

A Consultation on the 2020
Challenge for Scotland's
Biodiversity:
An Analysis of Consultation
Responses

**A CONSULTATION ON THE 2020 CHALLENGE
FOR SCOTLAND'S BIODIVERSITY:
AN ANALYSIS OF CONSULTATION RESPONSES**

**Scottish Government Social Researchers: Rural and Environment
Science and Analytical Services**

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EXECUTIVE SUMMARY

This report presents the findings of an analysis of the consultation on the draft *Strategy 2020 Challenge for Scotland's Biodiversity* (hereafter referred to as 'the Strategy'), including the Environmental Report which accompanied it.

The Strategy builds on Scotland's Biodiversity Strategy of 2004 *It's in Your Hands*. It is Scotland's response to the European Union's Biodiversity Strategy for 2020 and to the Aichi Targets set by the United Nations Convention on Biological Diversity, which called for a step change in efforts to halt the loss of biodiversity and to restore the essential services that a healthy natural environment provides.

Consultation feedback will inform a strategy paper, which will constitute part of the Scottish Biodiversity Strategy, alongside its 2004 document.

The consultation took place between 6 July 2012 and 26 September 2012. In total, 76 consultation responses were received (30 from the third sector, 15 from local authorities, 19 from 'other' public sector, nine from individuals and three from the private sector).

In line with the aims of the consultation and the style of questions asked, responses were analysed using qualitative methods, with the aim of producing a report that represents the range of views submitted. It is therefore not appropriate to quantify the answers, although an indication is given of the balance of opinion and how often particular views were cited.

Main themes

A number of frequently recurring themes and points on the Strategy were evident within and across the responses to different chapter questions:

- A need to better specify how the Strategy will be delivered, including defining roles and responsibilities and timescales for key steps and actions.
- Concern about the intrinsic value of biodiversity compared to the Strategy's focus on economic valuation and benefits to the economy and people.
- A call to better recognise the conflicts of interest inherent within the Strategy and its delivery, and to provide mechanisms and guidance on how to manage these conflicts to deliver biodiversity improvements.
- The need for sufficient funding of the Strategy, including calls for reform of the Scotland Rural Development Programme (SRDP).
- The benefit of including an assessment of past successes and failures in relation to the 2004 Strategy in order to learn lessons for this Strategy.
- The need for greater recognition of existing work at local level and for the potential role of Local Biodiversity Partnerships in delivering the Strategy.
- Respondents noted ways in which they could support the delivery of the Strategy in their own work, including through partnership working and stakeholder engagement.
- A call for improved clarity and consistency of language and terminology.
- The need to better consider the role of farmed and cultivated biodiversity.

Key points by chapter

Chapter 1 Healthy ecosystems and ecosystem services

- Of the 65 respondents who commented on this chapter, the majority supported the overall approach proposed either in full or in broad terms. Most of those who voiced general support did however state qualifications to this or areas they felt required strengthening. A small number of respondents indicated a disagreement.
- Many respondents pointed out the likely conflicts of interest that would result from an ecosystem approach, given the complexity of ecosystems in relation to institutional and administrative boundaries, theoretical versus practical considerations, and biodiversity versus economic interests.
- Related to this, several respondents stated that the Strategy lacked mechanisms on how conflicts in delivery would be managed and improvements to biodiversity delivered.
- A number of other concerns were raised in relation to the ecosystem and associated services approach:
 - The problematic notion of ‘restoration’ of ecosystems, including which historical state should ecosystems be restored to.
 - The difficulties of placing a value on ecosystem services and a suggestion that the Strategy provide guidance.
 - A risk of detracting from those species and habitats that require special attention and protection and/or which have less direct economic value.
- Regarding the proposed catchment scale approach, a number of respondents pointed out difficulties between theoretical intentions and practical feasibility. This included: multiple stakeholders; complications arising from political and local development plan boundaries; the approach not recognising all ecosystems, including the limited value of the concept on islands; and that land managers are likely to base decisions on what is best for their estate rather than the catchment as a whole.
- Of the several respondents that commented on an adaptive approach to environmental management, around half stated supported for it. Others asked how such an approach will be ensured in practice and suggested the Strategy provide more detail with examples.
- Several respondents requested that the Strategy mention the Scottish Biodiversity Duty and what it requires of the public sector.
- Many respondents commented on the issue of funding, with most of these noting the need for sufficient resources to be identified to deliver the Strategy. More detailed comments made by several respondents included: past failures stemming from funding issues, including insufficient or poor use of funding, and the need to better target resources in the future; a call for biodiversity

partnerships to have dedicated funding so that valuable time is not taken away from delivery in chasing funding sources.

- A number of respondents highlighted issues with the Scotland Rural Development Programme (SRDP), including its complexity, its inability to process large applications at landscape scale from multiple landowners, the challenge in securing funding for small scale projects, and called for reform.
- A number of respondents expressed disappointment that the value of existing work, particularly by local biodiversity partnerships and forums, did not receive more recognition in the Strategy. Similarly, a number argued that the Strategy should provide guidance to ensure local work contributes to and is aligned with national priorities.

Chapter 2 Natural capital and resource use efficiency

- Of the 62 people who commented on this chapter, over half of respondents did not give a clear indication of whether they agreed or disagreed with the approach. The remaining respondents supported the overall approach proposed either in full or in broad terms, with only one respondent indicating a clear disagreement. Most respondents stated qualifications or areas they felt required strengthening.
- The most commonly cited concern, even by those who supported the chapter, centred on the economic valuation of biodiversity. They felt much more emphasis should be placed on the intrinsic value of biodiversity. Several respondents felt that the focus on economic valuation was short-sighted and risked compromising less economically valuable biodiversity.
- Several respondents argued that the Strategy does not adequately acknowledge the fundamental challenge of sustaining both economic growth and environmental integrity. On the other hand, several respondents supported the chapter's recognition of the economic contribution of biodiversity, insofar as it should engage diverse stakeholders and raise awareness of ecosystem services.
- Several respondents argued that creating a valuation system for natural resources does not equate to halting biodiversity loss, an increase in natural capital or sustainable economic growth, and that the Strategy must make clear such an approach is not a 'solution'.
- Several respondents agreed that natural capital assets should be incorporated into traditional accounting practices, with a few requesting that the Strategy provide more guidance on this.
- A number of respondents commented on the Natural Capital Asset (NCA) Index, several of whom supported it in principle or more fully. Others made a range of comments, including a few who thought its use premature given that it has not been peer reviewed and does not distinguish between stocks and flows.

- A number of respondents expressed support for the chapter's proposal to restore and manage peatlands.
- Many respondents to this chapter commented on biodiversity offsetting, with varying degrees of support: several respondents acknowledged its potential benefits, but few supported it outright. Most respondents suggested the Strategy err on the side of caution, highlighting the following issues:
 - If used, offsetting should be the last resort in the mitigation hierarchy.
 - The impossibility of recreating unique resource habitats and the issue of considering time in offsetting (for example, ancient woodlands, peatbogs).
 - Offsetting becoming a way for developers to avoid their responsibilities.
 - A number of issues and concerns with valuation.
 - The need for more knowledge/research about offsetting.
 - The need for offsetting guidance and good management.

Chapter 3 Biodiversity, health and quality of life

- Of the 61 respondents who commented on chapter three, just over half of the respondents supported the approach proposed either in principle or in broad terms. Most of those who voiced general support did however state qualifications or areas they felt required strengthening. A few respondents indicated a disagreement with the approach.
- A number of respondents felt that the chapter's emphasis on human health loses sight of the health of biodiversity.
- Several respondents noted that green spaces and biodiversity are not synonymous, and suggested that the Strategy explain this distinction. A few respondents noted that green spaces that are well maintained and attractive to people are not necessarily the richest in biodiversity.
- The notion that 'nature is for everyone' was supported by several respondents, who agreed that developing opportunities for disadvantaged groups is important.
- Several respondents noted the importance of improved public awareness and education about biodiversity, including through formal outdoor learning. A few respondents suggested that the Strategy should go further in explaining the importance of outdoor learning, including how it will be implemented.
- A number of respondents commented on funding, including the constraints imposed by limited or diminishing resources. A few respondents suggested the Strategy highlight the preventative benefits of investment in biodiversity.
- Several respondents suggested that the Strategy should recognise the need for more joined up thinking and collaboration, including across government,

between national and local organisations, and others outside of the conservation arena.

- In a similar vein, several respondents highlighted the value of existing work, and suggested that with enough resources and better coordination, the value of those projects could be harnessed.

Chapter 4 Wildlife, habitats and protected places – connecting nature

- Of the 63 respondents who commented on chapter four, the majority of these did not provide a clear indication of whether they agreed or disagreed with the approach. Around a third of respondents did express agreement in full or broad terms, but most of those did state qualifications to this or areas they felt required strengthening. A few respondents indicated overall disagreement.
- A number of respondents supported recognition of the intrinsic value of nature (paragraph 4.4.1). However, most of these respondents noted that this statement appears (too) late and only once in the Strategy. They recommended that it be made a focal issue.
- Many respondents commented on the Scottish Biodiversity List, around half of whom supported the Strategy's proposal to shorten the list. Several respondents meanwhile expressed concern or questioned the reasoning behind what they considered an *a priori* aim or supposition to shorten the list.
- Many respondents commented on issues related to the spectrum of connectivity – from ecological networks to individual habitat and species protection. Most of these respondents seemed to prefer an approach which aims to protect individual habitats and/or species within the wider context of an ecosystem approach.
- A number of respondents provided diverse comments on the subject of Invasive Non-Native Species (INNS), several of whom expressed support of the Strategy's proposal to implement new INNS legislation and to develop a catchment-based approach to control INNS.
- Several respondents commented on resource issues, including the statement in paragraph 4.3.8 that '...relatively little investment is needed to restore many natural systems back to full capacity.' Some of these respondents expressed disagreement or discomfort with the statement.
- A number of respondents commented on the importance of engaging with and taking into account the interests of land owners. These respondents mentioned different aspects of conservation programmes that should be developed with land ownership in mind.
- Several respondents commented on the Wildlife Management Framework, some of whom suggested the need for it to be developed or implemented with the engagement of different stakeholders.

- Several respondents expressed disappointment or concern regarding the Strategy's lack of reference to the role of Local Nature Conservation Sites (for example, Sites of Importance for Nature Conservation, Community Wildlife Sites).
- The subject of volunteering was mentioned by a number of respondents, all of whom agreed with its value and the importance of recognising it.
- Several respondents supported the chapter's references to geodiversity (paragraphs 4.3.7 and 4.3.9), with many stating that the Strategy needs to go further in explaining *how* geodiversity will be integrated into biodiversity thinking and land management.
- A few respondents requested that the proposed Code for Species Reintroductions take into account the views of stakeholders, including land managers.

Chapter 5 Land and freshwater use and management

- Of the 58 respondents who commented on chapter five, around half expressed broad support for the overall approach. However most of these respondents had further suggestions or areas that they felt required strengthening. Only one respondent disagreed outright.
- Several respondents welcomed this chapter as the first to cover specific actions with targets. Others felt that the chapter would benefit from a stronger focus on identifying clear objectives, and actions, and who would take them forward and by when.
- A number of respondents, including several local authorities, thought that the Strategy did not adequately address land management for biodiversity within an urban setting.
- Several respondents noted that the Strategy requires a clearer vision and guidance on how to manage conflict in land use.
- Whilst several respondents expressed their support for the SRDP as the main source of funding, some of these cautioned against sole reliance on the SRDP and noted that alternative funding sources should be identified. Others argued the SRDP would need to be simplified and targeted much more effectively if it was to deliver as the main funding source.
- Several respondents thought that further guidance and detail was required on how high nature value farming and forestry would be achieved.
- A few respondents felt that that the proposal to achieve and maintain good ecological status for all surface water bodies in Scotland is unrealistic and would incur excessive financial cost and economic penalties.

- Whilst a number of respondents supported the 100,000 hectares peatland target, several questioned the rationale for the figure.

Chapter 6 Marine and Coastal

- Of the 43 respondents who commented on chapter six, the majority of respondents supported the overall approach proposed either in full or in broad terms, but many stated caveats to this or gave further suggestions. A few respondents indicated an overall disagreement with the approach, largely because they felt the approach is not sufficient to achieve the stated outcome.
- Several respondents questioned the separate treatment of marine issues within the Strategy, noting the importance of recognising the interdependence of marine and terrestrial ecosystems.
- Several respondents noted that many of the key steps relate to existing legislative requirements and policy commitments, and some questioned what the strategy adds above and beyond these.
- Several respondents called for clear actions with associated targets and defined roles and responsibilities.
- A number of respondents commented on the proposed Marine Protected Areas designation. Of these, most voiced broad support for the designation in principle. However, a few suggested that there is a case for exceptions to be made for Scotland's islands.
- A few respondents questioned the effectiveness of the Maximum Sustainable Yield (MSY) model and opposed its inclusion in the Strategy. However, several third sector organisations argued that the MSY level should represent an upper limit rather than a target.

Chapter 7 Measuring Progress

- Of the 59 respondents who commented on chapter seven, many respondents agreed or broadly agreed with the approach. However, in around half of the responses it was not possible to determine whether respondents agreed or disagreed. In any event, most respondents suggested qualifications or suggestions for improvement. Only a few respondents disagreed outright.
- In the main, disagreement or qualifications were based on a perceived need for greater specificity and detail, particularly on targets and indicators and roles and responsibilities for delivery of the Strategy, including monitoring activities.
- Several respondents raised concerns about resource requirements and funding for the development of the indicator suite, and for monitoring and research of progress against the Aichi Targets.

- A range of other comments were made on indicators, including:
 - The importance of regular reporting on progress and achievement of targets.
 - The suggestion of including additional indicators, primarily relating to social evidence, but also on cultivated biodiversity, geodiversity and soil biodiversity.
 - The need for local level data on the indicators to inform local policy and action.
 - Concern over the omission or insufficient recognition of other sources of data, including the role of Local Record Centres.
- On the Scottish Biodiversity Information Forum (SBIF), a few respondents noted that it had already been established, so key step two should be altered accordingly. Several respondents made suggestions regarding the role of the SBIF, including a need for greater clarity and avoiding duplication of effort.
- Several respondents explicitly welcomed the promotion of citizen science. However, questions were raised about how data quality would be assured, with some encouraging the use of data collected by stakeholder organisations and research institutions. A few others noted that volunteer recording only lends itself to monitoring particular taxonomic groups, such as birds.

General questions

Seven outcomes for Scottish Biodiversity by 2020

- Of the 46 respondents who commented on question eight, a number did not respond directly on the outcomes but expressed a range of views on the strategy. The majority of the responses to question eight were broadly supportive, however, many also suggested qualifications or areas they felt required strengthening. A small number of respondents expressed disagreement.
- Many respondents expressed a degree of concern regarding the deliverability of the Strategy's outcomes, suggesting that the outcomes should be more specific and questioning *how* they are to be achieved.
- Several respondents argued that it is important for the Strategy to learn from past biodiversity successes/failures and for the outcomes to reflect lessons learnt.
- A few respondents suggested the need for the Strategy to list/state in detail the Aichi and EU biodiversity targets for 2020.

Equality issues

- Of the 16 respondents who commented on question nine, most of these stated 'no' when asked if there were any equality issues that the Strategy needs to address.

- A few respondents suggested that socially disadvantaged areas are likely to experience the most impact from biodiversity, whether positively through healthy/restored areas, or negatively as a consequence of biodiversity loss. Active engagement with under-represented groups was suggested.

Any other points on the Strategy

- Question 10 was addressed by 51 respondents. The majority were public sector respondents, who used this opportunity to comment on the Strategy as a whole, as well as to provide a wide range of suggestions to improve it.
- Many respondents raised concerns about the clarity and specificity of the key steps, actions and commitments, questioning *how* these will be delivered and by *whom*. Concerns were voiced by a number of respondents on funding.
- Several respondents commented on the overarching aims stated in the Executive Summary, with a number stating that the aim to ‘increase the general level of biodiversity...’ lacked clarity, with some questioning whether it is consistent with Aichi Targets. All who commented on this aim felt it would be more appropriate to include an explicit aim to ‘halt biodiversity loss’.
- Arguments in favour of including an assessment of past successes and failures with regard to the 2004 Strategy were made by several public and third sector respondents.
- There were calls from a number of respondents for greater recognition of the work and potential role of key stakeholders like Local Biodiversity Partnerships and Local Records Centres in the delivery of the Strategy.
- A few respondents felt that there was insufficient consideration of farmed and cultivated (plant and animal) biodiversity and associated genetic diversity in the Strategy and suggested how this might be addressed.

Strategic Environmental Assessment (SEA)

- Of the 24 respondents that responded to at least one of the questions in the SEA, most were supportive that the content provided an accurate description of the current environmental baseline. Several respondents provided suggestions to improve the environmental baseline.
- Most of those who responded to the SEA did not provide a clear indication of whether they agreed or disagreed with the conclusions on the environmental effects of the Strategy. Several respondents expressed their outright support of the conclusions, and slightly fewer disagreed with the conclusions.
- Only a small number of respondents noted that they were aware of ‘other reasonable alternatives to the Strategy that should be considered as part of the SEA process’.

1. INTRODUCTION TO THE CONSULTATION PROCESS

Introduction

1.1 This document sets out the findings from the responses received by the Scottish Government in response to the consultation on the draft Biodiversity Strategy, *2020 Challenge for Scotland's Biodiversity*.

The draft Strategy

1.2 The *2020 Challenge for Scotland's Biodiversity* set out three overarching aims:

- Increase the general level of biodiversity on land and in our seas, and support healthy, well-functioning ecosystems.

