



Summary

Protecting and investing in the natural environment upon which we all depend is, by its very nature, preventative spend, as a thriving environment delivers social, spiritual, psychological and health as well as economic benefits. In recent years we have begun to break the link between economic development and environmental damage. However, Scotland, the rest of the UK, and Europe, collectively failed to meet the 2010 target to halt the loss of biodiversity. Concerted action and investment is needed now if we are to meet the renewed 2020 target, giving recognition from the top that Scottish biodiversity provides essential 'public goods' and has intrinsic value. Protecting biodiversity now and preventing environmental catastrophes before they happen is cheaper in the long run, and can save the need for costly interventions further down the line. The TEEBⁱ study has highlighted the growing costs of biodiversity loss and ecosystem degradation, and was discussed in a recent articleⁱⁱ from DG Environment which stated that 'a proactive approach to biodiversity loss – where conservation of a species starts *before* it becomes endangered – could save millions of euros compared to the cost of recovering a population already in serious decline.'

We restrict our submission to questions 1 and 2 in the general call for evidence.

Question 1 - *The previous Scottish Government said that: "Preventative action is integral to the approach to government in Scotland and delivering the outcomes set out in the [National Performance Framework](#)". What spending commitments and priorities would you like to see in the 2012-13 draft budget and spending review in order to ensure that progress is being made on preventative spending and, in particular, Early Years intervention?*

RSPB Scotland is the charity that speaks out for birds and wildlife, supported by almost 90,000 members living in both rural and urban areas. Our primary purpose is the protection and enhancement of nature – both for its own sake and as a vital contribution to Scotland's economy (underpinning, for instance, our food and tourism industries), and social well-being (eg. health and water quality).

Without public policy interventions, however, the quality of our environment, including nature, will decline, as in a free market the environment is an externality with no cost. Government, therefore, has to intervene. Successive administrations have done so, and the SNP manifesto commits the current Government to continuing this approach.

These interventions are, however, often made "after the event" and represent spend that might have been lower had earlier or more strategic interventions been made. We set out below a number of policy areas where spend and/or other policy interventions now will reduce cost later, as well as promoting truly sustainable development.

Preventing climate chaos

Funding our response to the threat of climate change is a no-brainer. The Stern Reviewⁱⁱⁱ (2006) provided compelling evidence that the costs of reducing greenhouse gas emissions now are far outweighed by the future benefits from avoiding the worst impacts of climate change. The way we plan to manage our cities, towns, countryside and coast needs to take account of climate change impacts. Adapting to climate change in ways that improve our economic security and recreation while enhancing wildlife habitats can go hand in hand, and should be at the heart of the Government's approach to tackling climate change.

RSPB Scotland are members of Stop Climate Chaos Scotland (SCCS) and we support the range of suggestions submitted by SCCS in their written evidence, including their call on the Finance Committee to recommend that this budget must, as a minimum, fully fund all of the measures set out in the Government's own plans to meet our climate change targets as set out in the Report on Proposals and Policies. In particular we believe that, while renewable energy developments are an important part of the

response to climate change, it is important to accompany these policies with investment in demand management and energy efficiency. **Such an approach would prevent higher expenditure in the future.**

Peatlands

Across the world, large scale degradation of peatlands is causing serious environmental and social impacts^{iv}. A Scottish Government study^v suggests that Scotland's deepest peats store around ten times as much carbon as that stored in the whole of the UK's forest biomass, yet our peatlands have suffered massive degradation through drainage, extraction for horticulture, and inappropriate afforestation. Restoration and protection of peatlands provides cost-effective carbon sequestration and associated benefits to people of tackling climate change. **Peatland restoration is cheaper than many other forms of carbon abatement^{vi} with the added benefit that a single expenditure can result in indefinite carbon abatement and provide a long term sequestration opportunity.** Another benefit of a healthy functioning peatland is that it helps ensure the quality of water supply, which can reduce the need for costly water treatment further along the system. It is welcome that peatlands are enjoying a prominent place in the debate about climate change. The Scottish Government should now be encouraged to act on their manifesto commitment to protect and restore peatlands, and to bring forward a costed proposal for how they intend to realise this. Further information on this issue can be found on the website^{vii} of the IUCN Peatland Programme.

