available online at www.millenniumassessment.org/en/Article.aspx?id = 75

APPENDIX 6

Memorandum submitted by the Secretariat of Convention on Biological Diversity (SCBD)

Among those issues identified by the EAC, these comments focus mainly on issue 8 namely the usefulness of the Millennium Ecosystem Assessment to the Convention on Biological Diversity. In doing so we may touch upon other issues as well.

The Convention on Biological Diversity was one of the "users" of the Millennium Ecosystem Assessment and, as such, was represented on the Governing Board of the Assessment. Several CBD Staff participated in the writing teams for the various chapters of the Assessment, as well as in the Biodiversity Synthesis. As mandated by the Conference of the Parties (Seventh meeting, in 2002), many national focal points of the convention participated in the peer review process, and the Convention’s Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) reviewed the draft reports of the MA, in particular, the Biodiversity Synthesis. The MA Panel duly took these comments into account in finalizing the Assessment. SBSTTA then reviewed the finalized product, and identified implications of the findings of the assessment for the future work of the Convention. Based on the work of SBSTTA, the Conference of the Parties at its Eighth Meeting in 2004 adopted a decision setting out the Implications of the findings of the assessment for the future work of the Convention (Decision VIII/9, attached as annex 1).

The MA has proved useful to the Convention in a number of ways:

1. The MA provides an authoritative assessment of the status and trends of biodiversity, of the drivers of biodiversity loss, and of the response options available. The assessment is widely quoted in CBD documents, speeches and press releases. In this sense the MA has fulfilled a function analogous to that of the IPCC for climate change.

2. The MA has reinforced the concept of ecosystem services, highlighting the critical role of biodiversity in underpinning ecosystem functions and in sustaining ecosystem services.

3. The MA has drawn attention to the declining state of most ecosystem services and the continuing loss of biodiversity. Critically, it has pointed out that such loss threatened to undermine efforts to achieve the development and poverty reduction objectives of the Millennium Development Goals. The MA thus highlighted the importance of the 2010 Biodiversity Target as well as the magnitude of the task to achieve it.

4. The MA contributed to the testing of the set of indicators adopted under the CBD process and has validated a number of them.

5. The MA has emphasized need to address the drivers of biodiversity loss, to “mainstream” biodiversity in policy making in the sectors that give rise to these impacts, and to address linkages between the conservation and sustainable use of biodiversity and, among others, international trade, finance, agriculture, forestry, tourism, mining, energy and fisheries. These points are now being taken into account through (a) implementation of national biodiversity strategies and action plans and (b) revision of the Convention’s programmes of work.
The above points were reflected in the Convention’s flagship publication: “Global Biodiversity Outlook 2” www.biodiv.org/gbo2 which was launched in 2006 at the Eighth meeting of the Conference of the Parties to the Convention.

The findings of the MA have been well received and appear to be widely understood by those responsible for environmental management in governments, civil society and the private sector. However it appears that the findings have not been sufficiently understood or internalized by other departments of governments, notably departments responsible for planning (in developing countries) and international development cooperation (in developed countries), or by society more broadly.

The Conference of the Parties encourages countries to conduct national assessments making use of the conceptual framework and methodologies of the Millennium Ecosystem Assessment (Decision VIII/9, para 23). An assessment report for the UK would thus be a positive response to this call. Given the importance of cross-scale interactions highlighted by the MA, it would certainly be relevant to include external UK impacts in such an assessment. Including external impacts would provide an empirical baseline against which progress in meeting the challenge established in the UK’s Sustainable Development Strategy on sustainable production and consumption (recently highlighted by the Secretary of State as “One Planet Living”) could be assessed.

In addition, as a member of the G8, G8+5 and other influential fora, and through partnerships such as the Sustainable Development Dialogues, the UK could play an important role in promoting both the findings of the MA and the use of its methodologies more broadly.