- Engage people with the natural world, for the health and wellbeing benefits that this brings, and empower them to have a say in decisions about their environment.

- Maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.

1.3 These aims are in response to the European Union's Biodiversity Strategy for 2020 and the Aichi Targets set by the United Nations Convention on Biological Diversity, which called for a step change in efforts to halt the loss of biodiversity and restore the essential services that a healthy natural environment provides. The aims also reflect the Scottish Government's purpose to increase sustainable economic growth and they draw together the seven outcomes of the Strategy. Corresponding to each of the seven outcomes are key steps.

1.4 The consultation document contained seven main questions, with two parts each (a and b), and three general questions relating to the following aspects of the draft Strategy:

- Healthy ecosystems and ecosystem services (Chapter 1)
- Natural capital and resource use efficiency (Chapter 2)
- Biodiversity, health and quality of life (Chapter 3)
- Wildlife, habitats and protected places - connecting nature (Chapter 4)
- Land and freshwater use and management (Chapter 5)
- Marine and coastal (Chapter 6)
- Measuring Progress (Chapter 7)
- General Questions (questions 8 Outcomes, 9 Equalities and 10 Any other comments)

1.5 The document also contained four questions on the accompanying Environmental Report (Questions 11-14), produced as part of the Strategic Environmental Assessment (SEA). A post-adoption SEA statement, which explains how the SEA process influences the final Strategy, is due to be published following the Strategy's publication.

1.6 The draft Strategy was launched for public consultation. Responses were requested by 26 September 2012 (a 12 week consultation period). The

consultation document was made publicly available in digital format on the Scottish Government website, with printed copies available on request¹.

- 1.7 In addition, an extensive email distribution list with over 200 names was used to give the consultation a wide circulation. Responses were invited by post, email or online submission, and a contact telephone number was offered for assistance. A number of public bodies and other stakeholders also advertised the consultation.

Aims and objectives

- 1.8 The aims of this project were to:
- Conduct a transparent, rigorous and systematic analysis of the written responses submitted to the consultation.
 - Synthesise and present the analysis in a succinct, high quality and accessible report.
- 1.9 To achieve these aims, the key steps of the project were to:
- Produce a database of summarised responses to facilitate analysis by questions and respondent type, as appropriate.
 - Identify types of respondent and allocate them to sectoral response categories agreed with the policy team.
 - Analyse the responses, ensuring that the full range and nature of views submitted is considered and presented in a balanced way.
 - Interpret and report findings from the consultation, drawing out themes and noting any clear patterns by sector.
- 1.10 During the consultation, Scottish Government officials attended a wide range of stakeholder meetings to discuss the draft Strategy. This analysis does not consider any material captured at these meetings, unless it was submitted as a consultation response; this was made clear to stakeholders at the meetings in advance. These events were generally focused on informing consultation responses, and points otherwise made at the meetings were considered directly by the officials.
- 1.11 All written responses to the consultation were analysed and the report written by a team of Scottish Government analysts within Rural and Environment Science and Analytical Services (RESAS), including an Economic and Social Research Council (ESRC) PhD intern.
- 1.12 This report is intended to represent the full range of views submitted, as far as is possible given the great diversity, complexity and length of the content of responses. The report will allow policy makers to consider how the perspectives of the various respondents should influence the further development of the Biodiversity Strategy in order to report stakeholders' views to Scottish Ministers. The report will also provide respondents and other interested parties with evidence that responses have been systematically analysed.

¹ <http://www.scotland.gov.uk/Publications/2012/07/5241>

Respondents and responses

1.13 In total, 76 written responses to the consultation were received, of which the break down by respondent type is listed below in Table 1.1.

Table 1.1: Respondents by category

Respondent type	Number
Public sector: local authorities	15
Public sector: Other	19
Private sector	3
Third Sector	30
Individuals	9

1.14 A full list of respondents is located in Annex A. The responses to the consultation can be accessed at

<http://www.scotland.gov.uk/Publications/2012/10/4771/downloads>

1.15 As well as their own response, the Royal Society for the Protection of Birds (RSPB) Scotland also submitted a copy of Scottish Environment Link's response and asked for it to be treated as part of the RSPB response. Scottish Environment Link noted that their own response was supported by eight environmental organisations (listed in Annex A) including RSPB Scotland. One of these organisations, Plantlife Scotland, also responded separately to the consultation. RSPB Scotland, Scottish Environment Link and Plantlife Scotland responses have been counted as three separate responses. The supportive organisations in Scottish Environment Link's response have not been counted and treated as separate responses for the purposes of the analysis, but their support is noted here.

Responses and analysis

1.16 The purpose of the consultation was to find out what stakeholders thought of the Strategy and the various proposals contained within. The consultation questions were specifically worded to be as open as possible, in order to give respondents the opportunity to record the range of their views. The analysis has therefore been undertaken in line with this, i.e. using qualitative methods, to produce a report that represents the range of views submitted. It is therefore not appropriate to quantify the answers, although an indication is given of the balance of opinion and how often particular views were cited. As a guide, the term 'many' is used when around a third or over of respondents to a question cited a particular view. Other terms such as 'a few' and 'several' are used in line with their common understanding and dictionary definitions.

1.17 Responses were analysed by chapter rather than by question type. This is because there was often little distinction in terms of how respondents approached each question type (i.e. respondents tended to provide a similarly diverse range of comments for both 'a' and 'b' questions). These chapters provide the structure for this analysis report. Where an indication of the balance

of opinion is given at the start of each chapter, this is made with reference to the number of responses to the 'a' questions, which were higher than the 'b' questions.

- 1.18 Several respondents commented by topic or in an essay-like format, and not by question. These 'free-form' comments were assigned to the appropriate chapter(s) when it was obvious which chapter(s) they referred to. Otherwise, if it was not obvious, or if the comments made referred more generally to the Strategy as a whole, these responses were assigned to question 10 ('are there any other points you wish to make?').
- 1.19 There was a significant diversity of comments, as well as recurrent themes which emerged across chapters. Two of the 'general questions' (8 and 10) resulted in a particularly diverse range of responses. While it is important to ensure that the views of all respondents are reflected in the reporting of findings, naturally it is impossible to include every comment made. However, significant effort has been made to include the various perspectives on all of the main themes identified in the analysis.
- 1.20 Three third sector respondents² listed a number of largely consistent and specific amendments to the key steps and chapter outcomes, including suggesting additional and alternative key steps. One respondent also submitted a range of specific actions which had already been submitted to the Scottish Government as part of an earlier (March 2012) response. The additional key steps are referred to at the end of each relevant chapter. The responses which contain the full list of suggested changes can be accessed on the Scottish Government's website (see link in paragraph 1.14 above).
- 1.21 It is important to note that a consultation is open to anyone to respond, rather than being based on a representative sample of people. Consequently, the responses are not necessarily representative of the views of the general public or particular sectors, either in terms of the range or the balance of views. This report is not a reflection of Ministers' opinions, and does not represent an indication of the way forward

Factual accuracy

- 1.22 The views presented in this analysis have not been vetted in any way for factual accuracy. The opinions and comments submitted to the consultation may be based on fact or may be based on what respondents perceive to be accurate but which others may interpret differently. It is important for the analysis to represent views from all perspectives. The report, therefore, may contain analysis of responses that are factually inaccurate or based on misunderstanding or misinformation on the issues but nevertheless reflect strongly held views.

² Scottish Environment Link, RSPB Scotland and Plantlife Scotland.

2. HEALTHY ECOSYSTEMS AND ECOSYSTEM SERVICES

Questions

Q1a) Does chapter 1 propose the right approach to reach the outcome that Scotland's ecosystems are restored to, and maintained in, healthy condition so that they deliver robust ecosystem services and build Scotland's natural capital?

Q1b) What additional steps can you propose, including things that you, or your organisation, can do?

Outcome

Scotland's ecosystems are restored to, and maintained in, healthy condition so that they deliver robust ecosystem services and build Scotland's natural capital.

Key steps

Encourage and support ecosystem restoration and management, especially in catchments that have experienced the greatest historic degradation.

Using assessments of ecosystem health at a catchment level determines the priorities for building natural capital and identify where action is required.

Found plans and decisions about land use on an understanding of ecosystems, and take full account of land use impacts on the ecosystems services which underpin social, economic and environmental health.

The responses

- 2.1 Sixty five people commented on question 1a, whilst 64 respondents commented on question 1b. The majority of respondents supported the overall approach proposed either in full or in broad terms. Most of those who voiced general support did, however, state qualifications to this or areas they felt required strengthening. Another fairly large set of respondents provided comments but did not give clear indication of whether they agreed or disagreed with the approach. A small number of respondents indicated an overall disagreement with the approach.

Ecosystem approach

Conflicting political and administrative priorities

- 2.2 Many respondents pointed out the likely conflicts of interest that would result from an ecosystem approach, given the complexity of ecosystem and catchment scales operating across political, administrative and institutional boundaries. Several respondents pointed out the diversity of stakeholders inherent to an ecosystem approach, making collaboration and coordination all

the more important but challenging (for example, across local-regional-national institutional and geographic scales, different sectors, government departments, local biodiversity partnerships and networks, etc).

Conflicting land use priorities

- 2.3 Several respondents pointed out the reality of different land use interests and that people own and manage land for different reasons. One respondent also noted that land managers generally manage estates, not catchments, which has consequences for the take up of the Strategy. Several respondents suggested that the Strategy needs to recognise the likelihood of varying human interests and/or conflicting priorities inherent to an ecosystem approach, and that the Strategy should provide mechanisms and practical guidance as to how such conflicts may be overcome in order to deliver the intentions of the Strategy.

Specialist knowledge

- 2.4 Several respondents highlighted areas of specialism and suggested that they be better recognised in the Strategy. The following areas of specialism were cited: land managed for shooting; productive forestry; National Park designations; game bird management; geodiversity; farmed and cultivated biodiversity; historic environment; business and industry.

Ecosystem health

- 2.5 Several respondents commented on ecosystem health. A few of these respondents noted the challenge of expressing, measuring and/or defining ecosystem health, arguing that more research is needed. A few respondents pointed out that the steps listed in paragraph 1.5.1 are not actually steps to improve ecosystem health, but rather, steps which must be taken *before* being able to improve ecosystem health. On ecosystem health, a few respondents pointed out the implications of conflicts of interests, asking what is meant by ecosystem health and *who* will deliver an assessment of ecosystem quality.

Concept of restoration

- 2.6 Several respondents commented on the chapter's reference to restoration, a few of whom argued that as a concept it is flawed because it does not recognise the dynamic state of nature. For example, referring to the future, a few respondents noted that new and different natural systems will emerge because that is simply how nature works, but even more so in the context of climate change. Similarly, referring to the past, a few respondents questioned the desirability or feasibility of restoring ecosystems, given the dynamic nature of ecosystems and changes in the overall economy. A few respondents argued that the Strategy does not adequately reflect these uncertainties and fluctuations when it refers to the notion of restoration and ecosystem health, which one respondent described as a 'moving target'. One respondent suggested that the Strategy should reference 'creation' rather than 'restoration' where there is no habitat remaining to restore.

Ecosystem services

Ecosystem services and biodiversity are not synonymous

2.7 A number of respondents commented on the relationship between ecosystem services and biodiversity. Several of these respondents thought that the Strategy infers a perfect association between ecosystem services and biodiversity – a point with which they all disagreed and suggested be clarified in the Strategy. A few other respondents meanwhile pointed out that ecosystem services can be achieved independently of large amounts of biodiversity and similarly, that more biodiversity does not necessarily equate to more or better ecosystem services. Illustrating this point, they highlighted man's management and control of biodiversity in agriculture (for example, pest and disease control).

Ecosystem services in conflict with biodiversity

2.8 It was noted that not only are ecosystem services and biodiversity not synonymous, they may be in conflict and therefore the Strategy should include mechanisms to manage those conflicts and establish priorities, including species protection. A few respondents noted that a focus on ecosystem services may come at a cost to biodiversity, insofar as it risks diminishing the value of habitats and species that do not appear to provide obvious or direct services to humans (for example, those which are more remote to humans). A few respondents suggested that the Strategy include mechanisms to conserve biodiversity in its own right, not just for the services it provides, and to explicitly state that biodiversity is a fundamental component to the ecosystem approach, including ecosystem health and ecosystem services. This suggestion - that more emphasis be placed on biodiversity's intrinsic value - was suggested by other respondents to this chapter, although not directly in the context of ecosystem services.

Valuation

2.9 Several respondents provided diverse comments on the subject of valuation. A few of these respondents suggested the need for accounts to distinguish between stocks and flows of natural capital and its services. One respondent argued that a consistent national approach to accounting is necessary, and as a model, recommended the United Nations Wealth Accounting and the Valuation of Ecosystem Services (WAVES). A few respondents disagreed with paragraph 1.1.2's assertion that the UK National Ecosystem Assessment (UKNEA) represents a full account of the value of the UK's ecosystem services, with one respondent noting that the Assessment itself acknowledges that many services cannot be valued monetarily or non-monetarily. This point - the difficulty or uncertainty of valuation - was mentioned by a few other respondents, one of whom cited cultural services and spiritual feelings as biodiversity values that are difficult or impossible to value or quantify. Another respondent cautioned against the Strategy skewing towards the socio-economic and away from the environmental, suggesting that the Strategy emphasise the intrinsic value of biodiversity from the outset in order to better direct the way in which it is valued and measured. A general suggestion was made for guidance on valuation.

Developing an ecosystem approach

Catchments and ecosystem types

2.10 A number of respondents commented on the catchment approach. Several of these respondents argued that the catchment approach and/or River Basin Management Plans (RBMPs) would not be appropriate for all areas, with a few noting their unsuitability for islands. A few respondents commented on catchments in relation to water, with one noting that the term 'catchment' only seems to reflect watercourses and not other ecosystems such as woodlands and grasslands. Another respondent suggested the Strategy clarify that RBMPs provide information on coastal and transitional waters and that freshwater in this context includes groundwater, rivers and lochs. Other issues highlighted included: making clear the special connections between river catchments, coastal and marine environments; the idea of a pilot-scheme to develop the 'catchment-by-catchment' proposal in paragraph 1.4.4; and a request for clarity and consistency regarding terminology, including the need to distinguish between the various operating scales mentioned in the Strategy, such as 'landscapes' versus 'catchments'.

Catchments and boundaries

2.11 Several respondents commented on the challenge of negotiating a catchment approach with political and administrative boundaries. Suggestions in response to this included: engaging stakeholders; the Strategy providing local guidance, developing sector specific initiatives and realigning local biodiversity areas.

2.12 Several respondents, half of whom were local authorities, suggested 'opportunity mapping' as a means to help identify area and funding priorities.

River Basin Management Plans (RBMPs)

2.13 Although a few respondents seemed supportive of a catchment approach, a few believed RBMPs will not deliver, or are in conflict with, an ecosystem approach. A few respondents described RBMPs as aspirational, having had limited impact and crossing local authority boundaries. Several respondents recommended that the Strategy specify how RBMPs will be improved and how they will deliver the outcomes of the Strategy.

Appraisal of development

2.14 Several respondents commented on paragraph 1.4.4 and disagreed with its statement regarding 'less demanding appraisal' of development.

Adaptive management

2.15 Several respondents commented on the topic of adaptive management, around half of whom supported its principles. Other respondents provided more detailed comments or suggestions but without a clear indication of support. For example, one respondent argued that the application of adaptive management for designated sites is challenging because of their existing procedures. Another suggested that the Strategy specify who it is referring to when it states 'we' in the context of adaptive management, whilst another suggested it should provide examples. How the government will ensure that adaptive management

occurs in practice and is not prevented by, for example, agri-environment schemes within the SRDP, was raised by another respondent.

Existing local biodiversity work and national leadership

2.16 A number of respondents commented in relation to existing local work on biodiversity. Several respondents noted the chapter's lack of reference to the Scottish Local Biodiversity Action Plan (LBAP) Network, its Partnerships and Forums, which they argued should contribute to national priorities, in part because they are composed of both local government and non-governmental organisation (NGO) members. They argued that this work is vital and that it should be recognised as such in the Strategy. A few respondents suggested that existing local work should be built upon, for example, by focusing on projects and places already identified as priorities for action, or by using existing data.

2.17 The connection between local and national levels of biodiversity action was stressed by a number of respondents. All of these argued that the Strategy must provide guidance to ensure local work contributes to and is aligned with national priorities. For example, a few respondents suggested the need for the Strategy to clearly communicate local-level practical actions in the context of national priorities.

Scottish Biodiversity Duty

2.18 Several respondents commented on the Scottish Biodiversity Duty, one of whom asked if there is any evidence of its effectiveness, whilst another suggested it needs to go further in requiring public sector bodies to report on their biodiversity actions. The other respondents suggested that the Strategy mention the Duty and what it requires of the public sector.

Central Scotland Green Network (CSGN)

2.19 Several respondents commented on and broadly expressed their support of the Central Scotland Green Network (CSGN). A few of these respondents believed this type of project should be extended, and another felt it was over-emphasised at the expense of other areas. Others commended the CSGN for achieving collaboration across boundaries and varying land interests.

National Ecological Network (NEN)

2.20 Several respondents commented on the National Ecological Network (NEN) and expressed support for its development. A few respondents asked if it will be extended, with one respondent suggesting it should no longer focus only on the Scottish central belt. Another respondent suggested the need to complete a habitat map of Scotland in order to inform the development of the NEN. One respondent noted that the Strategy does not explain what actually constitutes a NEN, while another suggested the importance of highlighting wetland networks (and not just 'green' networks).