Coastal defences

The prospect of sea level rise due to climate change is a very real threat to our coastal communities and industries. Research^{viii} published earlier this year shows that sea level rise poses more of a threat to Scotland's coasts than was previously thought. The conventional solution of building sea walls as water levels rise is expensive, carbon intensive, and requires frequent maintenance. Coastal realignment schemes – piloted by RSPB Scotland at Nigg Bay almost a decade ago, and a core part of our vision for the Inner Forth area - allow uneconomic flood defences to breach and returns these areas to intertidal habitat. SEPA estimates that flood damages in the Inner Forth area alone could cost up to £80 million^{ix}. Coastal realignment offers a cost effective^x and sustainable way of adapting to the impacts of climate change, with benefits to the economy, society and the environment. **Funding such projects allow the remaining and future funds to be diverted to protecting higher priority coastal areas, including densely settled areas.** By allowing the sea to encroach on areas where it will not damage communities and businesses, space can be created for housing and other development elsewhere. The Scottish Government should be encouraged to lead by example in seeking out areas where managed realignment could be used to manage sea level rise sustainably in place of traditional unsustainable methods. These areas should be identified in Local Development Plans, River Basin Management Plans and Flood Risk Management Plans, and measures implemented to ensure the potential is fulfilled.

Coastal realignment also recreates important saltmarsh habitats for vulnerable wildlife, which have the added benefit of extracting carbon from the atmosphere and storing it in sediments, so-called 'blue carbon'. The marine environment binds 55% of all the carbon in living organisms, i.e. more than terrestrially captured 'green carbon'. Blue carbon 'sinks', especially in the shallow coastal zone, such as mangroves, saltmarsh and seagrass beds play an important global role in capturing and permanently storing carbon in soils and sediments. However, blue carbon is currently undervalued by policymakers. Further detail can be found in our report^{xi}.

Sustainable flood management

Current estimates^{xii} from SEPA indicate that flood damage could cost Scotland almost one billion pounds. More than ever, Scotland needs to adopt flood management **measures that work with the natural environment to provide lower-cost solutions for flood prevention.** Traditional approaches to flood defence have seen millions spent on schemes to construct 'hard-engineering' solutions such as walls, embankments and large concrete culverts. However, by moving water faster, these structures can simply move the flooding problem further downstream to other communities. Furthermore, with flooding events likely to become more extreme in future, this approach will no longer work as building ever higher embankments becomes unsustainable. The Flood Risk Management (Scotland) Act 2009 recognises the need for sustainable flood management and the use of natural or 'soft-engineering' techniques. Natural flood management is about using natural features to manage floods e.g. reconnecting rivers to their floodplains so that they store and slow the flow of floodwater through a catchment. An economic study^{xiii} of RSPB Scotland's Insh Marshes reserve, a naturally functioning floodplain in Speyside and part of our

Futurescapes programme, shows that it potentially saves £1.7 million on flood defence spending. This is in addition to the other economic benefits that the reserve provides through wildlife tourism and recreation. Investment in sustainable flood protection schemes that use natural techniques is prudent for managing floods in our towns and cities and ensuring we can adapt to a changing climate. Furthermore, investing in upland catchment areas is beneficial to the overall quality of the water supply, and **can reduce the need for costly end-of-pipe treatment.**

Green Infrastructure

Physical and mental wellbeing and life expectancy are being increasingly linked to access to a high quality natural environment. Glasgow University research published in *The Lancet*^{xiv} showed that exposure to the natural environment has an independent effect on health – populations that are exposed to the greenest environments have the lowest levels of health inequality related to levels of income deprivation. An RSPB Scotland report^{xv} looked at how a new approach to development has been achieved in locations across Europe, examining the way that the provision of green infrastructure has been incorporated in both rural and urban areas.