October 2006

Annex

DECISION VIII/9: IMPLICATIONS OF THE FINDINGS OF THE MILLENNIUM ECOSYSTEM ASSESSMENT

THE CONFERENCE OF THE PARTIES

1. Acknowledges the reports of the Millennium Ecosystem Assessment, in particular the Synthesis Report on Biodiversity (UNEP/CBD/SBSTTA/11/INF/22) and its summary for decision makers, as well as other reports, including the General Synthesis Report, synthesis reports on Desertification, Human Health, and Wetlands and Water, the report on Opportunities and Challenges for Business and Industry, and the reports of the four working groups on, respectively, current status and trends, scenarios, policy responses, and multi-scale assessments, recognizing that these reports include key findings relevant to the implementation of the Convention’s programmes of work;

2. Commends the ongoing efforts made by the Millennium Ecosystem Assessment to make available the summary and synthesis reports in the official languages of the United Nations and invites Parties, other Governments and relevant donors to provide support to complete this process;

3. Notes the successful use of indicators in the Millennium Ecosystem Assessment, including those indicators of the framework contained in decision VII/30, for communicating trends in biodiversity and highlighting its importance to human well-being, and further notes the need for additional and improved measures of biodiversity and ecosystem services at all scales, in order to facilitate the application of indicators at the national level, assist in communication, set achievable targets, enhance mutual supportiveness between biodiversity conservation and other objectives, and optimize responses;

4. Takes note of the main findings of the Biodiversity Synthesis Report, namely that:
   (a) Biodiversity is being lost at rates unprecedented in human history;
   (b) Losses of biodiversity and decline of ecosystem services constitute a concern for human well-being, especially for the well-being of the poorest;
   (c) The costs of biodiversity loss borne by society are rarely assessed, but evidence suggests that they are often greater than the benefits gained through ecosystem changes;
   (d) The drivers of loss of biodiversity and the drivers of change in ecosystem services are either steady, show no evidence of declining over time, or are increasing in intensity;
   (e) Many successful response options have been used, but further progress in addressing biodiversity loss will require additional actions to address the main drivers of biodiversity loss; and
   (f) Unprecedented additional efforts will be required to achieve, by 2010, a significant reduction in the rate of biodiversity loss at all levels;

5. Notes the key messages contained in the Biodiversity Synthesis Report;

6. Noting that the Millennium Ecosystem Assessment finds that the degradation of ecosystem services could significantly increase during the first half of this century, and is a barrier to achieving the Millennium Development Goals, and that, at the same time, many of the actions being undertaken to promote economic development and reduce hunger and poverty could contribute to the loss of
biodiversity, emphasizes that the Millennium Development Goals, the 2010 target of significantly reducing the rate of biodiversity loss, and other internationally agreed targets related to biodiversity, environmental sustainability and development need to be pursued in an integrated manner;

7. Noting the new and significant evidence presented in the Millennium Ecosystem Assessment, urges Parties, other Governments and relevant organizations to strengthen their efforts and take the measures necessary to meet the 2010 target adopted in the Strategic Plan of the Convention, and the goals and sub-targets annexed to decision VII/30, taking into account the special needs, circumstances and priorities of developing countries, in particular the least developed countries and small island developing States among them, and countries with economies in transition;

8. Invites the Global Environment Facility, in coordination with the Executive Secretary, to identify gaps and needs in relation to existing financial resources, until 2010, to meet the unprecedented additional efforts needed to significantly reduce the rate of biodiversity loss and maintain the provision of ecosystem goods and services;

9. Noting the finding of the Millennium Ecosystem Assessment that an increase in average global temperature of two degrees or more above pre-industrial temperatures will give rise to globally significant impacts on ecosystems, with significant consequences for livelihoods, urges Parties and other Governments, where appropriate, to meet their commitments under, and to take cognizance of, the provisions of the United Nations Framework Convention on Climate Change and its Kyoto Protocol, in order to avoid dangerous impacts;

10. Mindful that the loss of biodiversity is continuing, and recognizing the inertia in ecological systems and in the drivers of biodiversity loss and therefore the need for longer-term targets, decides to consider, at its ninth meeting, the need to review and update targets as part of the process of revising the Strategic Plan beyond 2010;

11. Recognizes that the main drivers of biodiversity loss differ among regions and countries;

12. Decides to consider the findings of the Millennium Ecosystem Assessment in the implementation and the future review of the programmes of work and cross-cutting issues under the Convention;

13. Notes in particular the urgent need to address the issues which the Assessment finds most significant at the global level in terms of their impacts on biodiversity and consequences for human well-being, such as:

   Land use change and other habitat transformation;

   (a) The consequences of over-fishing;

   (b) Desertification and degradation in dry and sub-humid lands;

   (c) The multiple drivers of change to inland water ecosystems;

   (d) Increasing nutrient loading in ecosystems;

   (e) The introduction of invasive alien species; and

   (f) The rapidly increasing impacts of climate change;

14. Aware in particular of the impacts of these issues on the conservation and customary use of biodiversity by local and indigenous communities, and the consequences for their well-being, emphasizes the need for dialogue with such communities;

15. Aware also of the inter-sectoral nature of many of these issues, urges Parties and other Governments to promote dialogue among different sectors, to mainstream biodiversity, at the regional and national levels including, when appropriate, through the processes of the Convention, to address linkages between the conservation and sustainable use of biodiversity and, among others, international trade, finance, agriculture, forestry, tourism, mining, energy and fisheries, in order to contribute to the more effective implementation of the Convention, in particular its Article 6;

16. Recognizing that these issues are the concern of a number of other international and regional conventions and processes, encourages Parties and other Governments to also address these issues within these other international conventions and regional processes;

17. Requests the Executive Secretary to bring the findings of the Millennium Ecosystem Assessment to the attention of the liaison group of the biodiversity-related conventions, and to other multilateral environmental agreements and relevant international and regional processes, with a view to explore options, within their respective mandates and, as appropriate, for joint activities to successfully address and respond to the direct and indirect drivers of biodiversity loss;

18. Aware of the impacts of the inequalities in the use of resources and the implications of this imbalance for the drivers of biodiversity loss, urges Parties to change unsustainable patterns of production and consumption that impact on biodiversity, taking into account the Rio Declaration on Environment and Development, including, inter alia, the principle of common but differentiated responsibilities, as set out in Article 7 of the Rio Declaration, as well as the provisions of the Johannesburg Plan of Implementation;
19. Aware also of the need to improve knowledge of trends in biodiversity, and understanding of its value, including its role in the provision of ecosystem services, as a means of improving decision-making at global, regional, national and local levels, and also recognizing cross-scale interactions in ecosystems, urges Parties, other Governments and relevant organizations, including scientific bodies, to increase support for and coordinate research, inter alia, to improve: basic knowledge and understanding of biodiversity and its components; monitoring systems; measures of biodiversity; biodiversity valuation; models of change in biodiversity, ecosystem functioning and ecosystem services; and understanding of thresholds;

20. Requests the Executive Secretary, in collaboration with relevant organizations, taking into account the Millennium Ecosystem Assessment scenarios, to assist Parties in the development of appropriate regionally-based response scenarios within the framework of the Convention’s programmes of work, and to coordinate these efforts with other international and regional organizations involved with work on scenarios;

21. Requests the Subsidiary Body on Scientific, Technical and Technological Advice to take note in its deliberations of the linkages between biodiversity and relevant socio-economic issues and analysis, including economic drivers of biodiversity change, valuation of biodiversity and its components, and of the ecosystem services provided, as well as biodiversity’s role in poverty alleviation and achieving the Millennium Development Goals;

22. Requests the Subsidiary Body on Scientific, Technical and Technological Advice and invites Parties to draw upon the lessons learned from the Millennium Ecosystem Assessment process, including the sub-global assessments, and to make use as appropriate of its conceptual framework and methodologies in further developing work on environmental impact assessment, strategic environmental assessment and the ecosystem approach;

23. Encourages Parties and other Governments to conduct national and other sub-global assessments making use of the conceptual framework and methodologies of the Millennium Ecosystem Assessment, as appropriate, and invites the Global Environment Facility and bilateral and multilateral funding organizations, as appropriate, to provide funding for these assessments;

24. Requests the Executive Secretary to draw upon relevant information from the Millennium Ecosystem Assessment and other relevant sources in the preparation of future editions of the Global Biodiversity Outlook and meeting documentation;

25. Invites Parties and the Executive Secretary to use all relevant Millennium Ecosystem Assessment reports, as appropriate, in strengthening dialogue with other stakeholders, including the private sector, and to promote the wider dissemination of the findings contained in these reports, including through the clearing-house mechanism;

