

Scottish Natural Heritage

Valuing our Environment

The Economic Impact of Scotland's
Natural Environment



Preface

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Scottish Natural Heritage



In an increasingly international market for goods, labour and capital, the economic prosperity of individual nations is more and more determined by the ability to make the most of whatever competitive advantages they may enjoy. Scotland is particularly fortunate, and the Scottish Government has made making the most of this potential a very high priority.

Our unique scenery and wildlife are the envy of the world and attract millions of visitors every year, but they are of far greater significance than just as the backdrop for a successful tourist industry. This booklet describes some of the myriad of different ways in which Scotland already benefits from a well managed natural environment, but in doing so it paints only a small section of a potentially much larger canvas.

Central to economic prosperity are people, skills and confidence. Scotland has historically suffered badly from a loss of all three, but these trends are now being firmly reversed. People are returning in increasing numbers, while others born elsewhere are choosing to settle here. Confidence based on a clear sense of identity is building, and all of these things are happening in part because of the superb natural assets with which this country is blessed.



Introduction

The natural environment is one of Scotland's greatest assets, making a major contribution to economic growth and quality of life.

This publication summarises research carried out by a partnership led by Scottish Natural Heritage. The research calculated for the first time the economic impact of Scotland's natural environment as well as identifying wider benefits of the environment to businesses and the economy.

The full research report (The Economic Impact of Scotland's Natural Environment) can be found at www.snh.org.uk

The key findings from the research are:

- our environmental assets underpin economic growth
- output from activities which depend on the natural environment is estimated at **£17.2 billion a year which is 11% of total Scottish output**
- this output support **242,000 jobs which is 14% of all full time jobs** in Scotland

These findings demonstrate that Scotland's natural environment is fundamental to the prosperity of its people.

We need to make sure the environment is used sustainably so that it can support economic activities into the future. A Scottish economy that makes sustainable use of renewable resources, recycles waste, produces fewer greenhouse gas emissions, and is supported by a high quality environment is likely to be more successful.

Economic and environmental benefits go hand in hand.



Underpinning Scotland's Economy

New economic analysis shows that our natural environment provides significant support to Scotland's economy. The direct impact of sectors that use the natural environment was estimated to contribute almost £4 billion a year to Scottish economic output in 2003, the most recent year for which statistics are available.

When the full effects are included, the output from sustainable use of our natural environment is estimated at more than £17 billion a year or 11% of total economic output. This maintains 242,000 jobs, accounting for almost 14% of all full-time jobs.

11% of total economic output is dependent on the natural environment

This supports 14% of all full-time Scottish jobs

Direct Impact (direct effect, excluding wages, 2003)	Full Impact (direct, indirect & induced effect, including wages, 2003)
£3.9 billion	£17.2 billion
154,000 jobs	242,000 jobs

Calculating Sustainable Use

This study estimated how sustainable use of the environment contributes to the economy

There is no straightforward way to calculate the environment's contribution to the economy as the environment is not included as an economic sector in the standard industry classifications. Therefore this research had to build up a profile to represent the environment sector. This was done by allocating percentages of outputs from existing industries to the environment. However, this research did not include all activity from every sector reliant on the environment. It attempted to estimate to what extent sectors use the environment in a sustainable way. It also excludes extractive industries such as quarrying and oil production as these are based on non-renewable natural resources.

Once the research had constructed an environmental sector, the environment was then analysed in the same way as any other sector using an input-output framework. This analysis gives us the direct impact of a sector. To estimate the full impact, multipliers were applied.

Although this type of analysis presents methodological challenges, it determines, for the first time, the extent to which sustainable use of the natural environment currently supports Scotland's economy. This is a starting point which further research can build on but it is already clear that the natural environment is economically significant for Scotland.



Supporting many industries

This research has determined that one fifth of all industry sectors in Scotland significantly depend on our natural environment – that's 26 of the 128 industry sectors in the 2003 Standard Industrial Classification. We define a significant link as 20 per cent or more of a sector's total output being environmentally related.

The natural environment supports many sectors, most obviously agriculture, fishing and forestry but also food and drink production, water supply, renewable energy, tourism, timber processing, and recreation. Many other sectors have some relationship with the natural environment.

Examples of how some industries rely on the natural environment are shown on the next page.

One fifth of all industry sectors depend significantly on the environment.



Farming, fishing, forestry, tourism and renewables are the key sectors that rely on the environment

Wheat, welks and whiskies

From pristine lochs to our vast coastline, Scotland's natural environment provides drinking water as well as many wild products including fish and shellfish, for which Scotland lands 60% of the UK catch. We also catch the world's largest share of langoustine – the most commercially valuable shellfish in the UK. By making use of our soils and natural processes, we derive timber and much of our traditional food. Scotland's farmers and crofters produce extensively-grazed beef and lamb, and grow vegetables and fruit as well as wheat and barley. Used for food products and animal feeds, these arable crops are probably best known as ingredients for many of our world-renowned malt whiskies.