Overarching comments

Indicators

2.21 Several respondents commented on the Strategy's proposal for six to twelve broad indicators (paragraph 1.6.2). Issues raised included: such an approach could fail rare and threatened species which either may not be an economic priority, and/or which may need more detailed attention; the goal should not be a simple or arbitrary approach, but rather, an effective one; there should be a mechanism in place to establish the consequences of these indicators on biodiversity; and, broad indicators be broken down and made more precise and measurable.

Resources and Scotland Rural Development Programme (SRDP)

2.22 Many respondents commented on the issue of funding, with most of these commenting on the need for sufficient resources to be identified to deliver the Strategy. More detailed comments made by several respondents included: past failures stemming from issues with funding, including not enough funding or poor use; the need to better target resources; and a call for biodiversity partnerships to have dedicated funding so that valuable time is not taken away from delivery in chasing funding sources.

2.23 Many respondents, including local authorities, commented specifically on the Scotland Rural Development Programme (SRDP) and called for reform. Issues highlighted included: its complexity; that it cannot process large single bids at landscape scale from multiple landowners and therefore may compromise the ecosystem and landscape scale approaches; and the challenge of securing SRDP funding for small scale projects.

Learning from the past

2.24 Several respondents commented on the Strategy's failure to recognise and assess previous experiences, successes and failures on work to improve biodiversity. All of these respondents suggested the need for the Strategy to learn from past efforts, with a few adding that this was especially important given that the 2020 target is the same as the (unmet) 2010 target. A few respondents recommended such an assessment should be the starting point of the Strategy.

Level of detail

2.25 A number of respondents commented on the chapter's level of detail, all of whom agreed that it is insufficient and should be made more specific. Of these respondents, many described the chapter as vague or unclear in terms of how outcomes are to be achieved. Several respondents suggested the need for specific timescales and reporting structures, i.e. a more defined delivery plan. Several respondents also commented on the need to clearly state who is responsible for what, especially given the diversity of stakeholders involved and the need for their collaboration.

Terminology

2.26 A number of respondents commented on the chapter's use of terminology, all of whom suggested a need for greater clarity, consistency and/or explicit

definitions. A few of these respondents cited examples of inconsistency or confusing use of terminology, such as nature versus biodiversity; landscape versus catchment scale; and environmental capital versus natural capital.

Other comments

2.27 Many respondents, from all respondent types but particularly the public sector and the third sector, noted ways in which they could, or already were, supporting delivery of the Strategy. These included:

- Highlighting examples of their own work which promotes biodiversity, for example, guidance for planners on how to apply the ecosystem approach to planning. This encompassed work which could provide and improve research data and evidence, for example, monitoring and surveillance of certain species.
- Varied examples of existing partnership working, including communication with wider audiences, and offers to contribute to further partnership working.
- Incorporating the Strategy's objectives into policy and management plans.

2.28 Alternative key steps were proposed by several respondents; some of these consisted of amendments to those proposed in the Strategy, however others suggested inclusion of additional key steps. Changes to the key steps were generally aimed at making them more specific and measurable. Three third sector respondents provided the same additional key steps, which are listed below. These bodies also stated that public lead bodies required to be identified for each habitat type and for each key step, alongside appropriate and adequate resources.

- Meet requirements of the Water Framework Directive and Marine Strategy Framework Directive.
- All land use decisions and plans result in no net loss of important wildlife and habitats, based on an understanding of ecosystems, and take full account of land use impacts on the ecosystems services.
- Complete the "habitat map of Scotland" creating for the first time a map of habitats across Scotland to inform long term development of the National Ecological Network and identifying and defining areas of High Nature Value (HNV) farming and forestry.
- Develop the National Ecological Network, (is this just terrestrial or also marine?), a long term project to restore health and connectivity to Scotland's ecosystems.

2.29 Other points highlighted by a few respondents were:

- The Strategy's imbalance of focus on rural areas and the need to make reference to the unique circumstances of biodiversity in urban areas.
- The suggestion that an ecosystem approach should not obscure the ongoing need to protect individual habitats and species.
- The importance of monitoring the ecosystem approach.

3. NATURAL CAPITAL AND RESOURCE USE EFFICIENCY

Questions

2a) Does chapter 2 propose the right approach to reach the outcome that natural resources contribute to stronger sustainable economic growth in Scotland, and we increase our Natural Capital to pass on to the next generation?

2b) What additional steps can you propose, including things that you, or your organisation, can do?

Outcome

Natural resources contribute to stronger sustainable economic growth in Scotland, and we increase our Natural Capital to pass on to the next generation.

Key steps

Encourage wide acceptance and use of the Natural Capital Asset Index, including an index measure for the marine environment.

Inform decision-making and market-based approaches using established values for ecosystem services.

Begin a programme of peatland restoration and management, as recommended by the IUCN UK Commission of Inquiry on Peatlands.

Explore the potential for greater use of 'offsetting' to secure benefits for biodiversity whilst minimising costs to business.

The responses

- 3.1 Sixty two respondents commented on question 2a, whilst 49 commented on question 2b. Over half of respondents did not give a clear indication of whether they agreed or disagreed with the approach. The remaining respondents supported the overall approach proposed either in full or in broad terms, with only one respondent indicating a clear disagreement. Most people who commented either way did however state qualifications to this or areas they felt required strengthening.

Economic focus

- 3.2 A number of respondents commented on the economic valuation of nature and on this being the focus of chapter two. Several of these respondents argued that it is a matter of emphasis – that either too much of the chapter's emphasis is placed on economic concerns, or that not enough it is placed on non-

economic values, with some concern that a strong economic focus risks losing sight of biodiversity. One respondent pointed out that the EU biodiversity strategy explicitly recognised the intrinsic value of biodiversity, while another argued that it is critical for the Strategy to include mechanisms to protect the social, cultural, moral and aesthetic values of biodiversity. That such non-markets values are difficult or impossible to express in monetary or quantified terms was noted by a few respondents.

- 3.3 A few respondents suggested the use of the precautionary principle in order to help capture both market and non-market values of biodiversity, with one respondent suggesting the principle be defined in the Strategy.

Sustainable economic growth

- 3.4 Several respondents commented on the challenge of and conflict between simultaneously sustaining economic growth and environmental integrity, as well as economic growth and biodiversity. A few respondents suggested that the Strategy should address this fundamental conflict. For example, it was noted that for some, natural capital may be seen as getting in the way of economic development, whilst for others it may be difficult to accept the monetary valuation of nature. Another respondent suggested the Strategy should acknowledge that some activities which lead to economic growth do in fact exploit biodiversity. Similarly, a few respondents suggested recognising that natural capital is dependent on healthy ecosystems. Others pointed out that planning laws can override legislation designed to protect designated sites and asked if this contradiction had been considered.
- 3.5 In a similar vein, several respondents questioned or disagreed with the notion of sustainable economic growth (expressed in the chapter's outcome). One respondent argued that it is not clear what sustainable economic growth actually looks like, pointing out the confusing contradiction of state owned forests being cleared for wind farms, and arguing that government must lead by example and show how it encourages/discourages (un)sustainable growth. Similarly, another respondent felt that the term 'sustainable economic growth' has lost much of its meaning and asked if it is even possible in a world of finite resources, suggesting a more appropriate aim may be greater equity in sharing resources. Another alternative aim suggested was zero economic growth, given that growth cannot continue with finite resources.
- 3.6 On the other hand, several respondents supported the chapter's recognition of biodiversity's contribution to the economy. A few respondents stated that this recognition may increase awareness of biodiversity which one respondent noted, may in turn result in improved biodiversity itself.

Natural capital

Natural capital valuation

- 3.7 Several respondents commented on the relatively short-term focus of economic goals and natural capital valuation and how this conflicts with and may compromise biodiversity, which requires a long-term perspective. A few respondents noted that the valuation process itself will require time, whilst another respondent noted that Environmental Impact Assessment (paragraph 2.3.1) may not incorporate a long-term view and still permit the depletion of natural capital.
- 3.8 Several respondents argued that merely creating a valuation for natural resources does not equate to halting biodiversity loss, an increase in natural capital or sustainable economic growth, i.e. it is not a solution in itself, but rather a tool. Furthermore, one respondent noted that an increase in natural capital does not necessarily equate with an increase in biodiversity. In a similar vein, another respondent cautioned that the chapter's framework will result in certain ecosystem services being more highly valued than others just because they are perceived to have greater human (including economic) benefit.
- 3.9 Other issues raised in relation to natural capital valuation included: a question over how the exploitation of resources for short-term economic gains sits with 'resource efficiency' in paragraph 2.4; that considerable and coordinated research is needed; that valuation information be used as only one of many lines of evidence to inform policy; a suggestion to provide examples of natural capital valuation; and to explicitly recognise that natural capital includes farmed and cultivated biodiversity.

Accounting

- 3.10 A number of respondents agreed with the Strategy's suggestion that the value of natural capital be incorporated into accounting practices and provided diverse comments. A few of these respondents noted the Strategy's lack of explanation as to *how* businesses could be convinced to start focusing on environmental accounting rather than Gross Domestic Product (GDP). A few respondents also stated that natural capital accounting will be useful for green networks. Other comments included: the need for research on the implementation of natural capital accounting; the change in culture and perception that will be required to make this transition and that few organisations have the knowledge to undertake this; and the challenge posed by an economist's need for tangible, compartmentalised and itemised units which are rare or do not exist ecologically.

Stocks versus flows

- 3.11 Several respondents highlighted the importance of differentiating between changes in natural capital stock versus its totality, and argued that the Strategy must make this distinction clear. A few respondents argued that what is needed is a focus on the pressures being exerted on natural assets and the responses to those (i.e. flows). Another respondent on the other hand argued that it is stocks of capital that need to be sustained, and not flows per se. One

respondent pointed out that confusion on this matter has resulted in the over-exploitation of fish stocks.

Natural Capital Asset Index

3.12 A number of respondents provided diverse comments on the Natural Capital Asset (NCA) Index, several of whom supported it in full or in principle. However, a few others were concerned that it is being prematurely promoted given that it has not been peer-reviewed and does not seem to distinguish between stocks and flows. One respondent stated that the NCA Index relies heavily on expert judgement and personal opinion and has no assessment of confidence intervals around estimates, whilst another suggested it should be considered a work in progress in need of research. Additional comments on the NCA Index, each made by one or two respondents were:

- To set the NCA Index's baseline at historic levels and not the current all time low.
- Priority should be given to the establishment of an asset register and Natural Capital Index accounts.
- A suggestion to note the quite different approaches of the UK National Ecosystem Assessment (UK NEA) and The Economics of Ecosystems and Biodiversity (TEEB) reports before implementing a NCA Index.
- Connecting with similar efforts on a NCA Index in England.
- It should include farmed and cultivated genetic diversity.

Subsidies

3.13 Several respondents commented in relation to subsidies and agreed with the proposal (paragraphs 2.9 and 2.3.1.3) that subsidies will be reformed in order to support sustainable rather than unsustainable practices. One respondent added that an important part of this will be a re-orientation of values and a greening of the SRDP. Another suggested that these subsidies should not only support the *building* of natural capital (as stated in paragraph 2.9) but also its conservation. One respondent asked for reassurance against the subsidising of private or charity-based single focus organisations or groups who may restrict or prohibit access to traditional hunting areas.

Offsetting

3.14 Many respondents to this chapter commented on biodiversity offsetting, with varying degrees of support. Several respondents acknowledged its potential benefits, but few supported it outright. Most respondents suggested the Strategy err on the side of caution and described a number of issues associated with offsetting.

3.15 Of those respondents who expressed some degree of support for offsetting, one respondent noted that it may help developers to better understand the adverse effects of their actions, or perhaps even to make them proud of the habitats they create.

3.16 However, a number of respondents argued that offsetting should only be seen as the last resort in the mitigation hierarchy, following avoidance, minimisation and onsite mitigation. Several of these respondents suggested that this point

and the hierarchy itself be made clear in the Strategy, with a few respondents noting that it is currently lacking. A number of respondents also cautioned against offsetting because it could become a way for industries to avoid their responsibilities.

3.17 The varied issues highlighted by respondents in relation to offsetting are described below.

Offsetting and unique resources

3.18 A number of respondents commented on the impossibility of recreating habitats or offsetting substituting for the 'real thing'. A few respondents cited peatbogs and ancient woodlands and the historic environment more generally, as examples, and described them as irreplaceable. A few other respondents linked the irreplaceability of biodiversity with attempts to value it in monetary terms, with one respondent arguing that offsetting value is dependent on uniqueness, whilst another argued that nature is priceless and therefore should not be commoditised. Another respondent argued that no amount of mitigation or money will change loss to biodiversity. There was also a concern about the message offsetting may give regarding the importance of protecting valuable habitats.

Offsetting and the importance of time

3.19 A number of respondents highlighted the importance of time in relation to offsetting. Several of these respondents cited specific examples, such as peatbogs which have taken millennia to develop, or ancient woodlands being replaced (offset) with new planting. They argued that the age of different biodiversity has various implications, including its ecosystem and ecosystem services value. Similarly, a few respondents argued that offsetting must be considered on very long term timescales.

Offsetting and geographic scale

3.20 A number of respondents commented on offsetting in relation to appropriate geographic scale. Several of these respondents described the requirement of offsetting to specify a 'defined' area, whereas a few respondents stressed the importance of scale based on ecological networks and connectivity. A few other respondents noted that some places will simply be off-limits to offsetting and/or just not available when and where offsetting is being considered. Several respondents felt that offsetting should take place in a local area, with a few of them specifically stating that offsetting should deliver local benefits. One respondent asked whether offsetting funds are intended to remain local, while another felt that on-site solutions, such as green roofs or green walls, should be possible in most cases, and if not, that a site is being overdeveloped. Another respondent suggested that if used, offsetting benefits should focus on local or national priority habitats and species. This respondent also noted the difficulty of determining potential impacts at different scales, and that to do so would require considerable additional resources (for example, time, data) that may not exist.

Offsetting valuation

- 3.21 A number of respondents provided diverse comments in relation to offsetting valuation, although all of them expressed concern about this process. A few of them cited the limitations and uncertainties of valuation, including the potential for ineffective or counterproductive trading, for example, valuation of multiple benefits or high value biodiversity losses being traded for low value biodiversity gains. One respondent suggested the need for compensation arrangements to be flexible enough to enhance biodiversity rather than simply assume like-for-like trading (for example, replacing trees felled with new planting) would be the most beneficial. Several respondents stated that offsetting must result in a net positive benefit for biodiversity, rather than a reduced or net loss.
- 3.22 A few other respondents argued that financial pressures may skew valuations, with one of these respondents expressing concern that offsetting could be used inappropriately as a sort of development tax to compensate for the limited resources of local authorities. They described an increased tendency for developers to have to deliver biodiversity offsets significantly over and above the level of impact. Instead they suggested that offsets should equate to the loss of habitat and nothing more, and that any offsetting provider should have a credible track record (for example, the Wildlife Trust's Biodiversity Benchmark accreditation). A few other respondents expressed concern that nature could be perceived as just another commodity, which can be destroyed or traded for a nominal sum.

Offsetting and research

- 3.23 A number of respondents suggested the need for more research into biodiversity offsetting. A few respondents described this area as emerging and with insufficient scientific evidence, with one respondent arguing that the policy drive towards biodiversity offsetting and natural capital valuation is well ahead of research. Several respondents specifically suggested the need to commit funding for research into biodiversity offsetting, including pilot projects. A few other suggested lessons should be learnt from offsetting in other policy areas (for example, climate mitigation).
- 3.24 Several respondents noted that offsetting schemes are already in place outside of Scotland, and a review of these schemes was suggested by a few respondents. A few other respondents cited England's trial offsetting scheme.

Offsetting management and guidance

- 3.25 Several respondents provided diverse comments broadly related to the management of offsetting schemes, such as their monitoring, enforcement, transparency, accountability, legislation, partnerships and assessment of risk. One respondent suggested that biodiversity offsetting be regulated by Scottish Natural Heritage (SNH) and another argued that as a blanket policy, offsetting would be difficult to manage.
- 3.26 A number of respondents suggested the need for offsetting guidance, with several of them stating that this guidance should be standardised, national, strict, robust, and/or clear. One respondent mentioned the offsetting principles

within The Lawton Review's 2010 *Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network*.

Offsetting and wind farms

3.27 Several respondents referred to wind farms when expressing their concerns about biodiversity offsetting. For example, a few respondents expressed their concerns over offsetting valuation and the need for coordination and further research by pointing out that state owned forests and areas of peat are being compromised for wind farm development.

3.28 Other comments made by one or two respondents on offsetting included:

- The suggestion that offsetting could be used to help increase connectivity of fragmented habitat (in response to paragraph 2.5.3).
- The need for biodiversity offsetting to recognise the role of geodiversity.

Peatlands

3.29 A number of respondents commented on and expressed support for the Strategy's proposal to restore peatlands. However, a few respondents expressed concern about how such a programme would sit alongside others. For example, one respondent questioned the effects of peatland restoration on targets for woodland expansion, whilst another noted that peat areas are being damaged by wind-farms. A few respondents argued that the development of a peatlands programme will require working with landowners. Other comments included:

- The Strategy should provide more details about *how* such a programme will work in terms of timescales and responsibilities.
- That peat (and high carbon soils) be prioritised as significant assets and that awareness and understanding of them is improved, including the provision of guidance.
- The Strategy should mention that there are other international and national priority habitats (for example, those in the UKBAP).
- The suggestion to strengthen the peatlands programme by cross-referencing it with the Land Use Strategy and 2009 Climate Change Act.
- Appropriate funding will be needed for any peatlands programme.
- Peat Carbon and Woodland Carbon Codes (paragraph 2.3.1.3) would not work to the same timescales.