26. Encourages Parties, other Governments and relevant organizations to make use, as appropriate, of the methodologies and conceptual framework of the Millennium Ecosystem Assessment;

27. Emphasizes the need for contributions of Parties, other Governments and relevant organizations for capacity-building to support integrated ecosystem assessment and improvement of knowledge and understanding about trends in biodiversity, ecosystem goods and services and human well-being, through the provision of adequate resources and the dissemination of findings, methodologies and procedures of the Millennium Ecosystem Assessment, especially in developing countries, in particular the least developed countries and small island developing States among these, and countries with economies in transition;

28. Requests the Subsidiary Body on Scientific, Technical and Technological Advice and the Executive Secretary to contribute to the evaluation of the Millennium Ecosystem Assessment, due to be undertaken during 2007 by the institutions represented on the Millennium Ecosystem Assessment Board, focusing in particular on the impact of the Millennium Ecosystem Assessment on implementation of the Convention at global, regional, national and local levels;

29. Decides to consider, at its ninth meeting, the evaluation of the Millennium Ecosystem Assessment to be undertaken during 2007, and the need for another integrated assessment of biodiversity and ecosystems, taking into account the future plans of the Global Biodiversity Outlook, as well as the outcomes of the current and future processes of the Global Environment Outlook of the United Nations Environment Programme, and scientific assessments that may be undertaken by the Subsidiary Body on Scientific, Technical and Technological Advice;

30. Also decides to consider, at its ninth meeting, taking into account the results of other relevant processes, options for improving the availability to the Subsidiary Body on Scientific, Technical and Technological Advice of scientific information and advice on biodiversity, keeping in mind the need to avoid duplication of efforts.

October 2006
APPENDIX 7

Memorandum by WWF-UK

SUMMARY

The findings of the Millennium Ecosystem Assessment (MA) have not been used effectively for decision making in the UK or internationally. The two main reasons for this are that:

— the MA has not been given the political importance internationally that its very urgent findings and recommendations warrant; and

— the very technical MA has never effectively been translated into clear policy guidance for political decision makers or practical application.

There is a clear need for the MA to be made relevant to UK policy. There is a need for the UK Government to accept responsibility for the global impacts of the UK’s consumption (as detailed in the Living Planet Report 2006). WWF recommends that:

— the MA recommendations are more fully and explicitly integrated into the UK Sustainable Development Strategy (UKSDS), and that the Sustainable Development Commission (SDC) is given greater powers to oversee the implementation of the SDS across Government; and

— all levels of the UK Government (both national and local) accept responsibility for the global impact of the UK’s consumption and, therefore, move towards “One Planet Living”. Key steps include adopting ecological footprint as an indicator and supporting the use of REAP, a software tool which helps government at all levels, plan for sustainability and test the environmental impacts of proposed policy.

Internationally, the status of the MA must be raised as a matter of urgency. There is a need for direct action on applying the MA in international processes. For example the MA could:

— be used in the UN reform process to input into any changes to the United Nations Environment Programme (UNEP);

— assist with commitments through the Bali Strategic plan;

— be used as part of the basis for a version of the Intergovernmental Panel on Climate Change (IPCC) for biodiversity to inform policy making; and

— EC and EU Member States should consider how to take the MA recommendations forward in terms of changes in policies, institutions and practices.

Degradation of the ecosystem is one of the major global challenges facing the world and is closely interconnected with other global challenges, including global poverty, climate change, governance and conflict. These challenges are closely intertwined and cannot be viewed in isolation. Therefore, WWF recommends that strategies to address ecosystem services, must be addressed along side the other global challenges. The implications of the MA on the achievement of the Millennium Development Goals (MDGs), for example, has to be acknowledged, and action to support natural resource management as part of poverty reduction strategies must be recognised.

INTRODUCTION

WWF welcomes the opportunity to submit to this inquiry on the Millennium Ecosystem Report (MA). WWF works with government, business and communities in more than 90 countries around the world. Our mission is to stop the degradation of the planet’s environment and to build a future in which humans live in harmony with nature.