The creation of green infrastructure is at the heart of RSPB Scotland's Futurescapes^{xvi} programme – an ambitious project to create more rich habitats for wildlife and diverse, green spaces for people to enjoy. With continued biodiversity loss, and pressures from climate change likely to increase, it's vital that wildlife has space to adapt and that we assess our options for managing the connections between ecosystems. This has the added benefit of avoiding costly emergency interventions to save threatened species further down the line. **Appropriately managed natural habitats also provide cost-effective natural services to society, such as flood alleviation, pollution reduction, carbon sequestration and adaptation to climate change. Investment in Scotland's natural assets through establishing green infrastructure therefore makes both economic and environmental sense.** The Scottish Government should be encouraged to take the intellectual lead in driving forward this approach, ensuring appropriate policy and planning frameworks are in place to facilitate landscape-scale conservation, and should also be encouraged to pilot their own landscape-scale initiatives and share learning with others.

Supporting High Nature Value farming

Supporting HNV farming and crofting systems offers a cost-effective way to achieve a range of environmental outcomes and helps to underpin economic and social activity in the more remote and rural areas of Scotland. Agriculture, as well as supplying us with food, produces a range of other goods and services that society values and benefits from. The regulation of water and soils, carbon storage and the maintenance of biodiversity and landscapes are key examples. These goods and services are 'public goods' which benefit society as a whole, but are underprovided by markets and therefore require public intervention to secure their delivery^{xvii}. HNV farming and crofting systems – predominant in the north and west of Scotland – are particularly important in this regard. They help to maintain some of our most threatened habitats and species, are part of a rich cultural heritage, and sustain activity in some of the most economically fragile areas of the country.

HNV farming systems are under threat. In some situations, agricultural management is becoming more intensive in an effort to increase yields and farm incomes. In other situations, agricultural management is declining and may even be abandoned in some places. Both of these trends result in the loss of environmental and cultural values^{xviii} and lower employment levels. Agricultural decline is of particular concern because once such farming and crofting systems are lost, they will be extremely difficult, if not impossible, to replace.

Under the current system the most extensive and HNV farming and crofting systems in the north and west of Scotland receive the lowest levels of agricultural support, whilst the more intensively managed and economically viable farms in the east and south-west receive the highest levels. Targeting a greater share of existing Common Agricultural Policy (CAP) support (c. £670 million) at HNV farming and crofting systems would prevent their decline or outright loss. **This would avoid the negative environmental, economic and social impacts that would arise and which would require further Government expenditure to address in future.** The forthcoming reform of the CAP and its subsequent implementation is an opportunity for the Scottish Government to take steps to prevent the decline and loss of HNV farming systems and the environmental and other benefits they give rise to.

Invasive Non-Native Species (INNS)

We welcome the new measures for tackling INNS in the Wildlife and Natural Environment Act 2011, which are potentially the most advanced in the EU. We are, however, concerned that the draft INNS Code of Practice, a key element of the new measures that was recently open to consultation, fails to capitalise on the legislation and will render the new measures ineffective in practice. The Code must clarify lines of responsibility and decision-making.

If these issues can be addressed, Scottish Ministers will have effective powers at their disposal to combat this problem which, as well as causing damage to our native biodiversity, is a burden on our economy. A recent government report^{xx} concludes that the cost to the Scottish economy of INNS is at least £245 million annually. The report also examines the cost-benefit relationship of tackling INNS at different stages of the invasion process, revealing a markedly accelerating increase in the cost of action as an invasion progresses. It is recognised across the world that **early action on INNS delivers huge long-term cost savings and is, ecologically, by far the best response**. A good example is Japanese Knotweed which could have been eradicated relatively easily had early action been taken before it spread exponentially across the UK, and is now past the stage where it could be eradicated completely. On-going control costs authorities and businesses millions of pounds each year. In Wales, it would have cost £53.3 million for a three year eradication programme for Japanese Knotweed had it started in 2001, but the cost would now be £76 million for such a programme starting in 2007^{xx}.

Onus should be placed on public bodies - in particular SNH and SEPA - to adequately budget for effectively fulfilling their responsibilities in relation to INNS (further information on this can be found in our response^{xxi} to the Scottish Government's consultation on the Draft Code of Practice). Investing resources to prevent invasion in the first place, and in detecting and nipping invasions in the bud early on, would reap enormous financial benefits in the long term. Workers at key pathways for the introduction of INNS should be trained to recognise dangerous INNS - eg. employees in the horticulture trade, rangers in local authorities and national parks, and employees at ports and customs. Additional monitoring is required in vulnerable locations where the risk of invasion is greater. Early warning and rapid response would assist the Government and other agencies in making our biodiversity in as favourable status as possible, ensuring that it is better able to deal with climate change and other forthcoming environmental pressures.