Funding and delivery

3.30 Several respondents provided diverse comments on the topic of funding. A few of these agreed with the need to update the SRDP. A few others stated the need for funding more broadly, including one respondent who suggested increased resources for research into farmed and cultivated genetic resources.

3.31 Several respondents argued the need for a greater level of practical detail in terms of the chapter's implementation and that it should include time bound actions and responsibilities.

Other comments

3.32 A number of respondents noted ways in which they could, or already were, supporting delivery of the Strategy. These included:

- Highlighting examples of their own work which promotes biodiversity and the approach outlined in the chapter, including research and education with landowners; their own offsetting work in woodlands and the work of the Crichton Carbon Centre; work with SNH to explore taking an ecosystem approach to the Biosphere.
- Examples of partnership working, including various offers to help the Scottish Government. This included: defining biodiversity targets and thinking by using amphibians and reptiles as a model; sharing expertise in offsetting; and mainstreaming biodiversity into the planning process.
- Incorporating the Strategy's objectives into policy and management plans, including exploring the chapter's approaches in the Loch Lomond and the Trossachs National Park.

3.33 Alternative key steps were proposed by several respondents; some of these consisted of amendments to those proposed in the Strategy, however others suggested inclusion of additional key steps. Changes to the key steps were generally aimed at making them more specific and measurable. Three third sector respondents provided the same additional and alternative key steps, which are listed below. These bodies also stated that public lead bodies required to be identified for each habitat type and for each key step, alongside appropriate and adequate resources.

- Restore 100,000 hectares of peatland to favourable condition, using carbon offsetting by public bodies as a funding mechanism where appropriate.
- Restore 500 hectares of coastal dune and heath.
- Restore 500 kilometres of natural tree line.
- Restore 1,000 hectares of montane scrub.
- If biodiversity offsetting is used, it should reflect the real value of existing and destroyed habitats so that offsetting can ensure real equivalents. Offsets should not be agreed on a numerical one to one basis.
- Develop and monitor a programme of biodiversity outcomes funded through SRDP such that sustainable economic growth promotes biodiversity.
- Ensure future SRDP spending achieves measured improvements in biodiversity.

3.34 Other comments made by a few respondents on the Strategy were:

- It should recognise the long time work of land owners to provide services for the public at their own expense, and it should promote all forms of land management which deliver ecosystem services in a balanced manner, together with promoting conservation education to landowners.
- A stronger message for planning authorities on the importance of natural resources should be included.
- The importance of the natural capital value of their specialist area, for example, cycling's contribution to reducing carbon emissions, farmed and cultivated biodiversity.

4. BIODIVERSITY, HEALTH AND QUALITY OF LIFE

Questions

Q3a) Does chapter 3 propose the right approach to reach the outcome of improved health and quality of life for the people of Scotland, through investment in the care of green space, nature and landscapes?

Q3b) What additional steps can you propose, including things that you, or your organisation, can do?

Outcome

Improved health and quality of life for the people of Scotland, through investment in the care of green space, nature and landscapes.

Key steps

Provide opportunities for everyone to regularly experience and enjoy nature, with a particular focus on disadvantaged groups, school children, and young and older people.

Work with the National Health Service to develop initiatives that will improve health and well-being through physical activity connected with nature.

Support local authorities and communities to improve local environments, using green space and green networks, allowing nature to flourish and so enhancing the quality of life for people who live there.

Encourage public organisations and businesses to review their responsibilities and action for biodiversity, and recognise that increasing their positive contribution to nature and landscapes can help them to better meet their corporate priorities and performance.

The responses

- 4.1 Sixty one respondents commented on question 3a, whilst 57 respondents commented on question 3b. Just over half of the respondents supported the overall approach proposed either in principle or in broad terms. Most of those who voiced general support did however state qualifications to this or areas they felt required strengthening. Just under half of the respondents provided comments but did not give clear indication of whether they agreed or disagreed with the approach. A few respondents indicated a disagreement with the approach.

Biodiversity and health

- 4.2 A number of respondents commented on the overall emphasis of chapter three. These respondents felt that the chapter's emphasis on human health loses sight of the health of biodiversity. A few respondents remarked that the chapter makes either little or no direct reference to biodiversity itself. Several respondents described the chapter as misleading or confused because biodiversity is not considered on equal terms with social welfare, with a few describing it as a secondary consideration. Illustrating this point, one respondent commented on paragraph 3.6.1 suggesting that the NHS estate could also be used to enhance biodiversity (i.e. not just to enhance health). A few others thought that, although important, societal welfare objectives should flow from the strategy and be represented as value added, rather than being the motivating force of the chapter. One respondent added that the chapter (and the Strategy as a whole) pegs the value of biodiversity to benefits achieved in other sectors. A few respondents asked what the chapter's implications are for biodiversity.
- 4.3 In this context, a few respondents commented specifically on the key steps, noting that only the third key step directly addresses the intended outcome to improve health and quality of life *as a result of* investment in biodiversity. They suggested the key steps be reworded to focus on biodiversity and not people or health. A few respondents argued that the people-based focus of the key messages from the chapter (paragraph 3.9) ignores the work of organisations to conserve biodiversity in its own right.

Green spaces

- 4.4 Several respondents argued that green spaces and biodiversity are not synonymous, that biodiversity is what is important, not green space per se. These respondents argued that this distinction should be made clear in the Strategy. A few respondents pointed out that green spaces which are attractive to people (for example, mown lawns) are not necessarily the richest in biodiversity. To illustrate this point, one of these respondents quoted the distinction made on the SNH website between green networks (whose aim is to improve the environment for people) and habitat networks (whose aim is to improve biodiversity). Another respondent suggested the need to better understand what 'quality' green space means and offered to share their own research. This found that quality green spaces are more complex than simply 'green' and include opportunities to observe animals, water, different plants, etc.

Links between green space and health

- 4.5 A few respondents commented on the need to draw out and explain the implicit assumptions which connect green spaces and/or biodiversity to health. One respondent argued that although the chapter says a great deal about the potential health benefits resulting from green space and biodiversity, it does not explain *how* these health benefits can be achieved.
- 4.6 Within this context, several respondents commented on the management of green spaces and health. It was noted that although better management of

these spaces is possible, this alone will not correspond with improved health. The latter will be more difficult to achieve as it requires behaviour change.

Green space management

4.7 A few other respondents commented more generally on the management of green spaces, stating the view that the Strategy needs to place more emphasis on the maintenance of green spaces. For example, one respondent noted the lack of detail regarding the responsibility of the public when accessing green spaces, as well as the steps authorities should take to minimise the impacts of irresponsible access (for example, dog fouling, wildlife disturbance). Similarly, a few respondents highlighted the importance of urban green spaces, with one respondent stating that a lack of their maintenance may result in rapid deterioration and unwelcoming, unsafe and anti-social areas.

Nature is for everyone

4.8 Several respondents expressed support of the notion that nature is for everyone. These respondents also noted the importance of developing such opportunities for disadvantaged groups, with one respondent noting that the Strategy does not mention how this will be done. This same respondent argued that by concentrating its attention on the hospitalised and on children (i.e. schools and the NHS), the Strategy does not address the wider population.

Education and biodiversity

Raising public awareness of biodiversity

4.9 Several respondents expressed support of the need to raise public awareness of biodiversity. These respondents specifically supported biodiversity education in schools, with a few suggesting that it be expanded or mainstreamed into formal education. One respondent stressed the importance of this process starting as early as possible with very young children. Another respondent noted that an additional benefit of connecting people with nature is an awareness of possible career paths or job types and the attraction of new entrants into the field.

Outdoor learning

4.10 Several respondents provided diverse comments on the topic of outdoor learning, although all of them agreed on its importance. A few respondents welcomed its recognition in the Strategy, whilst a few others felt it deserved more emphasis. Specific issues raised by individual respondents included: the Strategy does not provide any indication of *how* outdoor learning will be established in the new curriculum; the need to identify and address health and safety policies which may be restricting use of the outdoors for education; that the number of outdoor classes be monitored in order to establish a baseline and targets; and disagreement with the Strategy's statement that outdoor learning is a 'key aspect of school inspections' (paragraph 3.7.1), arguing that most schools would not be asked about their outdoor learning in an inspection.

4.11 A few respondents suggested the need for essential skills training on outdoor learning. One respondent added that such professional development should be

available not just for teachers, but also for others working with children (for example, health visitors and midwives). Another respondent suggested the need for outdoor learning to be a part of obtaining qualified teaching status and for outdoor learning accreditation of other providers.

- 4.12 A few respondents recommended that the Strategy cite more examples of outdoor learning, including the Real World Learning Scotland Partnership and the *Natural Childhood* report by the National Trust. A few respondents specifically cited SNH's *Teaching in Nature* demonstration project, with one respondent cautioning against its primary reference in the Strategy, whilst another argued this project should be expanded.
- 4.13 The importance of school grounds, which for many children is the main outdoor space they have (regular) access to, was stressed by one respondent. It was argued that giving every child in Scotland access to nature in their school grounds is perhaps the most important thing that can be done to build appreciation of nature across Scotland. Although welcoming of the Strategy's recognition of school grounds, the respondent felt that the Strategy did not fully reflect their significance.

Joined-up thinking and collaboration

- 4.14 A number of respondents agreed with the importance of joined-up thinking across sectors, institutional scales and government departments. For example, one respondent welcomed the Strategy's intention to work with the NHS but suggested this be extended to include voluntary and community sector organisations. Another respondent suggested the need for the Strategy to be a shared agenda that is perceived as open to those outside of the traditional environmental arena.
- 4.15 Several respondents commented on the value of local work, with some noting the importance of collaboration across local and national scales, with one respondent describing much local work as very valuable but often patchy and therefore in need of integration in order to reap greater overall gains. Another respondent suggested that the Strategy give prominence to Community Planning Partnerships and the local initiatives of NGOs and Local Biodiversity Partnerships, which are vital to achieving the chapter's outcome. Another respondent suggested that the Strategy more strongly emphasise the important role of local authorities, while another argued that policies should work to encourage local authorities to conserve and enhance the 3,000 existing local biodiversity sites.
- 4.16 More specifically, several respondents highlighted the synergies between this chapter and other work happening at national and local government levels such as: the draft policy on architecture and place-making; Healthy Working Lives; Community Empowerment and Renewal Bill; Single Outcome Agreements; Community Planning and Health Partnerships; Joint Health Improvement Plans; Physical Activity Strategies; Designing Streets; School Estate Management Plans. Another respondent suggested that the Scottish Government's

Biodiversity Team collaborate with the Built Environment Team, School Infrastructure Unit and Early Years Team.

Business and industry

4.17 A few respondents commented on the role of business and industry. One of these respondents suggested that one of the key steps should include ensuring the built environment sector recognises the importance of designing green spaces. Other respondents suggested that the Strategy should indicate *how* businesses will be encouraged to implement such initiatives as those proposed in paragraph 3.6.2 (projects focusing on physical activity and mental health issues).

Volunteering

4.18 A few respondents commented on the subject of volunteering. Issues highlighted included: opportunities for volunteering are limited by reduced funding; the significant training needs of volunteers, therefore volunteering should supplement, rather than substitute for, paid professional employees; and listing shooting/game management alongside environmental volunteering within the Strategy.

Funding and resources

4.19 A number of respondents commented on the importance of funding, several of whom spoke of limited or diminishing resources and the constraints they impose on delivery. Respondents noted that the chapter does not specify how funding may be increased or where it will come from, whilst a few others asked for more financial support, including one who suggested SRDP reform.

4.20 A few respondents noted the connection between use of resources and joined-up thinking (or lack thereof). For example, one respondent pointed out that although more connection with the natural environment may indeed reduce NHS costs, other costs, such as the development and maintenance of green space needs to be faced. A further issue raised was the disconnect between the Strategy's stated good intentions and the cutbacks made to Ranger Services, which one respondent described as key players in delivering chapter three's aims. Another respondent advocated investment in ongoing maintenance, as opposed to capital projects.

Biodiversity as prevention

4.21 Several respondents commented on the preventative value of biodiversity, either generally or in reference to paragraph 3.9 and the case for investing in nature close to where people live and work. For example, one respondent suggested that the NHS recognise biodiversity as preventative, as well as curative, and another that the NHS should acknowledge that NHS grounds are as important an asset to health as other forms of patient care, with a return on investment potential that is disproportionately high.

4.22 Several respondents commented specifically on paragraph 3.9's statement that 'There is a strong case for investing more in nature close to where people live and work as this can deliver a clear reduction in health spend'. One respondent

agreed with this statement outright, while another was concerned about it and suggested research on the matter. The UK NEA was recommended by another respondent for demonstrating the link between proximity to nature and human health and property value. Another respondent argued that investing in such areas should not come at the expense of focusing on ecosystem health and landscape or catchment scales.

Demonstration projects

4.23 Several respondents commented on the topic of demonstration projects. A few of these respondents pointed out that although the chapter proposes demonstration projects, many such small scale projects are already delivering and could be expanded with enough resources. *Teaching in Nature* was one specific demonstration projects that was suggested, together with the NHS running demonstration projects supervised by a task force.

Overarching comments

Deliverability

4.24 A number of respondents felt that more detail is required in the chapter, mainly in terms of what is being proposed and how to deliver it. For example, several respondents described the chapter as vague or unclear and argued the need for an explicit statement or definition of the desired state. Several respondents also suggested a greater emphasis be placed on how delivery and action will be achieved. One respondent suggested that case studies would be helpful to explain how outcomes might be achieved in practice.

Urban and rural issues

4.25 Several respondents made comments in relation to areas being urban or rural. A few respondents felt that the chapter is more relevant to urban areas. One respondent noted a policy implication of recognising the connection between green spaces and human health – a major shift in environmental investment from remote and sparsely-populated areas to those of high population density – and that this is lacking from the Strategy. Another respondent meanwhile suggested that rural health inequalities must be taken into account, including access and provision to amenities.

Scottish Biodiversity Duty

4.26 The Scottish Biodiversity Duty was raised by a few respondents who pointed out that although the Strategy refers to it on numerous occasions, the duty is not actually enforced. It was therefore argued that using it as a means to deliver wider benefits seems risky. One of these respondents suggested there should be a requirement for public bodies to report on the implementation of their Biodiversity Duty.

Specialist knowledge

4.27 Several respondents cited their area of specialist knowledge and how it relates to chapter three. A few respondents noted that the Strategy should recognise that Scotland's green spaces and landscapes include farmed and cultivated genetic biodiversity. One of these respondents pointed out the link between agricultural biodiversity and the supply of healthy food. A few other respondents

highlighted the ways in which their interests connect people with nature and/or help promote and protect green spaces. These included cycling, shooting and woodlands.

Other comments

4.28 A number of respondents noted ways in which they could, or already were, supporting delivery of the Strategy. These included:

- Highlighting examples of their own work which promotes biodiversity and the approach outlined in this chapter, including offering education programmes and raising public awareness about biodiversity, enhancing green spaces and NHS sites, working in partnerships.
- Enthusiasm to work in partnership with the Scottish Government or others, including by sharing knowledge on their area of expertise or requesting the knowledge/expertise of others in order to help advance initiatives. This included: expertise offered from a herpetological perspective; guidance sought for proposed work on grounds of schools and churches; interest in expanding an outdoor learning project from England and Wales to Scotland.
- Incorporating the Strategy's objectives into policy and management plans.

4.29 Alternative key steps were proposed by several respondents; some of these consisted of amendments to those proposed in the Strategy, however others suggested inclusion of additional key steps. Changes to the key steps were generally aimed at making them more specific. Three third sector respondents provided the same additional and alternative key steps, which are listed below, retaining only a reworded version of the third key step from the Strategy. These respondents also stated that public lead bodies required to be identified for each habitat type and for each key step, alongside appropriate and adequate resources.

- Focus investment in the stewardship and enjoyment of nature and landscapes.
- Ensure everyone has access to green space local to where they live and work.
- Ensure wild land and wild places are protected such that people can view and experience areas where natural processes prevail.
- Provide opportunities for everyone to regularly experience and enjoy nature. Biodiversity is there for everyone and not just selected groups.
- Ensure the NHS integrates knowledge and enjoyment of biodiversity into specific programmes with regard to health promotion, aiming to improve health and well-being through physical activity connected with nature.
- Ensure biodiversity is included in the preventative spending agenda.
- Build on Scotland's culture and the value it puts on our environment to ensure future generations continue to be inspired.

4.30 Other comments made by a few respondents included:

- A suggestion to promote the often under-utilised 'right to countryside'.
- A correction in paragraph 3.4.2, that the Central Scotland Green Network has already been established.

5. WILDLIFE, HABITATS AND PROTECTED PLACES – CONNECTING NATURE

Questions

Q4a) Does chapter 4 propose the right approach to reach the outcome that the special value and international importance of Scotland's nature is assured, wildlife is flourishing, and we have a highly effective network of protected places?

Q4b) What additional steps can you propose, including things that you, or your organisation, can do?

Outcome

The special value and international importance of Scotland's nature is assured, wildlife is flourishing, and we have a highly effective network of protected places.

Key steps

Ensure management of protected places provides diverse public benefits.

Align habitat restoration on protected areas with national goals for improving ecosystem health, with local priorities determined at the catchment or landscape scale.

Integrate protected areas policy with action for wider habitats to combat fragmentation and restore key habitats.

Develop a wildlife management framework to address the key priorities for sustainable management, conservation and conflict issues, including reintroductions and invasive non-native species.

Involve many more people in this work and in improving our understanding of the poorly known elements of nature and its role in sustaining life.