Every two years WWF produces the Living Planet Report.7 The Living Planet Report presents figures on loss of biodiversity against figures on human consumption of natural resources. The graphs below, taken from the 2004 report, illustrate the significant decline in the planet’s biodiversity since 1970 and reveals that humanity’s impact on the planet’s environment has concurrently increased to unsustainable and ever-increasing levels.

7 Living Planet Report 2006 is due out on 24 October 2006.
This report leaves us in no doubt about the impact of human activity on biodiversity and the “health” of the planet. Globally we are already consuming more natural resources than the planet can produce sustainably, and creating more pollution than it can absorb. The report shows that if everyone in the world lived as we do in the UK, we would need three planets to support us.

We in the UK are using and polluting far more than our fair share, jeopardising the ability of others in the world to meet their own and future generations’ needs. Very much in line with the findings of the MA, the Living Planet Report shows that we are already seeing the consequences of our impact on the natural systems on which we depend. The focus of WWF-UK’s work is to move towards “One Planet Living”, that is all people living and enjoying happy, healthy lives within their fair share of the Earth’s resources.
INFLUENCE OF THE MA

Question 1. How successful has the MA been in influencing decision making at UK, EU and international levels? How can we encourage adoption of the MA response options in countries that have been slow to do so such as the US, Brazil and India?

It is WWF’s view that the Millennium Ecosystem Assessment has not been given sufficient political support internationally to allow it to influence decision making at the national or international level. There has been very limited reference to the MA at international meetings, including the New York World Summit in September 2005, where there was no reference to the MA in the final outcome document.

A commissioned assessment of the impact of the MA (Millennium Ecosystem Assessment Survey of Initial Impacts, Walter Reid, March 2006) gives a very mixed picture of the adoption of the MA findings in the first year since it was released. It states that the first year assessment:

"provides widespread evidence that the assessment is having an impact on the intended audiences, but the extent of that impact is very mixed, with some institutions, regions, countries, and sectors significantly influenced by the MA while others have not been influenced at all".

See Annex 1 for summary of findings.

Details in this assessment indicate that in the UK the MA has had little direct influence on policy at either DEFRA or DFID, though, there is some evidence that it has been discussed in broad terms in both departments.

What is clear is that it has been considered in the conservation and biodiversity sectors, but is yet to make an impact on wider national or international decision making. It is WWF’s belief that the MA has to be made relevant not just directly in decisions associated with planning of natural resources, but also to ongoing national and international economic development. There has to be direct correlation between growth in economic activity and consumption of ecosystem services and the conservation of ecosystems. It is notable that the MA has had almost no impact on business or the Bretton Woods institutions, and, unfortunately, on development focused NGOs.

Greenfacts, an organisation which aims to summarise scientific papers in layman’s terms, has put together what is supposed to be a public outreach initiative and user friendly fact sheet on the MA. There is a question, however, of whether awareness of their existence and availability is widespread.

Recommendation: There is an urgent need to translate the somewhat technical report into a powerful publicly accessible format aimed at policy makers, NGOs and multilateral decision makers. In particular, it is essential to make the findings of the MA relevant to, and input into, wider objectives on economic development and poverty reduction activities.

UK USE OF THE MA

Question 2. To what extent have MA findings and processes been incorporated into UK departments? How aware are departments of the importance of the MA? What steps are being taken to ensure that the findings of the MA are being considered and, where relevant, acted upon in the departments? Is there any evidence of real change in government as an outcome of the MA?

Question 3. How has the MA been used to ensure that there is adequate policy coherence, placing adequate weight on non-financial impacts and environmental limits in policies? Are the issues raised in the MA adequately addressed by UK policy appraisal through Regulatory Impact Assessments? Can departments document examples where the MA has resulted in a change in the preferred policy option to one which is more sustainable?

The main tool for addressing ecosystem services in the UK is the UK Sustainable Development Strategy. This cuts across Government departments, and requires reporting against sustainable development indicators. While the UKSDS monitors a number of indicators relevant to the MA, it does not explicitly take the MA into consideration (the UKSDS and the MA were launched at around the same time, so the MA was not available at the time of producing the UKSDS). However, the UKSDS should be reviewed in light of the MA recommendations, and be made to report against the MA on key ecosystem services for the UK.