Economically viable fisheries

RSPB Scotland is committed to working towards ecologically sustainable fisheries for the benefit of the wider marine environment *and* economically viable livelihoods for fishermen and their communities. We do not believe these are mutually exclusive.

By revising fisheries management policy so that the environment is at the heart of decision-making, Scotland and the EU can deliver healthier and more biologically diverse seas. This in turn ensures that Scottish businesses benefit from strong markets which increasingly demand that suppliers have the best environmental credentials, providing the foundations for an economically viable Scottish fishing industry. Conversely, a Common Fisheries Policy which fails to take an ecosystem approach to fishing also fails Scottish businesses and the communities which rely on them. Enabling recovery in stocks and habitats which are depleted will also increase our marine environment's resilience to the impacts of climate change which, if left unmitigated, could lead to the loss of important breeding and nursery areas for commercially important fish.

The value of food harvested from UK seas to the UK economy has been estimated at over £650 million per year (not including secondary businesses such as processing and transport). The Scottish fleet is responsible for landing 66% of the total UK volume of fish and the most valuable fisheries (nephrops and mackerel) operate mainly in Scottish waters^{xxii}. Fish and shellfish are a part of our marine ecosystem which is entirely dependent on the functioning marine food chain. A continued decline in marine biodiversity will directly impact on Scotland's fishing industry and related businesses such as processing and transport. Damaging fishing practices are not only unprofitable, but also damage the livelihoods of other, more forward thinking businesses, who understand they must manage marine resources carefully for the long term. A government which takes this ecosystem approach to fishing will send a clear signal that it values sustainable Scottish businesses over those which are unsustainable and environmentally harmful.

To achieve such a sustainable system, however, requires investment in fisheries and marine science, and in fit-for-purpose data collection, monitoring and compliance - this investment will result in a financially viable, successful industry, free from discards, and ensure that fleet capacity is balanced with available resources. **Such spend would be truly preventative, as it will prevent the ruin of our seas and the industries and communities they sustain.**

Benefitting coastal communities

Scotland's groundbreaking marine legislation, if properly implemented and resourced, can ensure that coastal communities help deliver sustainable economic growth in Scotland. Marine related industry contributes an estimated £2.2 billion (Scottish Government figures) to the Scottish economy annually. **By protecting marine biodiversity, which makes our seas productive and healthy, our seas can help Scotland meet a broad range of economic needs and avoid damage to fragile rural economies.**

Spatial planning and Marine Protected Areas – top priorities in the implementation of the Marine (Scotland) Act - are key to ensuring that all marine industries, from new renewable technologies to traditional industries such as shipping and fishing, are sited and operate in ways which do not harm our seas. A marine planning system based on an ecosystem approach to managing human activities would prevent unsustainable development, and would operate in the long term public interest as set out in Scottish Planning Policy. Spatial planning is a win-win solution for wildlife *and* industry, as it can reduce conflict and red tape, speed up decision making, and therefore cut costs for businesses.

Putting marine conservation at the heart of decision making brings direct benefits to coastal communities - wildlife attracts visitors, who in turn spend money in the local economy. Seabirds alone attract millions of pounds in tourism revenue to our coastal communities^{xxiii}. Spending by visitors can benefit a wide range of enterprises in a local area, through direct, indirect and induced impacts, helping to provide income and employment for local people. An independent survey at RSPB's Mull of Galloway reserve, in a part of Scotland where much of the local economy depends on tourism, found that over 70% of respondents cited seeing seabirds as either their main reason or one of the reasons for visiting the area^{xxiv}.