The responses

- 5.1 Sixty three respondents commented on question 4a, whilst 60 respondents commented on question 4b. The majority did not provide a clear indication of whether they agreed or disagreed with the approach. Around a third of respondents did express agreement in full or broad terms for the approach, but most of those did state qualifications to this or areas they felt required strengthening. A few respondents indicated an overall disagreement with the approach.

Action for habitats and protected places

Ecological networks versus individual habitat and species protection

- 5.2 Many respondents commented on issues related to the spectrum of connectivity – from ecological networks to individual habitat and species protection. Most of these respondents seemed to prefer an approach which aims to protect individual habitats and/or species within the wider context of an ecosystem approach.
- 5.3 A number of respondents stated that current thinking about protected designations is outdated insofar as it places boundaries around habitats and species, considering them in isolation from wider ecological networks. Several other respondents expressed concern that a focus on protected habitats and species may risk diverting attention from those which are not protected but are no less valuable. Several of these respondents expressed concern that the perceived value to humans of certain habitats or species may come at the expense of protecting others. For example, one of these respondents argued that not all places are suitable for the public benefits described in chapter four of the Strategy but this does not mean they are less important and indeed may need more protecting for this reason. Similarly, a few respondents mentioned that because people are often more familiar with some species than others, this may adversely affect those which are lesser known. Another respondent argued that an approach which focuses on designated sites loses sight of the wider (mostly cultivated) countryside.
- 5.4 On the other hand, several respondents cautioned that an integrated approach (however valuable) may come at the expense of individual habitats and species. One respondent was alarmed by the chapter's absence of a key step on species action, arguing that the Strategy needs to include a targeted species management programme.

Local Biodiversity Action Plans

- 5.5 Several respondents commented on existing local biodiversity work. A few respondents stated that in the identification of priority habitats and species, the Strategy ignores the work of LBAPs which have already done that. They and a few other respondents suggested these and other resources, information and expertise (for example, Local Records Centres, the National Biodiversity Network) be recognised and built upon. Another respondent asked, with the chapter's emphasis on national protected sites, where LBAPs should fit in. They also noted that catchment-scale and local priorities 'cannot be the same'.

Locally designated sites

- 5.6 Several respondents expressed disappointment or concern regarding the Strategy's lack of reference to the role of Local Nature Conservation Sites (for example, Sites of Importance for Nature Conservation, Community Wildlife Sites). A few of these local authority respondents noted that such sites are often overlooked by national and international designations despite having particular value locally.

Geodiversity

- 5.7 Several respondents commented on and supported the chapter's references to geodiversity (paragraphs 4.3.7 and 4.3.9). Most of these however argued that the Strategy needed to go further in explaining *how* geodiversity will be better understood, considered in land management and integrated into thinking about biodiversity. A couple of the respondents who commented on geodiversity described it as the foundation of biodiversity and the baseline of an ecosystem. A few other respondents cited examples of their own efforts working on geodiversity.

Investment requirements

- 5.8 Several respondents commented on the assertion in paragraph 4.3.8 that 'With a core area of green infrastructure already in place, relatively little investment is needed to restore many natural systems back to full capacity.' One respondent stated they were not comfortable with this statement, another stated it is not clear and a few others disagreed with it. Of those who commented on paragraph 4.3.8, one respondent argued that it underestimates the conservation task at hand, while another respondent requested to see the evidence which supports paragraph 4.3.8.

Inconsistency of figures

- 5.9 Several respondents commented on the proposal in paragraph 4.3.9 to 'conserve at least 17 per cent of land and inland water'. Most of these respondents highlighted the inconsistency between the 17 per cent figure in paragraph 4.3.9 compared to that of paragraph 4.3.4 which states 'Nature conservation sites cover about 18 per cent of Scotland's land area.' A few of these respondents requested clarification on these figures, whilst a few others argued that the Strategy's aim should be to increase (and not decrease) conservation areas and that this goal should be more ambitious. One respondent cited Aichi Target 11 which states a figure of 17 per cent.

Action for wildlife

Intrinsic importance of nature

- 5.10 A number of respondents commented on the statement in paragraph 4.4.1 that 'there are also compelling reasons for maintaining and restoring the diversity of wildlife in its own right'. All of these respondents supported this statement and the principle of acknowledging the intrinsic value of nature. However, most of these respondents noted that this statement appears (too) late and only once in the Strategy. They recommended it be made a focal issue, with one respondent suggesting it should be one of the key statements at the end of the chapter. Another respondent argued that if the intrinsic importance of nature is not prioritised in this Strategy, other policy areas are unlikely to take this message onboard.
- 5.11 A few of the respondents who commented on 4.4.1 expressed worry that it represents the Strategy's 'best attempt' at defining the intrinsic value of biodiversity and that it encapsulates the Strategy's underlying focus on the benefits which can be derived from nature, rather than nature itself. Another

respondent described the inclusion of paragraph 4.4.1 as especially important given the economic focus of the Strategy.

Scottish Biodiversity List

- 5.12 Many respondents commented on the Scottish Biodiversity List and around half of these supported the Strategy's proposal to shorten the list (paragraph 4.4.7). Most of these supported it outright, although a few did so with qualifications.
- 5.13 Of those who qualified their support, a few stated that a shortened list must ensure overall ecosystem benefits and that species need to be considered in a broad context. A few others meanwhile cautioned against the shortened list simply containing charismatic and relatively better known or understood species. Several respondents argued that the process of preparing this list needs to be flexible and ongoing in order to take into account new knowledge about ecosystems and previously unknown or less understood species. It should also be based on science rather than funding. One respondent thought a list of Scottish Priority Habitats should be developed in partnership with stakeholders, to aid the prioritization of resource allocation including SRDP funds.
- 5.14 Of all the respondents who commented on the Scottish Biodiversity List, several expressed concern or questioned the reasoning behind what they termed an *a priori* aim or supposition to shorten the list. A few of these respondents connected the shortening of the list with funding. They noted that although resource constraints may limit action, they should not dictate which species actually make the list, that being on the list helps to keep species in the spotlight and thus a reduced list may be interpreted as a reduced commitment to conservation. Another respondent argued that rather than propose to shorten the Scottish Biodiversity List, the Strategy should instead propose to make more funding available.

Wildlife Management Framework

- 5.15 Several respondents commented on the Wildlife Management Framework, around half of whom suggested the need for it to be developed or implemented with the engagement of different stakeholders. One respondent, for example, suggested it should be informed by the expertise of NGOs, volunteers and researchers, whilst another respondent noted it should not be a burden on land managers and another asked if there would be a consultation on the Wildlife Management Framework. A few others supported the framework outright.
- 5.16 In more general terms, a few third sector respondents felt that wildlife management was not adequately covered within the Strategy and that the use of the term 'Wildlife Management Framework' is limited to the control of species and does not cover all species groups. Furthermore, it does not include acting to ensure sustainable species populations, nor achieving sustainable ecosystem management for the future.

Species reintroductions

- 5.17 Several respondents offered diverse comments on the Strategy's proposed Code for Species reintroductions. One respondent agreed outright that such a

code would be useful. A few respondents qualified their support by suggesting the development of such a code take into account the views of different stakeholders, including land managers. Of these, one respondent expressed significant concern that land managers had not been properly compensated for reintroductions and noted that further reintroductions are not supported. Another respondent suggested the need for a research agenda on species reintroductions.

Invasive Non-Native Species

5.18 A number of respondents provided diverse comments on the subject of Invasive Non-Native Species (INNS), several of whom expressed support of the Strategy's proposal to implement new INNS legislation and to develop a catchment-based approach to control INNS. A few of those who commented on INNS emphasised the importance of taking a prevention-based approach, while a few others noted that effectiveness will depend on adequate resources. One respondent strongly emphasised the need for early consultation on management of INNS in or near public water supply. Another respondent suggested consideration be given to the difficulty in transferring rural INNS approaches to urban settings with highly fragmented landownership, as well as to make clear the risk posed by each invasive species to native biodiversity.

Involving people

Volunteers

5.19 The subject of volunteers was mentioned by a number of respondents, all of whom agreed with the value of volunteer work and the importance of recognising it. Additional comments made by these respondents were diverse. One respondent believed there is a volunteer skills gap in the UK (for example, knowing how to monitor and gather data) and argued it is vital that the government address it with training and funding, including bursaries for underrepresented groups. Another pointed out the funding requirements of training volunteers. A concern that the Strategy's economic and utilitarian focus may result in volunteers feeling limited ownership of it, as it does not align with their motivation for volunteering, was another issue raised. Respondents suggested volunteer engagement as another reason for the Strategy to increase its emphasis on the intrinsic value of biodiversity. A few respondents did not think the Strategy goes far enough to recognise volunteering, with one respondent noting that despite a general recognition of volunteers, the Strategy does not actually make reference to their body of work.

Land Owners

5.20 A number of respondents commented on the importance of engaging with and taking into account the interests of land owners. These respondents mentioned different aspects of conservation programmes that should be developed with land ownership in mind, for example, funding schemes, designated sites, ecological networks, Wildlife Management Framework, species reintroduction and other government policies.

Other comments

5.21 Many respondents, from all respondent types but particularly the public sector and the third sector, noted ways in which they could, or already were, supporting delivery of the Strategy. These included:

- Highlighting examples of their own work which promotes biodiversity and the approach outlined in this chapter including: geodiversity; engaging the public; 'Living Landscape projects'; data collection and recording; improving water quality, UNESCO biosphere status; a range of work on INNS.
- Examples of partnership working, including offers to help the Scottish Government on: hosting modern apprenticeships; sharing existing spatial planning tools; research in a number of areas (protected areas, the role of local management in global processes such as climate change, quantification of biodiversity and land management scenarios).
- Networks of volunteers and an interest in expanding these.
- Incorporating the Strategy's objectives into their policy and management plans.

5.22 Alternative key steps were proposed by several respondents; some of these consisted of amendments to those proposed in the Strategy, however, others suggested inclusion of additional key steps. Changes to the key steps were generally aimed at making them more specific and measurable. Three third sector respondents provided the same additional key steps, which are listed below. These bodies also stated that public lead bodies required to be identified for each habitat type and for each key step, alongside appropriate and adequate resources.

- Review the protected areas series for completeness and fitness for purpose, making amendments of designations as appropriate.
- Achieve favourable condition of all protected sites that occur there.
- Align habitat restoration outwith protected areas with national goals for improving ecosystem health, with local priorities determined at the catchment or landscape scale.
- Develop a sustainable ecosystem stewardship framework that builds a future for Scotland's rare and threatened species.
- Assess the success of the voluntary approach to sustainable deer management by 2020 and bring forward amended legislation if required.
- Restore biodiversity in the intensively farmed and forested landscape, measured using an index of abundance of priority farmland species.
- Ensure no net loss of important marine or terrestrial wildlife.
- Maintain the biodiversity value of High Nature Value Farming and Forestry.
- Eradicate rhododendron from Natura sites and prevent invasion by known damaging non-native invasive species into any uninvaded catchments.
- Establish early warning and rapid response capacity for damaging invasive non-native species.
- Address the drivers of change that are resulting in the loss of plant diversity in all habitats in Scotland, as measured in the UK Countryside Survey.

5.23 Other issues highlighted by a few respondents were:

- Concern about possible implications of seeking diverse public benefits in protected areas, particularly in key and/or sensitive areas for biodiversity. Appropriateness should be assessed on a site by site basis.
- The need for the chapter to explicitly recognise farmed and cultivated biodiversity and associated genetic diversity.
- The belief that environmental designations lead to negative socio-economic impacts and thus disagreement with any additional designations.
- The National Ecological Network (NEN) deserving more recognition and adequate resourcing.
- The importance of training and development for professionals.

6. LAND AND FRESHWATER USE AND MANAGEMENT

Questions

5a) Does chapter 5 propose the right approach to reach the outcome that nature is flourishing and ecosystems are resilient as a result of sustainable land and water management practices, and this is increasingly helping rural businesses and the economy to prosper?

5b) What additional steps can you propose, including things that you, or your organisation, can do?

Outcome

Nature is flourishing and ecosystems are resilient as a result of sustainable land and water management practices, and this is increasingly helping rural businesses and the economy to prosper.

Key steps

Support and encourage an approach to land management that fosters sustainable use of land and water resources and puts biodiversity at the heart of integrated planning and decision making ('an ecosystem approach').

Ensure that measures implemented under Common Agricultural Policy reform encourage land managers to develop and retain a diversity of wildlife habitats and landscape features across all land use systems.

Support 'High Nature Value' farming and forestry systems.

Achieve and maintain good ecological status for all surface water bodies in Scotland, and higher ecological status for certain nature conservation sites.

Ensure that biodiversity and ecosystem objectives are fully integrated into Flood Risk Management Plans, prioritising restoration of wetland habitats and woodland to provide sustainable flood management.

Restore and expand the coverage of habitats that lock carbon in soil and vegetation, helping to mitigate climate change.

The responses

6.1 Fifty eight respondents commented on question 5a, whilst question 5b was addressed by 48 respondents. Around half expressed broad support for the overall approach. However, most of these respondents had further suggestions or areas they felt required strengthening. It was unclear whether the remaining

half of respondents supported the overall approach, as they did not indicate clear agreement or disagreement.

- 6.2 Third sector respondents were more likely not to have expressed a clear view on whether they supported the overall approach outlined in chapter five, where as the majority of local authorities indicated broad support. Only one respondent expressed outright disagreement with the approach.

Overarching comments

- 6.3 A number of respondents commented in general on the content of the chapter. A few respondents thought chapter five repeated the content of previous chapters. Several respondents commented that many of the chapter's key steps were already covered by other policies, guidelines and regulations. They felt it was important for the Strategy and key steps to outline what is going to be different in the future. Others highlighted that there needed to be a more explicit reference to the existing policy landscape, including the Land Use Strategy and RBMPs.

Specific objectives, actions and targets

- 6.4 Several third and public sector respondents welcomed this chapter as the first to cover specific actions with targets. Others felt that the chapter required a stronger focus on identifying clear objectives, the actions required to achieve those objectives, who would take them forward and by when. The need for monitoring was also raised.
- 6.5 Alternative key steps were proposed by several respondents; these mainly consisted of amendments to those proposed in the Strategy, however others suggested inclusion of additional key steps. These additions are highlighted in the relevant section below.
- 6.6 A few respondents were more specific in their comments, for example, suggesting the inclusion of minimum targets with values within catchment management plans and/or ecosystem approach zone plans. Another respondent highlighted that people required sound planning principles in order to take positive action on the ground and would benefit from advice on this.

Quality and influences on biodiversity

- 6.7 Several respondents highlighted a discrepancy between a statement in chapter one which noted that biodiversity is declining and paragraph 5.1.3 which notes that ecosystems are in good condition. They asked whether the wrong things are being measured. One respondent questioned why the strategy is focused so heavily on ecosystem delivery instead of biodiversity decline. Related to this, a few respondents noted that the focus on ecosystem services risks devaluing biodiversity which does not provide a service or is not considered of high cultural value.

Ecosystem approach to land management

6.8 A number of respondents commented on this aspect of the Strategy. Whilst several respondents explicitly welcomed the proposed adaptive management approach, a few respondents noted that it should be trialled and monitored in practice with lessons feeding into wider environmental policy. Another respondent asked how the Scottish Government will ensure adaptive management happens in practice, including within the SRDP and legislation. Only one respondent expressed concern with the overall ecosystem approach, noting that it has yet to demonstrate itself as a means of delivering biodiversity.

Urban issues

6.9 Urban issues were highlighted by a number of respondents who felt that the strategy did not adequately address issues within urban areas, nor the link between rural and urban areas. A few local authorities noted that further thinking was necessary to ensure that the ecosystem approach to land use management worked in an urban context. One respondent noted that there are designated sites within urban areas that are under greater pressure than rural sites.

Conflicts over land use

6.10 A number of respondents commented specifically on the issue of conflicts over land use. A few third sector respondents were concerned that the Strategy is not explicit in its recognition of conflicting priorities. They requested a clearer vision on how to achieve a balance between the demand for land for productive agricultural purposes (which may have relatively low biodiversity value), and that which is prioritised for biodiversity (and therefore may have a low productive value in the traditional economic sense).

6.11 In relation to this, several respondents noted that the Strategy should be stronger on explicit means of resolving conflicts, with one respondent noting that they had made the same comments in relation to Scotland's Land Use Strategy and a few respondents specifically mentioned planning mechanisms. One respondent suggested that the Scottish Government should give clear direction to planners, developers and conservation bodies in order to identify priorities and avoid unnecessary delays or difficulties in the assessment of development proposals in sensitive areas. Another respondent suggested that there should be more delineation of land use priorities and funding to support this.

Funding

6.12 A number of respondents commented on funding for biodiversity, including around half of local authorities who commented specifically on the SRDP. Two respondents from the third sector stated that Scotland is one of the worst funded countries in the EU with respect to agri-environment schemes. These respondents and several others cautioned against relying on agri-environment/SRDP funding alone and stated that there was a need for other funding sources. A few respondents highlighted payment for defined ecosystem

services such as natural flood management from those who benefit downstream.

SRDP and Common Agricultural Policy (CAP) reform

- 6.13 Several respondents explicitly stated their agreement with the SRDP as the main source of funding for biodiversity and highlighted its importance. One respondent noted that the Common Agricultural Policy (CAP) should move away from subsidies which do not deliver multiple benefits (i.e. in addition to food production), whilst another respondent explicitly disagreed with the 'greening' of the CAP.
- 6.14 Several respondents noted that the SRDP would need to be simplified and targeted much more effectively if it was to deliver as the main funding source. Improvements could be made by publishing information on the sites where SRDP and other scheme funding had been made available, and introducing robust mechanisms to ensure that: (a) CAP reform proposals achieve measured improvements in biodiversity, (b) the SRDP does not have negative effects (for example, on grasslands and peatlands). This is in order to help overcome the voluntary nature of undertaking the 'correct' environmental measures, which a few respondents felt resulted in doubts over the SRDP's effectiveness. A few respondents also suggested improving the advice, guidance and monitoring provided to land managers on regulatory requirements and how to implement beneficial biodiversity steps under SRDP schemes.