Again, WWF believe that, in addition to monitoring the impact on ecosystems and ecosystem assessment, there is a need for all levels of UK government (both national and local) to accept responsibility for the global impact of the UK’s consumption and, therefore, move towards “One Planet Living”. There is a need to put in place indicators such as ecological footprint, policies, practice and tools which support a move towards One Planet Living.

The UK has tremendous potential to take significant steps towards “One Planet Living” in the next few years. The bottom line is that we need to stabilise our ecological footprint by 2012 and then start to reduce the UK’s ecological footprint to within our fair share.

8 www.wwf.org.uk/oneplanetliving
Together with the Stockholm Environment Institute, the Centre for Urban and Regional Ecology (CURE) and BiffAward, WWF has developed the first complete picture of the UK’s resource use and environmental impact. The project, known as the Ecological Budget, measured for the first time the UK’s global—carbon dioxide emissions, materials flow and ecological footprint. A powerful software tool called the Resource and Energy Analysis Programme (REAP) has been developed which now gives decision-makers at all levels of government the ability to plan for sustainability and test the environmental impacts of proposed policy. WWF is supporting UK governments to take up this tool in order to deliver One Planet Living strategies to reduce our ecological footprint.

**Recommendation:** The UK Government should develop and give increased power to the Sustainable Development Commission, who oversee the implementation of the UK Sustainable Development Strategy, to allow for the implementation and monitoring of the MA recommendations.

**Recommendation:** the UK Government should adopt Ecological Footprint as an indicator to track the UK’s efforts to move towards One Planet Living.

**Recommendation:** the UK national and local governments should use REAP to plan and test policy for One Planet Living.

**UK External Impacts**

**Question 4.** *Should the UK develop its own assessment report and would it be relevant to include external UK impacts?*

As mentioned, WWF believes that the UK should use ecological footprinting to assess its global impact. It is essential to include the external impacts of the UK activities otherwise an incomplete picture of the UK’s total environmental impact will be reached. In addition, there should be more coherent policy across government in applying the MA recommendations. The examples below illustrate areas where WWF is working to address the full impact of the UK’s consumption and footprint and the clear necessity for incorporating this into policy:

- **Illegal logging:** More than 70% of the wood consumed in the UK is derived from imports. Procurement by local authorities alone is believed to account for as much as a quarter of the total amount of timber the UK consumes. WWF has estimated that up to 26% of the UK’s imports from six key regions could be illegal and that the UK is estimated to be the greatest importer of illegal timber in the EU.

- **Virtual Water:** The imported food we eat has significant impacts on fresh water resources in developing countries (“virtual water”). For example, one cup of coffee requires 140 litres of fresh water to produce, and one hamburger requires 2,400 litres of water. Water extracted for intensive farming has implications for access to water for small scale farming and domestic use in developing countries where water access is already scarce.

- **UK Export Credit Guarantee Department (ECGD):** The ECGD has provided billions of pounds of secured finance to carbon intensive industry sectors, such as aircraft, power generation and hydrocarbon extraction. The ECGD is currently considering increasing its footprint by investing in Shell’s $20 billion Sakhalin II project in Russia, which will emit 1.6 million tonnes of carbon dioxide in its life time, equivalent to three years of UK national emissions. In addition Sakhalin II will significantly disrupt marine life in the area.

**International Application of the MA**

**Question 5.** *How have international institutions adopted the findings and processes of the MA? Why has the World Bank been slow to respond to the MA? How should the findings of the MA be incorporated into the World Bank’s work?*

**Question 6.** *Are NGOs acting on the MA’s recommendations, particularly those involved in development and poverty reduction?*

**Question 7.** *How has business risen to the challenges identified in the MA? Has the MA been used in strategic business planning?*

**Question 8.** *How useful was the MA in addressing the assessment needs of a number of Multilateral Environmental Agreements such as the Convention on Biological Diversity?*

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9 [www.ecologicalbudget.org.uk](http://www.ecologicalbudget.org.uk)
Question 9. Were there any gaps or weaknesses in the MA? How should the MA be followed up? Are the mechanisms and expertise which were developed to create the MA now being lost due to a lack of confirmation of a formal follow up procedure?