Outdoor learning

A quality outdoor learning experience delivers multiple benefits for children including: a greater depth of understanding and improved learning across the whole curriculum; benefits to their sense of self and to their health and wellbeing; and a commitment to protecting the environment. Curriculum for Excellence guidance has set a welcome vision for educational settings to provide frequent and progressive outdoor learning opportunities for all young people, but we need more political commitment and action to realise the potential of quality outdoor learning for every school pupil in Scotland. There are around 676,740 pupils in publicly funded schools in Scotland, with around 20% coming from households classed as living in some form of poverty or material deprivation. At a cost of around £25 per child per visit, the Scottish Government could help ensure universal participation in outdoor learning by funding visits for children from less well-off households, costing £3.4m per annum. Inspiring the environmental champions of tomorrow is beneficial to personal development and attainment, resulting in more productive citizens with greater respect for the natural environment and all its benefits. **Such investment, now, will help deliver a future population accepting of the constraints and benefits of a sustainable lifestyle and sustainable policies – thus preventing costly conflicts in future.**

Question 2 - *The Scottish Government has emphasised an outcomes based approach through both the [National Performance Framework](#) and Single Outcome Agreements. What, if any, additional national and local indicators would you like to see as a means of supporting the shift towards a greater focus on preventative spending?*

The NPF, when first introduced, was a commendable attempt to better coordinate Government activity and that of its agencies. RSPB Scotland supports this approach to securing better coherence across Government, but supports the Scottish Environment LINK view that the current NPF falls short of what is required to deliver true sustainable development. The current “refresh” of the NPF should be used to address weaknesses and ensure it helps us meet our needs without compromising the ability of future

generations to meet their needs. Such an approach would be truly preventative. With that in mind we wish to make the following recommendations:

Striking a balance

We support the LINK view that the imbalance between monetary measures and social, cultural and environmental measures should be redressed by a suite of high level indicators of equal prominence to an economic indicator, to reflect progress in improving wellbeing and living within environmental limits.

We also support the LINK view that the subset of environmental targets should relate to progress in delivering Scotland's Climate Change Act and improving biodiversity, and that the reliance on limited data sets that are unable to inform local priorities and outcomes has resulted in the use of indicators and targets because they are easy to measure, rather than focussing on measuring progress towards sustainable development outcomes. At present, the terrestrial breeding birds indicator is too narrow, omitting both marine and the rarer terrestrial species, as well as not reflecting the condition of other wildlife or the threats of non-native species.

In addition, we recommend that the existing indicator on protected nature sites is retained in its current form, particularly the target to increase to 95% the proportion of protected nature sites in favourable condition.

Alternatives to GDP

One crucial cross-cutting issue affecting the health of our environment is how we measure economic success. The present global financial crisis is causing huge difficulties for us all. However, it should also raise questions about why, after decades on uninterrupted growth, we have not managed to achieve economic well-being. It is no coincidence that we are in the midst of both an economic and environmental crisis, having pursued unsustainable practices with regard to both. RSPB Scotland believes that a move towards a more sustainable economy would be aided by the development and implementation of Sustainable Development Indicators, including measures of social well-being and environmental sustainability, to complement the traditional, but limited measure, of GDP. RSPB Scotland supports the recommendations of the Carnegie Trust report 'More than GDP: measuring what matters'^{xxv} including the use of a wider set of indicators in the Scottish Government's National Performance Framework. We should seek to improve the quality of life for all, not just the material wealth of a few to the detriment of the natural environment. Part of a new approach to national accounting should include measures to ascertain changes to the stock of Scotland's natural capital.

Greater focus on active travel

The existing indicator regarding public or active transport should be strengthened to include an ambitious target for the proportion of journeys made by these methods. Moreover, the indicator concerning traffic congestion could be taken to imply that greater investment in road-building takes priority over addressing the very real concern of over-reliance on private cars, and contradicts the need for a greater shift towards public/active travel and the removal of barriers to making this happen.

Outdoor learning

Adding an indicator regarding outdoor learning for children would stimulate progress in this area. We recommend an indicator as follows:

Every child in primary and secondary education to have access to at least one outdoor learning visit each year.

Renewables

We recommend that the phrase 'appropriately sited' be inserted between 'from' and 'renewable' in the indicator concerning targets for renewable energy generation. Ensuring that renewable energy developments do not negatively impact on the natural environment will reduce the need to mitigate and/or compensate for damage, and reduce the need for lengthy public inquiries.