High nature value farming and forestry

- 6.15 A number of respondents commented on farming and forestry, including specifically on high nature value (HNV) farming and forestry. Several respondents noted that there was insufficient detail on how this would be achieved and that guidance was required. In a similar vein, a few other respondents noted that HNV farming has not been properly addressed in recent land management funding and policy. Whilst supporting HNV farming and forestry, one respondent expressed concerns about further designation of land and potential impact on economic viability of productive land use.
- 6.16 Other comments related to: the need for the SRDP to identify croft land as distinct from other farmland; the need to support farmed and cultivated biodiversity, possibly by recognising it under HNV farming; that the presence of semi-native habitat alone as a descriptor of HNV farming was insufficient; priority areas for woodland restoration and expansion had not been identified; and expansion of woodland should not be to the detriment of other habitats or to economic growth. More generally on farming, it was noted that sustainable farming will require stronger links with non-public agencies (for example, the NFU).

Surface water bodies

- 6.17 Several respondents commented on the proposal to achieve and maintain good ecological status for all surface water bodies in Scotland. A few respondents felt that this was unrealistic and would incur excessive financial cost and economic penalties.
- 6.18 These same respondents felt that the interpretation of the Water Framework Directive (WFD) in the Strategy was factually incorrect and that it does allow for departing from 'good ecological status'. Another respondent noted their understanding that for certain species water quality of higher than good ecological status may be aspired to, but the need should be clearly demonstrated through scientific evidence. They also noted that diffuse pollution prevention measures within the catchment of the water body should also be considered. In a similar vein, another respondent noted that the connectivity of water bodies is not always well integrated within the WFD and that there should be an awareness raising campaign on the benefits from sustainable land and water management (for example, reduced nitrates in drinking water).
- 6.19 Two respondents felt that the Strategy did not pay enough attention to wetlands, particularly transition wetlands, and the role these played in international migratory flyways for birds. It was felt that the Strategy should also aim for good or high ecological status for wetlands.

Sustainable flood management

- 6.20 A number of respondents commented on sustainable flood management. A few local authorities explicitly stated their agreement with this approach, but suggested specifying who will take the lead on this and asked where the funding will come from. One council noted a number of barriers based on their own experience, including problems from land ownership and tenancy models and the unpredictability of land lost to flooding in any given year.
- 6.21 A few respondents expressed concern about agricultural land being taken out of productive use and its impact on landowners. One respondent suggested further research was needed. Two third sector respondents noted that a key step on sustainable flood management is to identify and promote a variety of demonstration sites.

Mitigation of climate change

- 6.22 A number of respondents commented on the proposal to restore and expand the coverage of habitats that lock carbon in soil and vegetation. Whilst supporting the restoration of 100,000 hectares of peatland, several questioned where the 100,000 figure had come from. One respondent argued that the target may be optimistic given that many of these areas coincide with prime areas for onshore renewables and because techniques for restoring peatlands are still in their infancy. Another respondent stated that the role played by managed grassland in carbon storage should be recognised, whilst another noted that the majority of proposed woodland planting should use native trees.

6.23 Two third sector respondents noted an additional key step: 'Forestry practice guidance from Forestry Commission Scotland (FCS) and SNH will protect shallow peatland habitats and wet heath, and be properly applied by FCS as regulator.'

Other comments

6.24 Many respondents, from all respondent types but particularly the public and third sectors, noted ways in which they could, or already were, supporting delivery of the Strategy. These included:

- Highlighting examples of their own work which promotes biodiversity and the approach outlined in this chapter, including: the development of spatial planning tools to help deliver ecosystem outputs; integrating offset schemes into flood protection schemes; and practical experience in riparian management and woodland expansion.
- Examples of partnership working, including offers to help the Scottish Government with: knowledge of the international scene; to help analyse unused data and/or provide data; and with thinking to address the chapter's gap on urban areas.
- Incorporating the Strategy's objectives into policy and management plans.

6.25 Alternative key steps were proposed by several respondents; some of these consisted of amendments to those proposed in the Strategy, however others suggested inclusion of additional key steps. Changes to the key steps were generally aimed at making them more specific and measurable. Three third sector respondents provided the same additional key steps, which are listed below. These bodies also stated that public lead bodies required to be identified for each habitat type and for each key step, alongside appropriate and adequate resources.

- Require that at least 10% of all land holdings are in Ecological Focus Areas under new SRDP roll out.
- Create 500 kilometres of natural tree line.
- Deliver measurable improvements in wildlife habitats and landscape features across all land use systems.
- Ensure that steps are taken to facilitate sustainable land management in drinking water catchments, to enhance habitat for biodiversity in addition to improving raw water quality.

6.26 Other issues highlighted by a few respondents were:

- The need to explicitly recognise the role of farmed and cultivated biodiversity and to raise public awareness of its role in providing a range of public benefits, including the support of rural businesses.
- The widespread effects of high deer populations as a key challenge, and suggesting a committee set sensible deer densities in line with the capacity of the environment. A further respondent noted that the deer code was not statutory and that the SRDP may need to be extended to incentivise upland managers, whilst another noted that if sensible deer densities were not achieved voluntarily within eight years, legally binding deer management plans should be established.
- The need for an improved understanding of geological processes and better engagement between the geodiversity community, landowners and managers through the SRDP.
- A call to protect the diversity of soils, including assessing soil regulation, and to raise awareness of this issue in all sectors.

7. MARINE AND COASTAL

Questions

6a) Does chapter six propose the right approach to reach the outcome that Scotland's marine and coastal environments are clean, healthy, safe, productive and biologically diverse, meeting the long term needs of people and nature?

6b) What additional steps can you propose, including things that you, or your organisation, can do?

Outcome

Scotland's marine and coastal environments are clean, healthy, safe, productive and biologically diverse, meeting the long term needs of people and nature.

Key steps

Adopt a Scottish Marine Plan to aid balanced decision-making in the marine environment.

Establish a coherent network of Marine Protected Areas, promoting sustainable use and conservation.

Collate information on the location and sensitivity of Priority Marine Features, and make this information available to support their protection.

Achieve Good Environmental Status for Scottish seas.

Bring Common Fisheries Policy fish stocks to levels consistent with Maximum Sustainable Yield wherever possible, and take account of biodiversity in managing inshore fisheries.

Implement a rapid-response framework to prevent colonisation of invasive new species in Scotland's seas and islands.

Improve the monitoring of the marine environment to identify changes there and guide progress towards the above objectives.

Improve understanding of how coastal ecosystems are likely to adapt to climate change and develop appropriate strategies for coastal zone management.

The responses

- 7.1 Forty three respondents commented on question 6a, whilst 30 respondents addressed question 6b. The majority supported the overall approach proposed either in full or in broad terms, but many stated caveats to this or gave further suggestions. Few respondents indicated an overall disagreement with the approach, mainly local authorities. In the main, these respondents felt that the approach was not sufficient to achieve the stated outcome. A number of other respondents provided comments but did not give clear indication of whether they agreed or disagreed with the approach.

Marine biodiversity and terrestrial ecosystems

- 7.2 Several respondents welcomed chapter six's specific focus on marine biodiversity and saw this as a timely inclusion in the wider Strategy. A small number explicitly welcomed the Strategy's attempt to join up land and coastal policy. However, several public sector and third sector respondents questioned the separate treatment of marine issues, arguing for the importance of recognising the interdependence of marine and terrestrial ecosystems. It was noted that marine aspects could have been integrated into earlier chapters of the Strategy. Several suggested that the chapter give greater recognition to gaps between land and marine policy in regards to the downstream effects of river quality on coastal and estuarine biodiversity. Others felt the chapter was too heavily weighted towards marine issues to the detriment of coastal and island ecosystems.

Existing policy commitments

- 7.3 Several respondents from across the public and third sectors noted that many of the key steps relate to existing legislative requirements and policy commitments. Some questioned what the Strategy adds above and beyond these. Although a small number noted that many issues are already being addressed following the Marine (Scotland) Act, one respondent stated concerns that the chapter gives the impression 'all is already in hand'. It was noted that care should be taken to ensure consistency between the terms and commitments of this Strategy and existing policies such as the Marine Nature Conservation Strategy 2010.

Actions and targets

- 7.4 A number of respondents supported in principle the key steps proposed. However, some suggested options for strengthening the key steps. A small number of respondents explicitly stated the view that although the key steps will contribute towards the stated outcome for marine and coastal biodiversity, they are not sufficient in and of themselves. Some respondents proposed alternative and additional key steps (see paragraph 7.17).
- 7.5 Several third sector respondents called for clear actions with associated targets and defined roles and responsibilities. One third sector stakeholder suggested greater emphasis on Aichi Targets within the chapter. Some respondents,

notably local authorities, emphasised the importance of setting SMART goals and called for greater specificity, particularly with regards to key step five. However another local authority also praised the key steps for fulfilling SMART principles.

Protecting marine and coastal biodiversity

Marine Protected Areas designation

- 7.6 A number of respondents stated their support for the existing Marine Nature Conservation Strategy, the adoption of the National Marine Plan and protection of Priority Marine Features (PMFs) through the designation of Marine Protected Areas (MPAs). The importance of basing the latter designations on robust ecological design criteria to ensure a true ecosystem approach was noted.
- 7.7 A few of the respondents noted that Scotland's islands do, however, require special attention, with one island local authority strongly opposing designation of MPAs in their area on economic grounds. One public sector body suggested the need for an analysis of the value of MPAs through an integrated socio-economic appraisal of the ecosystem services provided. A few respondents suggested the need for further action to protect the wider marine biodiversity outwith MPAs.

Marine renewable energy generation

- 7.8 A few respondents (primarily local authorities) stated the view that the Strategy does not give enough consideration to the impact of marine renewables on biodiversity. Two respondents requested more support from government and its agencies for planning authorities to ensure the protection of PMFs. One respondent suggested that greater recognition be placed on the links between marine geodiversity and biodiversity to help to inform marine spatial planning.

Invasive non-native species

- 7.9 Those respondents who commented on the issue of invasive species voiced support for development of a rapid-response framework to prevent colonisation of new invasive species in Scotland's seas and islands. One public sector body argued for more emphasis on quarantining and preventing the arrival of invasive species. Another respondent felt that the Strategy fails to recognise the impact of terrestrial invasive species on marine biodiversity.

Sustainable fishing

- 7.10 A number of respondents commented on the issue of sustainable fishing and marine biodiversity. A few considered that the Strategy does not emphasise strongly enough the need to achieve a sustainable fishing industry.
- 7.11 Many of the comments focused on the use of the Maximum Sustainable Yield (MSY) concept. A few respondents questioned the effectiveness of the MSY model and opposed its inclusion in the Strategy. These respondents suggested research into indicators of marine ecosystem health as an alternative. Some noted that the MSY principle relates only to commercial fish species and suggested that as it does not take into consideration the wider impact on other

marine species, it is inappropriate for measuring good practice in relation to biodiversity. However, several third sector organisations supported the MSY model but argued that the MSY should be an ‘absolute upper limit’ and not a target.

Adapting to climate change

- 7.12 Several respondents commented on issues around coastal adaptation to climate change and the threat of rising sea levels, voicing a range of different views. A few respondents stated support for key step eight, with some emphasising the need to integrate coastal zone and flood-risk management strategies, and take account of biodiversity objectives within these. Others suggested greater utilisation of the existing knowledge and expertise on coastal processes or a greater emphasis on interdisciplinary working on this issue within the science community.
- 7.13 A few respondents noted that coastal change should not necessarily be seen as a threat. On the other hand, two local authorities, felt that the Strategy does not give enough recognition to sensitivities around coastal change and the potential conflicts from loss of local land. Others objected to what they viewed as local areas being held responsible for climate change adaptation, noting that sea level rise is not caused at a local level. A few queried the extent to which funding will be made available for adaptation work.

Research and monitoring of marine and coastal biodiversity

- 7.14 Across stakeholder groups, there was support for improving the monitoring of Scotland’s marine environment. However one respondent felt that the Strategy does not adequately reflect the significant amount of monitoring and research already underway. Other comments included the suggestion that the Scottish Government should take greater advantage of the opportunity the Strategy presents to explicitly set out the research agenda, and that data-sharing amongst parties involved in monitoring should be explicitly encouraged. Others pointed out the significant resource requirements of monitoring and requested more detail on how improvements would be achieved.

Involving stakeholders

- 7.15 Those respondents who commented on the Strategy’s commitment to stakeholder and public engagement supported an inclusive approach. One third sector respondent argued for the inclusion of an additional key step to deliver a programme of awareness raising and education through on-site interpretation and guidance.

Other comments

- 7.16 Many respondents, particularly local authorities and other public bodies, noted ways in which they could, or already were, supporting the delivery of the Strategy in their own work. These included:

- Incorporating objectives into policy and management plans, for example Marine Spatial Plans, Marine Site Management Plans; Biodiversity Action Plans.
- Assisting with delivery through partnership working and joint projects.
- Continuing commitment to stakeholder engagement on marine and coastal policy.
- Improving the evidence base through research programmes.
- Promoting public engagement with marine biodiversity by working with schools, community groups and businesses, and by developing resources and projects to facilitate engagement and education.

7.17 Alternative key steps were proposed by several respondents; some of these consisted of amendments to those proposed in the Strategy, however others suggested inclusion of additional key steps. Changes to the key steps were generally aimed at making them more specific and measurable. Three third sector respondents provided the same additional key steps, noted below. These bodies also stated that public lead bodies required to be identified for each habitat type and for each key step, alongside appropriate and adequate resources.

- Recognise the role of, and protect, marine habitats such as kelp forests and sea grass beds that act as carbon sinks to help mitigate climate change impacts.
- Achieve good ecological status of all coastal waters through the integrated and sustainable management of Scotland's river catchments.

7.18 Other issues highlighted by a few respondents were:

- The importance of terrestrial habitats such as dune systems, heathland, and woodlands in mitigating coastal change. One respondent suggested including a commitment to restore dune and heath habitats.
- The need to recognise farmed aquatic biodiversity and associated issues of genetic diversity in the Strategy.
- A feeling that the Strategy is oriented towards charismatic species, and the need for greater recognition of other species and taxa including marine lichens.
- A desire for increased local accountability and control in the management of pressures on the marine environment
- A need for consistency in the use of terminology, such as using 'marine biodiversity' throughout and omitting references to 'maritime biodiversity', as well as resolving inconsistent references to the 'National Marine Plan' and 'Scottish Marine Plan'.

8. MEASURING PROGRESS

Questions

7a) Does chapter seven propose the right approach to reach the outcome that we have a clear framework of indicators against which we can track progress?

7b) What additional steps can you propose, including things that you, or your organisation, can do?

Outcome

A clear framework of indicators against which we can track progress.

Key steps

A suite of indicators will be developed so that we can monitor progress in meeting the Aichi Targets leading up to 2020.

A Scottish Biodiversity Information Forum will be set up to enable us to collect and use biodiversity data in Scotland.

The responses

8.1 Fifty nine respondents offered comments on question 7a, whilst 34 commented on question 7b. Many respondents agreed or broadly agreed with the approach, but in around half of the responses it was not possible to determine whether respondents agreed or disagreed. In any event, most respondents suggested qualifications or suggestions for improvement. Only a few respondents disagreed outright.

Development of an indicator suite for monitoring progress on Aichi Targets

The need for indicators

8.2 A number of respondents stated support for the principle of developing a suite of reliable indicators to monitor progress against biodiversity targets. This support was demonstrated across the stakeholder groups. One local authority respondent noted that this has been a problematic issue in the existing approach to biodiversity, especially locally. Another welcomed the explicit recognition of the link between understanding the importance of biodiversity and strong decision making. A few respondents from the public sector agreed that indicators linked to Scotland's distinctive biogeography were appropriate, but questioned the need for indicators to reflect 'devolved interests' and 'political identity' as described in the Strategy.

8.3 A number of respondents commented that they found the discussion of indicators to be short and lacking in detail, and felt that the strategy should articulate more clearly the agenda for improvement and the steps required. A

few respondents felt that elements of the discussion were confusing or ambiguous (for example, regarding whether species specific or ecosystem management actions are prioritised). One respondent questioned the value of the proposed suite in terms of providing a better indicator of ecosystem health, as opposed to monitoring conservation outcomes.

Targets and existing indicators

- 8.4 A number of respondents commented on the targets and existing indicators set out in table two. A few respondents explicitly welcomed the inclusion of table two setting out the links between Aichi Targets, strategy outcomes and indicators. Several respondents commented specifically on the Aichi Targets and their inclusion in table two. Issues raised included: requests for more detail on how the targets (including the EU Biodiversity Target to half biodiversity loss by 2020) will be measured; mismatches between Convention for Biological Diversity (CBD) Strategic Goals, Aichi Targets and indicators in the table itself; and a request for the Aichi Targets to be summarised in the table. One respondent argued that the Strategy does not give sufficient weight to the Aichi targets (or the Nagoya Outcomes) and another argued for legislation to back the targets.
- 8.5 A few respondents requested detail on progress against the existing indicators. A small number of respondents argued for specific targets and dates for their achievement to be set out within the Strategy.
- 8.6 Several respondents commented that the targets and/or indicators in table two should be more specific and measurable. Others commented on other existing biodiversity indicators not mentioned in the chapter, including a query as to how the indicators in the table relate to existing indicators of ecosystem health such as those developed by the National Biodiversity Forum.
- 8.7 A few respondents felt that there was insufficient detail provided on what information is needed to assess progress towards the Strategy's outcomes, and called for the Strategy to set out a research agenda in more explicit terms.