WWF are actively using the MA, both as a fundamental aspect of our programme work, and as a central tool in our international policy work and lobbying. For example, the MA has been used in our lobbying on investments through the 10th European Development Fund, for a new thematic programme on environment and sustainable use of natural resources under external actions, and in the revision of the EU Sustainable Development Strategy 2006.

There are a number of international processes which require direct application of the MA, and would require UK Government support.

Recommendations: WWF recommendations for international application include:

— MA could be used in the UN reform process to give input to UNEP on the technical and scientific side.
— It can also assist with commitments through the Bali Strategic plan and requests from developing countries for more and better information through the Bali plan.
— It can be used as part of the basis for an IPCC version for biodiversity to inform policy making.
— EC and EU Member States should consider how to take the MA recommendations forward in terms of changes in policies, institutions and practices that would mitigate some of the negative consequences of pressures on ecosystems. For example, promoting good governance and sustainable management of natural resources and ecosystem services through development cooperation assistance in partner countries and the active participation in decision making of civil society in those countries. Or, for example, supporting the development and monitoring of indicators related to the contribution of ecosystem goods and services to poverty reduction.

There are a number of global challenges facing the world today, such as poverty and inequality, over-consumption in the north, biodiversity loss, climate change, security, population and resource scarcity. Degradation of the ecosystem is one of the major global challenges. These challenges are closely interconnected and cannot be viewed in isolation.

WWF, therefore, recommends that strategies to address ecosystem services, must be addressed along side the other global challenges. The implications of the MA on the achievement of the Millennium Development Goals, for example, has to be acknowledged, and action to support natural resource management as part of poverty reduction strategies must be recognised. This has been detailed in a recent briefing by the International Institute for Environment and Development (IIED).

Recommendation: Specifically there is a need to more closely align the MA and the Millennium Development Goals (in line with the IIED recommendations).

Recommendation: Finally, it is to be noted that a glaring omission from the MA is that it does not consider energy resources. As a key natural resource for economic development, ecosystem services supplying energy services must be included in future development of the MA.

October 2006

Annex 1

Millennium Ecosystem Assessment Survey of Initial Impacts, Walter Reid, March 2006 (extracted from executive summary):

— “Conventions: The MA has had a significant impact on the Convention on Biological Diversity and the Ramsar Convention on Wetlands. A substantial amount of MA information and material has been utilized in decisions and recommendations taken by both of these conventions. There has been less impact on the Convention to Combat Desertification.
— Regional, National, and Sub-national governments: Among governments, the impact of the MA appears to be greatest in regions and countries where MA sub-global assessments were conducted, including the Caribbean, South Africa, China, Sweden, and Norway, although significant impacts are also noted in regions and countries that did not undertake sub-global assessments such as the European Union, UK and France. At a national level, there is little evidence of impact among several other economically and politically influential countries, including the US, India, Japan, and Brazil.

— **Business:** The MA findings were well-received by business journalists but the impact to date in the business sector has been relatively limited. The most significant impact of the MA within business and industry is the incorporation of the concept of ecosystem services in the environmental policy issued by Goldman Sachs in November 2005. The World Business Council for Sustainable Development is also working with companies on MA follow-up activities.

— **Donors:** The MA has had a notable impact on multi-lateral (particularly GEF) and bilateral (particularly Scandinavian countries) donors and to a lesser extent on foundations.

— **NGOs.** The MA has had a notable impact on international conservation-oriented NGOs but much less impact on national NGOs. To date, there is no evidence of any impact on NGOs focused on development, poverty reduction, or health issues.

— **International Agencies.** All of the UN agencies involved in the MA process (UNEP, UNDP, FAO, WHO, and UNESCO) have incorporated the MA findings and process into their activities. There appears to have been no impact at all within the Bretton Woods Institutions.

— **Capacity Building.** The MA sub-global assessments and the MA fellows program were the primary mechanisms established by the MA to build assessment capacity and these were generally successful. A handful of additional training and capacity building activities have been established by partners and by experts involved in the MA.

— **Education.** MA materials are being used extensively in University courses and curricula. There is less evidence of use at other levels of education.

— **Scientific Research.** The MA is having a notable impact on research directions and priorities.