Energy

Whilst we support the Scottish Government's ambitious targets for renewable energy generation, we strongly recommend that a complementary indicator be introduced to monitor progress on demand management and energy efficiency. Such an approach would prevent higher expenditure in the future,

since the Government's efforts to produce equivalent of 100% of our electricity from renewables will be truly sustainable and easier to meet if Scotland's total energy demand is reduced in the first place.

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RSPB Scotland is part of the Royal Society for the Protection of Birds, the UK-wide charity which speaks out for birds and wildlife, tackling the problems that threaten our environment. Nature is amazing - help us keep it that way.

ⁱ <http://teebweb.org/>

ⁱⁱ <http://ec.europa.eu/environment/integration/research/newsalert/pdf/250na1.pdf>

ⁱⁱⁱ http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm

^{iv} Assessment on Peatlands, Biodiversity and Climate Change, 2007. <http://www.peat-portal.net>

^v ECOSSE: Estimating Carbon in Organic Soils – Sequestration and Emissions: Final Report (2007)

<http://www.scotland.gov.uk/Publications/2007/03/16170508/0>

^{vi} McKinsey and company 2009. Pathway to a Low-Carbon Economy v2

^{vii} <http://www.iucn-uk-peatlandprogramme.org/>

^{viii} Rennie, A.F. & Hansom, J.D. (2011) Sea level trend reversal: Land uplift outpaced by sea level rise on Scotland's coast. *Geomorphology* 125: 193–202

^{ix} http://www.sepa.org.uk/flooding/flood_risk_management/consultations/flooding_in_scotland.aspx. Figures combined for the Inner Forth area based on SEPA data on 'Weighted Annual Average Damages' based on costs of flooding to residential properties, businesses and agriculture.

^x <http://www.coastalfutures.org.uk/pdfs/EconomicsOfManagedRealignment.pdf>

^{xi} http://intranet.rspb.org.uk/images/bluecarbon_tcm7-277215.pdf

^{xii} http://www.sepa.org.uk/flooding/flood_risk_management/consultations/flooding_in_scotland.aspx.

^{xiii} *Insh Marshes – Its hydrology, multiple uses and economic value* <http://www.rspb.org.uk/ourwork/policy/water/waterandwetlands/scotland.aspx>

^{xiv} [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(08\)61689-X/fulltext#](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(08)61689-X/fulltext#)

^{xv} http://www.rspb.org.uk/Images/NatureandSustainableGrowth1_tcm9-191730.pdf

^{xvi} http://www.rspb.org.uk/images/futurescapes_scotland_tcm9-261752.pdf

^{xvii} Cooper, T., Hart, K., and Baldock, D. (2009) The Provision of Public Goods Through Agriculture in the European Union, Report prepared for DG Agriculture and Rural Development, Contract No 30-CE-0233091/00-28 Institute for European Environmental Policy, London.

^{xviii} Holland, J. P., Morgan-Davies, C., Waterhouse, T., Thomson, S., Midgley, A. & Barnes, A. (2011). An Analysis of the Impact on the Natural Heritage of the Decline in Hill Farming in Scotland. *Scottish Natural Heritage Commissioned Report No. 454*.

^{xix} <https://secure.fera.defra.gov.uk/nonnativespecies/downloadDocument.cfm?id=487>. Summary can be found at

<https://secure.fera.defra.gov.uk/nonnativespecies/downloadDocument.cfm?id=488>

^{xx} Defra, Welsh Assembly, Scottish Executive, (2007) The Invasive Species Framework Strategy for Great Britain.

^{xxi} <http://www.scotland.gov.uk/Resource/Doc/354089/0119387.pdf>

^{xxii} Charting Progress 2, published by UK Government and Devolved Administrations in July 2010

^{xxiii} *Watched like never before: the local economic benefits of spectacular bird species* (RSPB 2006) pp 56–63

http://www.rspb.org.uk/images/watchedlikeneverbefore_tcm9-133081.pdf,

^{xxiv} *The Local Value of Seabirds: estimating spending by visitors to RSPB coastal reserves* (RSPB 2010)

http://www.rspb.org.uk/Images/localvalue seabirds_tcm9-258550.pdf

^{xxv} <http://www.carnegieuktrust.org.uk/publications/2011/more-than-gdp--measuring-what-matters>