Delivering the proposed indicator suite

- 8.8 A few public sector respondents emphasised how time consuming it may be to develop a suite of reliable indicators and suggested that given the timescale of the strategy, there may be little time left for monitoring the indicators once developed. Another respondent stated concern that no timescale is set out for the development of the indicator suite. One local authority argued for the importance of confirming the indicators as soon as possible so that they can be reflected in Single Outcome Agreements. The importance of reviewing the indicators that are currently available and building on existing indicators as far as possible was noted.

Issues for consideration in indicator development

- 8.9 Several respondents, primarily local authorities, discussed issues of scale in relation to the proposed indicator suite. They argued for local level data on the biodiversity indicators in order to inform local policy and action. One local authority emphasised that not all indicators are suitable for all areas and called

for this to be recognised in the wording of the Strategy. Another suggested that the indicators of ecosystem health developed by national ecosystem working groups be identified at a national level.

- 8.10 There were a number of suggestions for specific additional indicators, with many of these relating to social evidence. Several respondents across the stakeholder groups called for indicators to measure the social and economic benefits of biodiversity. Two respondents supported a measure of the skills base within Scotland for identifying biodiversity. Other suggestions were for indicators of social attitudes to biodiversity, and levels of engagement (for example, through outdoor learning, membership of local groups and volunteering). A few respondents suggested other indicators relating to cultivated biodiversity (in the context of agriculture, forestry and aquaculture), soil biodiversity and geodiversity. One suggested indicators related to soil quality, use of pesticides/fungicides/insecticides, insect biodiversity, deer numbers, and proportion of local biodiversity sites under active management.
- 8.11 Points were raised by a few respondents regarding the priority species and habitats to be monitored using the proposed indicator suite. These included a diversity of views including: the suggestion that indicators must be representative of habitats and species under threat; a call for acknowledgement of rare habitats and species not covered in EU legislation; a request for greater recognition of non-charismatic species, noting that there is not necessarily a link between threatened species and ecosystem health; and a comment that indicators must focus on ecosystem health and not be selected simply because data already exists.
- 8.12 Several respondents provided general comments on the qualities of effective indicators. These included: being understandable and measurable; sensitive enough to detect change; relevant to local conditions and comparable across regions and countries if necessary; and balanced so that one area is not improved at the expense of others. A few respondents commented on the number of indicators needed, one stating that these should be sufficient but kept to a minimum, the other highlighting that because no single measure of a dimension of biodiversity is adequate, 'baskets' of indicators are most useful.

Resources and responsibilities for indicator development and monitoring

- 8.13 Several respondents commented on the issue of funding and resources. Whilst some argued the desirability of acknowledging the resource requirements for development of the proposed indicator suite within the chapter text, a few third sector respondents noted the Strategy should commit to maintaining and providing resources for monitoring and research activities to track progress.
- 8.14 Several respondents, mainly third sector organisations, requested clearly defined roles and responsibilities to be set out for delivery of the key steps and their monitoring.

Reporting progress

8.15 The importance of regular reporting on progress towards the targets was emphasised by a number of respondents, with several suggesting specific commitments to reporting that could be made within the Strategy (see paragraph 7.17). Several respondents emphasised the role of reporting in policy cycles, with some of these (primarily local authorities) suggesting building a 'monitoring-reporting-action loop' into the suite of indicators. A few questioned what action will be taken if insufficient progress is made.

Data management and communication

8.16 A number of respondents emphasised the importance of facilitating data sharing and streamlining data management. It was noted that the SBIF has already been established, so key step two should be altered accordingly. A few respondents requested greater clarity on the SBIF's role, whilst others emphasised the need to avoid duplicating effort made elsewhere.

8.17 Other issues raised in relation to the SBIF included: it should not introduce a new system for collecting data, but adopt more of a facilitation role; the SBIF could be used to better support citizen science; researchers should be included in the SBIF, in addition to government, volunteers and the private sector as stated in the Strategy; and the existence of the SBIF itself will not contribute towards the outcome as its impact will depend on action supported by adequate resources.

Sources of biodiversity data

8.18 Several respondents expressed concern over the insufficient recognition of certain sources of Scottish biodiversity data. Amongst these there were a number of comments emphasising the important role of Local Records Centres and calling for these to be recognised explicitly within the Strategy. One respondent suggested investigating ways to promote data flows from ecological surveys (for example, from those conducted to inform Environmental Impact Assessment) to Records Centres.

8.19 A few respondents called for recognition of the work of Local Biodiversity Partnerships, whilst another respondent noted that the role of conservationists and academics/researchers had been ignored.

8.20 There were a number of comments on the promotion of citizen science and volunteer collected data. Whilst several respondents explicitly welcomed these, others queried how data quality would be assured. A few respondents voiced concerns that volunteer recording only lends itself to monitoring particular taxonomic groups like birds and plants, and that cryptic diversity should also be considered. Another warned against over-reliance on volunteers and encouraged the use of data collected by stakeholder organisations and research institutions.

Other comments

8.21 A number of respondents, particularly local authorities but also other public and third sector bodies, noted ways in which they could, or already were, supporting the delivery of the Strategy in their own work. These included:

- Adopting relevant indicators under Single Outcome Agreements.
- Supporting recording services such as Local Record Centres.
- Continuing to deliver and monitor Local Biodiversity Action Plan objectives and Biodiversity Duty Delivery Plans.
- Contributing towards development of the indicator suite, including sharing previous work on indicators.
- Training and supporting volunteers for surveys and monitoring.
- Developing and supporting research projects and surveys.
- Participating in the Scottish Biodiversity Information Forum.

8.22 A few third sector respondents suggested the inclusion of a further key action to ensure marine plans, RBMPs and the Scottish Land Use Strategy demonstrate biodiversity improvements through quantitative measures.

8.23 Alternative key steps were proposed by several respondents; some of these consisted of amendments to those proposed in the Strategy, however others suggested inclusion of additional key steps. Changes to the key steps were generally aimed at making them more specific and measurable. Three third sector respondents provided the same additional key steps, which are listed below. These bodies also stated that public lead bodies required to be identified for each habitat type and for each key step, alongside appropriate and adequate resources.

- Develop a suite of indicators demonstrating the connection between biodiversity and improved health, and biodiversity and enhanced economy.
- Minister reports annually to parliament on progress towards the outcomes in this review.
- Public bodies report on a three yearly basis on their compliance with the biodiversity duty.
- An enhanced role and resources for the Scottish Biodiversity Committee to lead assessment of progress towards and require corrective action where insufficient progress is being made.
- Identify the means of measuring benefits to people's health and the Scottish economy of improved biodiversity.
- Involve many more people in data recording and collation and in improving our understanding of the poorly known elements of nature and its role in sustaining life.
- Ensure marine plans, River Basin Management Plans and Scottish Land Use Strategy have quantifiable measurements that demonstrate improvement in biodiversity.
- Maintain resources for continued Site Condition Monitoring and mapping to measure progress against the Scottish Government's National Performance Framework indicator to improve the condition of protected nature sites.

- Strengthen the biodiversity indicators in the National Performance Framework.
- Communicate biodiversity and ecosystem health indicators in a clear and inspiring way, including through Scotland's Environment Web.
- Ensure that the Scottish social attitude indicators properly reflect attitudes to biodiversity as a method of validating the success of communication.
- Provide adequate resources to collate information on location, sensitivity, pressures, impacts and trends affecting terrestrial and marine habitats and species, particularly Priority Marine Features, to help support their protection, and where appropriate, recovery.

8.24 Other issues highlighted by a few respondents were:

- That selected indicators should be monitored in the long-term beyond 2020.
- The suggestion that an initial interim set of indicators be put in place, which could be developed in discussion between the Scottish Government and key stakeholders such as SNH and the Scottish Environment Protection Agency (SEPA).
- The suggestion that a section be included on involving business and industry, and on how local authorities could learn from experiences in other areas/countries.
- A request to make provision for the inclusion of newly discovered species within the monitoring system.

9. GENERAL QUESTIONS

Three general questions were asked about the Strategy. The questions and responses are reported below.

Question 8

Do you agree that the seven outcomes set out in the paper represent what we need to achieve for Scottish Biodiversity by 2020?

The responses

9.1 Of the 46 respondents who commented on question 8, a number did not comment directly on the outcomes but expressed a range of views on the strategy. The majority of the responses to question 8 were at least broadly supportive, however, many also suggested qualifications or areas they felt required strengthening. A small number of respondents provided comments but did not give a clear indication of whether they agreed or disagreed with the approach. A similar number expressed disagreement.

Deliverability of the outcomes

9.2 Many respondents commented on and expressed some degree of concern regarding the deliverability of the Strategy's outcomes. A few of these respondents described the outcomes as vague, whilst others specifically stated it is not clear how they will be achieved, with a few noting that a key barrier to progress has been that public bodies have not been compelled to act. The need to more clearly define the outcomes was suggested by a few respondents. A few other respondents described the outcomes as (too) long-term or ongoing, rather than intermediate for 2020.

9.3 A few respondents suggested alternative outcomes for the Strategy, although there was no clear pattern in the different alternatives suggested. One of these respondents argued that the key steps do not always correspond to their associated outcomes and specifically cited the second and third outcomes as more likely to be delivered by the key steps of chapters four, five and six than those of chapter two or three. Another respondent felt that there was overlap across the seven outcomes.

Level of ambition

9.4 Similar to the comments made regarding delivery, several respondents described the outcomes as highly aspirational or ambitious. On the other hand, one respondent described the outcomes as insufficiently ambitious.

Learning from the past

9.5 Several respondents commented on efforts to achieve previous biodiversity targets, such as the 2010 target. All of these respondents suggested the need for the Strategy to learn lessons from past actions on biodiversity.

Economic focus

- 9.6 A few respondents strongly commented on the economic focus of the Strategy. One respondent, for example, stated that their greatest concern with the Strategy is that it reads as a Strategy for economic development and social well-being, rather than biodiversity. Another respondent described the Strategy as ‘unbalanced’ with an underlying assumption that conservation has to be justified in a way that will be useful to economic growth. Another respondent expressed concern specifically regarding the monetary valuation of ecosystem services.

Funding

- 9.7 Several respondents made diverse comments relating to funding and resources. One of these respondents argued that the Strategy’s outcomes will be especially challenging given the current financial climate, although noted that progress has already been made via LBAPs and the Scottish Biodiversity Duty. Another respondent believed the outcomes reflect funding pressures and a need to deliver projects with multiple benefits to justify the resource input. Another respondent asked for more detail regarding the cost of delivering the outcomes, while another suggested an alternative key aim for the Strategy which highlights the importance of funding by the Scottish Government and public bodies to halt the loss of biodiversity.

Agriculture

- 9.8 Several respondents commented on agricultural biodiversity. A few of these respondents highlighted the ecological and economic importance of farmed and cultivated genetic biodiversity, and argued that it is fundamental that the Strategy recognise it. Another respondent spoke of planting community orchards and their beneficial links to biodiversity, healthier eating and the contribution to the local economy. An individual respondent suggested that the Strategy take into account the benefits of lowland farming.

Local dimension

- 9.9 A few respondents commented on the importance of the local dimension of biodiversity efforts. One of these respondents suggested sharing and expanding across Scotland the work of LBAPs. Another respondent suggested the need for the Strategy to be flexible to local priorities and argued that local work has been underplayed in the Strategy despite it being critical to the delivery of its outcomes. Similarly, another respondent noted that the Strategy only refers to LBAPs and suggested it should reference the various strategies and mechanisms produced by local authorities and other organisations. This respondent also expressed concern that local authorities will be challenged to deliver biodiversity targets because other policy documents and legislation will not have caught up with the emphasis on ecosystems. They suggested guidance for local authorities as well as a more ‘mixed approach’ (i.e. not purely ecosystems) with an eye on the feasibility of local delivery.

International commitments

9.10 A few respondents commented on international biodiversity commitments and noted that the Strategy does not fully reflect them. For example, one respondent recommended that the Aichi Targets be included in an appendix to the Strategy, while another respondent suggested the Strategy incorporate some of the key objectives from international agreements such as Bern, Ramsar, Bonn, Europbats and the African Eurasian Waterbird Agreement.

Terminology

9.11 A few respondents commented on the terminology used in the Strategy, stating that it could be clearer and suggesting a glossary. Another respondent pointed out confusion between the use of 'biodiversity' and 'nature'.

Conflicts of interest

9.12 A few respondents commented on conflicts of interest. They noted that the Strategy does not acknowledge potential conflicts of interest, that the outcomes hide these potential conflicts and that this risks damaging biodiversity.

Scale

9.13 A few respondents made comments in relation to scale. One respondent for example suggested the need for national and regional management of green corridors and integrated habitat networks, including to help coordinate urban-rural issues, such as the health of bees. Another respondent argued that over-emphasising the term and concept of catchment may prevent progress in those areas where catchments do not apply. Therefore, this respondent suggested 'rebalancing' the Strategy's emphasis to be more inclusive of and applicable to other situations, such as urban, wider wetland networks and rivers.

Other comments

9.14 Other issues highlighted by a few respondents were:

- A need to engage with business, industry and local authorities on the installation of green roofs, walls, urban gardens and other local level initiatives.
- A lack of correlation between the Strategy and 2020 Renewables Targets.
- Despite assertions of the critical importance of peatlands, they continue to be disturbed by development.
- The omission of a clear research agenda and research priorities
- The suggestion that any resultant strategy or action plans be the subject of further consultation.

Question 9

Are there any equality issues that the Strategy needs to address (relating to race, gender, disability, age, sexual orientation, gender identity or religion/belief)? If so how could the strategy be improved to meet those needs?

The responses

- 9.15 Sixteen respondents commented on question nine, most of whom stated there were no equality issues that the Strategy needs to address. A few respondents stated they were not in a position to comment on this question.
- 9.16 A few respondents suggested that socially-disadvantaged areas were likely to experience the most impact from biodiversity, whether positively through healthy/restored areas, or negatively as a consequence of biodiversity loss. They suggested actively engaging with under-represented groups, for example by seeking minority groups' opinions on the Strategy and/or specifically targeting them with bursaries/funding.
- 9.17 One respondent suggested the need for an ecosystem approach mechanism that ensures all stakeholders are considered, noting that less direct/more remote stakeholders risk not being taken into account (for example, urban dwellers are affected by countryside issues even if they are not local to them).

Question 10

Are there any other points that you wish to make about any aspects of this draft Strategy paper?

- 9.18 Fifty one respondents commented on question ten. The majority of these were public sector respondents, who used this opportunity to comment on the Strategy as a whole, as well as to provide a wide range of suggestions to improve it.

Overarching aims and scope of the Strategy

- 9.19 The aims and general scope of the Strategy attracted a diversity of views. A number of respondents gave suggestions regarding the framing of the Strategy at the outset of the document. These included: making it clear why this strategy was produced (for example, in response to the Nagoya Summit and international developments, a trend towards the ecosystem approach); providing a clear statement of who the document is for; and outlining the current domestic and global situation.
- 9.20 Several respondents addressed the overarching aims stated in the Executive Summary. Some respondents felt these were insufficiently ambitious, and a few felt there was not a clear enough statement of the aims or stated that they did not fully understand what the Strategy aims to achieve.

- 9.21 Several respondents suggested amendments or alternatives to the stated aims. There were specific comments on the aim to ‘increase the general level of biodiversity’, which several third sector respondents felt was unclear, whilst others questioned whether it was consistent with Aichi Targets. Another respondent suggested qualifying this aim to take into account undesired increases in biodiversity from invasive non-native species. All of the suggested amendments to this aim were in favour of stating an explicit aim to ‘halt biodiversity loss’.
- 9.22 The same respondents who expressed dissatisfaction with the first aim ‘to increase the general level of biodiversity...’ also raised concerns regarding the third aim ‘to maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth’. Suggestions included widening this to include wellbeing and not only economic growth, and replacing ‘maximise the benefits’ with ‘carefully manage the benefits’.
- 9.23 A few respondents questioned what the Strategy adds over and above the Scottish Government’s existing commitments to biodiversity. One respondent suggested clearing identifying in the text where the Strategy proposes new actions.
- 9.24 A few respondents also requested that the Aichi Targets be more prominent in the document, for example including the relevant targets in each chapter. Another respondent suggested that EU targets and Global Strategy for Plant Conservation 2020 Targets could also be included in Table 2 (chapter 7).

Ecosystem services

- 9.25 A number of respondents across sectors raised concerns about the Strategy’s focus on ecosystem services. On the whole, these respondents felt that the Strategy overly focuses on the benefits to people and the economy at the expense of recognising and emphasising the intrinsic value of biodiversity. Several of these respondents thought the Strategy too strongly geared towards economic interests. On the other hand, a few respondents stated explicit support for the Strategy’s recognition of the importance of biodiversity for society in general.

Specificity of the Strategy’s actions and commitments

- 9.26 Many respondents raised concerns about the clarity and specificity of the key steps, actions and commitments, feeling that the Strategy does not provide adequate or concrete guidance on *how* these will be delivered. A number of respondents argued strongly in favour of clearer and more measurable key steps with greater commitment to action, including defined timescales. A few third sector organisations and public bodies called for an action plan to be put in place for implementing the Strategy. Two other respondents felt it was unclear as to whether the Strategy stands alone or if an action plan is to follow.

9.27 Related to the above concerns were issues raised regarding roles and responsibilities for delivery. A significant number of respondents, mainly local authorities, public bodies and third sector organisations, felt that it is unclear *who* will deliver the key steps and actions. Several of these (primarily third sector respondents) argued strongly that lead bodies should be identified for the key steps and actions. There were also several queries regarding how stakeholders such as landowners, LBAP Partnerships and other local and also national organisations fit in to the delivery of the Strategy.

Terminology and language

9.28 A number of respondents raised issues regarding the language and terminology used in the Strategy, with many of these emphasising the importance of clear definitions and consistency. A few respondents explicitly requested the inclusion of a glossary. Others highlighted terms which should be clearly defined in the text. These included: ecosystem approach, ecosystem health, natural capital/natural assets/natural capital assets, environmental health, and catchment. A few respondents warned against the use of general terms like 'nature' and 'natural environment' in place of 'biodiversity', as the former are subjective terms which carry implicit value judgements and different meanings for different audiences.

9.29 A small group of public sector respondents called for a single agreed hierarchical terminology to refer to the range of scales discussed, from National Ecological Network to local area. A few also felt that the use of ecosystem approach was conflated at times with other terms such as catchment management plans and river basin management planning and called for consistency in this respect.

9.30 Other comments mentioned the frequent use of words like 'should' and 'could', arguing that such language is weak and demonstrates lack of commitment. One respondent felt it was not always clear as to who is being referred to when the word 'we' is used - whether the Scottish Government, SEARS (Scotland's Environment and Rural Services), or a more generic 'we'.

9.31 Several respondents felt the text was repetitive, with one emphasising areas of overlap between the chapters. On the other hand, another respondent commented positively on the structure of the Strategy, feeling that the treatment of the main issues in separate chapters was appropriate.

Resourcing

9.32 A number of respondents voiced concerns over how delivery of the Strategy will be funded. These concerns were most common amongst local authorities and third sector organisations. A few of these respondents argued for a clear commitment to provide resources and funding. Others pointed out that difficult decisions will need to be made in targeting available resources, so priorities should be identified.

9.33 Several respondents, largely local authorities, expressed dissatisfaction with current funding mechanisms. Issues raised included the absence of allocated budgets to geographically defined areas, and ongoing difficulties in securing funding for the delivery of LBAPs.

The role of stakeholders

9.34 A number of respondents expressed disappointment in the lack of reference to local biodiversity partnerships and LBAPs within the Strategy and called for greater recognition of their work and potential role in delivery. A few respondents also highlighted the role of Local Records Centres and volunteer networks in data collection and requested greater recognition of these.

Stakeholder engagement and partnership working

9.35 A few respondents noted the importance of stakeholder engagement in delivering the Strategy outcomes. Some emphasised their interest in engaging, citing relevant biodiversity work, or highlighted structures in place for providing advice to policymakers. One respondent argued for a new approach to the Ecosystem Groups within the Scottish Biodiversity Working Groups; these were perceived to be ineffective and lacking consistency in the approaches of the different groups.

Learning from the Scottish Biodiversity Strategy

9.36 Arguments in favour of including an assessment of past successes and failures with regard to the 2004 Strategy were made by several public and third sector respondents. These respondents emphasised the importance of the current Strategy stating the lessons learned in order to build on the 2004 Strategy. A few third sector respondents raised concerns that previous commitments had not translated into results.

Scale and geography

9.37 Several respondents raised issues regarding the scale(s) at which actions will be delivered. Whilst some suggested that the scale for delivery should not be catchment/landscape level but coordinated across Scotland, another respondent queried how the scale will be defined and delivered and how landowners might collaborate to deliver landscape scale change. One respondent suggested considering how landscape scale delivery could be delivered through Habitat Management Plans (for example, for renewable energy development) and restoration of mineral extraction sites. Another felt that the treatment of scale in the Strategy is disjointed amongst the chapters (for example, jumping from ecosystems to landscape scale to public health).

9.38 A few public sector respondents suggested more flexible policy to meet the unique needs of agriculture in the Highlands and Islands. Most of these called for crofting specific land management options as opposed to generic farm options. One respondent highlighted sources of evidence on the unique aspects of crop agrobiodiversity in the West of Scotland and Scottish Islands.

Farmed species and genetic diversity

9.39 An argument that the Strategy gives insufficient consideration to farmed and other cultivated (plant and animal) biodiversity and associated genetic diversity was put forward by a few public sector organisations. Scotland's National and International commitments (including Aichi Targets) in this respect were emphasised within these comments. Suggestions to remedy this included: making a specific statement on the role of farm animal, crop and forest genetic diversity and their contribution towards ecosystem services; referencing the Scottish Government's (2002) study *The Status of Traditional Scottish Animal Breeds and Plant Varieties and the Implications for Biodiversity* and recent studies on crop agro-biodiversity; and mentioning the Scottish Landrace Protection Scheme.

Research agenda

9.40 A few respondents argued for setting out a research agenda to underpin the Strategy and promote its importance, with two respondents offering to work with the Scottish Government to develop this. One of these respondents argued that the appetite for tools such as the ecosystem approach, offsetting and natural capital valuation amongst policymakers is ahead of the scientific evidence, and therefore suggested a commitment to furthering research in these areas. One respondent expressed concern regarding the Strategy's lack of referencing to research and evidence, arguing that it is often very difficult to distinguish between the positions of the authors and those based on evidence.

Strengths of the Strategy

9.41 A number of respondents took the opportunity to highlight the strengths of the Strategy, in addition to suggestions for further attention. A diversity of points were raised in this respect including:

- Comments welcoming the intentions, rationale and aspirations of the Strategy, including recognition that this is intended to be a high level strategic document as opposed to detailing each individual action required.
- Appreciation of the aim to engage people with the natural world and support for recognition of the importance of the natural world for our health, wellbeing and prosperity.
- Support for the emphasis on the ecosystem approach in the Strategy.
- Support for the efforts to achieve the target of 95% of protected sites in favourable condition.
- Welcoming the recognition of the importance of high quality biodiversity data.

Other comments

9.42 Other issues highlighted by a few respondents were:

- The suggestion that the Strategy should make more explicit the links to other strategies and delivery mechanisms. On the other hand, one respondent praised the Strategy's alignment with other strategies.
- A perception that the main focus of the document is outlining why we should be concerned about biodiversity rather than committing to action.

- A view that the positive and idealistic tone of the document is disconnected from what land managers perceive as the real world, and an opposing view from another respondent welcoming the Strategy's realism.
- A call for an assessment of the coverage and management of Scotland's network of protected sites.
- Concern that the SBIF arose out of an outside agency petitioning the Scottish Parliament, rather than from the SBS in which it was identified as a priority action.
- Lack of reference to the Caledonian Forest.
- A recommendation for the establishment of a Centre of Biodiversity Expertise (in line with those for water and climate change).

10. STRATEGIC ENVIRONMENTAL ASSESSMENT

Four questions were asked on the Environmental Report. The questions and responses are reported below.

Question 11

Are you content that an accurate description of the current environmental baseline has been provided?

The responses

10.1 Question 11 was addressed by 23 respondents. Of these, most were supportive outright and a few in broad terms. Slightly fewer respondents provided comments but did not give a clear indication of whether they agreed or disagreed with the description of the current environmental baseline. Several respondents indicated disagreement with the description of the current environmental baseline.

Farmed and cultivated biodiversity

10.2 A few respondents noted the omission of farmed and cultivated biodiversity, including forestry, and highlighted its importance. Based on this omission, these respondents stated 'no', that they are not content that an accurate description of the current environmental baseline has been provided.

LBAPs

10.3 Several respondents noted the lack of reference to LBAPs, Supplementary Planning Guidance, Planning Advisory Handbooks and/or local development plans. A few respondents specifically noted this omission in '4: Environmental Context Policy Context for the Environmental Assessment'. Due to this omission, one of these respondents stated 'no', they were not content that an accurate description of the current environmental baseline had been provided.

Orchards

10.4 A few respondents noted that there is no mention of orchards in the Woodlands or other sections of 'Environmental Context - Landscape and Cultural Heritage'.

Other comments

10.5 Other issues highlighted by one or two respondents were:

- The omission of the impact on ground nesting birds by foxes, otters, corvids and pine martens. It was suggested that exclusion zones should have been considered as a viable option for the protection of vulnerable species.
- A suggestion of including predictions of confidence in the assessment findings (for example, inclusion of likelihood intervals).

- The problem posed by large gaps in the environmental information available, making it difficult and/or impossible to comment on the Strategy's potential impact.
- The problem posed by SSSI monitoring, described as an imprecise science as the Common Standards Monitoring is not really designed to monitor change.
- A suggestion to include earthworm or at least a soil indicator organism in the baseline.
- A suggestion to recognise those who contribute to biodiversity through sustainable land management outside of protected areas.
- A suggestion to replace the text box 'UK BAP - co-ordinating' with 'UK Post-2010 BD Framework', as the structures of the UK BAP, including UK targets have been superseded since 2011 and that Habitat and Species Action Plans, if they still operate, do so only at a country, not UK, level.
- Praise of the SEA as more scientifically-sound and biodiversity-oriented than the ecosystem services approach of the Strategy
- Support for 'Strategic Scenario 2: Deep ecology' (page 18 of SEA) and support for aspects of the Provisioning Services section (page 41 of SEA)
- Criticism that despite the report's ecosystem approach, there is also a tendency to treat the different service types as completely separate.
- No mention of CAP or SRDP, which was cited as a serious omission.
- Criticism that despite protected areas not existing in isolation, the baseline environment section is heavily focused on them, at the expense of wider countryside issues.
- No mention of the Scottish hills and the retreat of livestock from them in agriculture section (4.3.22-23), which is exclusively focused on lowlands.
- No mention of high nature value farming and forestry.

Question 12

Are you aware of any further environmental information that will help to inform the assessment findings?

The responses

10.6 Question 12 was addressed by 15 respondents. Just over half of these responded 'no', they were not aware of any further environmental information that would help to inform the assessment findings. Just under half the respondents provided comments and suggestions. These comments are summarised below.

References to work of others

10.7 A number of reports were suggested and/or provided, including: *Policy drivers for Farm Animal Genetic Resources protection and conservation within the UK; Ecosystem services from Environmental Stewardship that benefit agricultural production*, Natural England; *The Status of Traditional Scottish Animal Breeds and Plant Varieties and the Implications for Biodiversity*, the Scottish Executive,

2002. Other made more general references to work by the United Nations Food and Agricultural Organisation and work on the UK Species Dictionary and a new list of Native Breeds at Risk in the UK.

Other comments

10.8 Other issues highlighted by one or two respondents were:

- A suggestion that SNH work closely with research institutes, universities and NGOs for best and most efficient data use.
- A suggestion to include Scottish Government statistics on the extent and broad distribution of High Value Nature Value farming and forestry systems in Scotland.
- A suggestion that partner organisations and effective networking would help to inform the assessment findings.
- Offers of their own data (a third sector organisation and a public sector organisation) which could contribute to the assessment findings.
- A suggestion to include information regarding status of the New Zealand flatworm in Scotland.

Question 13

Do you agree with the conclusions on the environmental effects of the Strategy?

The responses

10.9 Question 13 was addressed by 24 respondents, most of whom provided comments but did not give a clear indication of whether they agreed or disagreed with the conclusions on the environmental effects of the Strategy. Several respondents expressed their outright support of the conclusions, and slightly fewer disagreed with them.

Marine

10.10 Several respondents commented on the marine environment in relation to the environmental conclusions. This was the most commonly agreed point made by respondents to question 13, all of whom stated that the SEA makes very little reference to the marine and coastal environment despite the Strategy itself devoting a whole chapter to it. A few of these respondents also noted that the SEA's definition of water focuses on fresh water, despite paragraph 4.3.8 acknowledging that over half of Scotland's administrative territory is marine. They argued that this is an oversight and should be re-balanced.

Reasons for disagreement

10.11 A few respondents disagreed with the conclusions on the environmental effects of the Strategy because they do not recognise farmed and cultivated biodiversity, including forestry. Another of these respondents disagreed with the conclusions because they felt the report's emphasis on ecological network

development may be impractical and in conflict with economic aspirations (for example, farming, forestry, renewables). This respondent suggested that instead of relying on 'metapopulation linkage', more analysis and prominence should be given to local breeding and reproductive management.

Scenarios

10.12 A few respondents commented on the scenarios. One respondent stated that the four scenarios are extremes and do not represent a likely way forward. It was suggested instead that the focus should be on striking a balance among them and in turn, also a balance among conservation, ecosystem services and natural capital. Another respondent stated a preference for the second delivery scenario. One other respondent thought there was a lack of clarity whether the scenarios have been developed by taking account of the current Biodiversity Strategy.

Other comments

10.13 Other issues highlighted by one or two respondents were:

- The intrinsic importance of biodiversity in its own right (as opposed to its relation to economic growth).
- No mention of CAP or SRDP, which was cited as a serious omission.
- Although the generalised environmental effects of ecosystem services may be realised, the consequences for biodiversity remain highly uncertain.
- Although the SEA is cohesive in itself, there is a disconnect between it and the Strategy, in that the prominent utilitarian approach of the Strategy is dismissed in the SEA.
- Concern regarding potential additional legislation other than those already imposed through EU Habitats Directive, based on statements made in paragraph 1.1.64
- The landscape topic is subjective.

Question 14

Are you aware of other 'reasonable alternatives' to the Strategy that should be considered as part of the SEA process?

The responses

10.14 Question 14 was addressed by 15 respondents. Just over half of these respondents answered 'no', they were not aware of other reasonable alternatives to the Strategy that should be considered as part of the SEA process. Just under half of these respondents provided comments, most of which addressed the question directly by suggesting specific alternatives, although others offered more general feedback.

Farmed and cultivated biodiversity

10.15 A few respondents suggested that farmed and cultivated biodiversity should be developed as an alternative. One of these respondents suggested that there should also be full assessments of a 'Strategic Scenario' and a 'Delivery Scenario' that comprehensively integrate all components of agricultural and forestry biodiversity/genetic diversity.

More detail

10.16 A few respondents answered 'no' to question 14 but also suggested that more detail is needed. One of these respondents thought the SEA had dominated the Strategy, resulting in a vague document, but this was understandable given that the impetus was economic development. Another respondent argued that the Strategy should include more details regarding the who's, how's and when's.

Other alternatives highlighted

10.17 One respondent stated that the SEA's scenarios are good and suggested a combination of the Deep Ecology and Delivery Scenario 2.

10.18 Regarding INNS, one respondent suggested as complementary and not as alternatives, the existing UK Strategy, the EU Directive and the Marine Strategy Framework Directive.

ANNEX A: RESPONDENT LIST

THIRD SECTOR

1. Central Scotland Forest Trust
2. British Lichen Society
3. British Association for Shooting and Conservation Scotland
4. The British Ecological Society
5. Scottish Environment LINK³
6. Bat Conservation Trust
7. Dumfries and Galloway Environmental Resources Centre
8. Botanical Society of British Isles (BSBI)
9. Amphibian and Reptile Conservation (ARC)
10. SAMH (Scottish Association for Mental Health)
11. Royal Institute of Chartered Surveyors (RICS) Scotland
12. Society of Biology
13. Field Studies Council
14. Royal Society of Edinburgh
15. Scottish Land and Estates
16. Children in Scotland
17. RSPB Scotland
18. Sustrans Scotland
19. Scottish Wildlife Trust
20. Scottish Countryside Alliance
21. Game and Wildlife Conservation Trust
22. Cycling Scotland
23. Botanical Society of Scotland
24. Scottish Geodiversity Forum
25. Plantlife Scotland
26. John Muir Trust
27. Scotland's Moorland Forum
28. National Farmers Union (NFU) Scotland
29. Grounds for Learning
30. Eco-Congregation Scotland

OTHER PUBLIC SECTOR

31. NHS Fife
32. NHS Health Scotland
33. Tayside Biodiversity Partnership
34. Forestry Commission Scotland
35. Scottish Environment Protection Agency
36. Joint Nature Conservation Committee
37. Royal Botanic Garden Edinburgh
38. Scottish Agricultural College
39. The James Hutton Institute
40. Loch Lomond and The Trossachs National Park Authority

³ Scottish Environment LINK submitted a combined/consensus response supported by the following organisations: Buglife Scotland; Butterfly Conservation Scotland; Froglife; John Muir Trust; Marine Conservation Society; National Trust for Scotland; Plantlife Scotland; RSPB Scotland.

41. Historic Scotland
42. Scottish Water
43. Dumfries and Galloway Biodiversity Partnership
44. Galloway and Southern Ayrshire Biosphere Partnership
45. North East Scotland Local Biodiversity Action Plan
46. Quality Meat Scotland
47. Farm Animal Genetic Resources (FAnGR) expert committee
48. UK Plant Genetic Resources Group (secretariat provided by Defra)
49. The Scottish LBAP Network

LOCAL GOVERNMENT

50. Comhairle nan Eilean Siar
51. The Highland Council
52. Dundee City Council
53. Scottish Borders Council
54. Fife Council
55. Aberdeenshire Council
56. Argyll and Bute Council
57. Stirling Council
58. South Lanarkshire Council
59. Orkney Islands Council
60. Clackmannanshire Council
61. Shetland Islands Council
62. Renfrewshire Council
63. Glasgow City Council
64. City of Edinburgh Council

INDIVIDUALS

65. Robert Evans
66. Colin Reid
67. Anonymous Respondent
68. Bridget Martin
69. Mark Watson
70. John Coleman
71. Anonymous Respondent
72. Martyn Jamieson
73. Brian Boag

PRIVATE SECTOR

74. Scottish Woodlands Ltd
75. EDF Energy PLC
76. SSE

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