A perfect day

Scotland's stunning landscapes and wildlife attract tourists from near and far, and are consistently given as the top reasons for visiting Scotland. People from across the UK recently voted dolphin watching as their top activity for spending a 'perfect day' in Scotland.

Wind and waves

Scotland's majestic hills and mountain peaks surrounded by crashing waves and wild seas gives us a natural advantage for siting renewable energy developments. On land, hydro-electric stations and wind turbines account for 19% of our installed capacity, while our seas provide future opportunities for generating power from wave and ocean current.

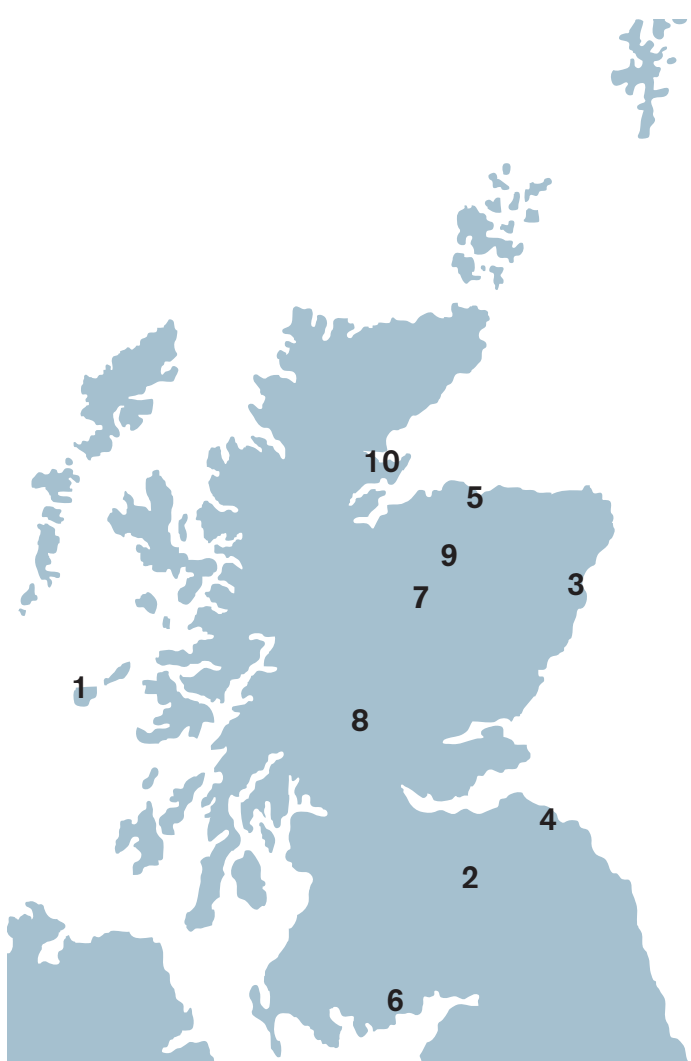


Better Business

Many businesses in Scotland rely on a high quality natural environment. This research also undertook a literature review and survey of the wider benefits to businesses. In an online survey across all regions and sectors in Scotland between December 2007 and January 2008, two-thirds of businesses surveyed believed that Scotland's natural environment benefits their company.

Deciding where in Scotland to locate a business can be strongly influenced by the quality of the environment. Of 30 factors of potential importance in determining regional locations of businesses in Scotland, quality of landscape, low levels of pollution and proximity to natural areas were all identified in the top ten factors. The only factors more important than the environment were cost/availability of premises, communications infrastructure and proximity to customers. For businesses in the Highlands, the environmental factors are seen as even more important. As technology continues to advance and broadband connection is more widely available, a high quality natural environment could be increasingly important for businesses deciding where to locate.

Businesses say the environment is important when considering where to locate



Examples of business activities
(taken from a variety of research findings)

- 1 The overall economic impact of the Tiree Wave Classic windsurfing event was estimated at £0.36 million in 2004.
- 2 The 7stanes mountain bike trail attracted £9 million of visitor spending in 2007.
- 3 Processing of fishmeal in Aberdeen was estimated to be worth £48.6 million in 2004.
- 4 The Southern Upland Way coast to coast trail brings £0.42 million a year to the local economies along its route.
- 5 Angling on the River Spey resulted in expenditure by participants of £11.8 million in 2003.
- 6 Howie Forest Products of Dalbeattie operate the largest sawmill in the country, with turnover predicted to reach £40 million a year by the end of the decade.
- 7 Water recreation on Lochs Morlich and Insh by visitors was estimated to generate annual expenditure of £1.46 million in 2003.
- 8 The Breadalbane hydro-electric scheme produces around £38 million worth of electricity a year at retail prices excluding VAT.
- 9 In 2002 it was estimated that the Osprey Centre at Abernethy attracts £1.4 million of visitor spending into the Badenoch and Strathspey economy each year.
- 10 Mussel fishing in the Dornoch Firth undertaken by Highland Fresh Mussels Ltd brings in £0.12 million a year for Tain's Common Good Fund.

More than money

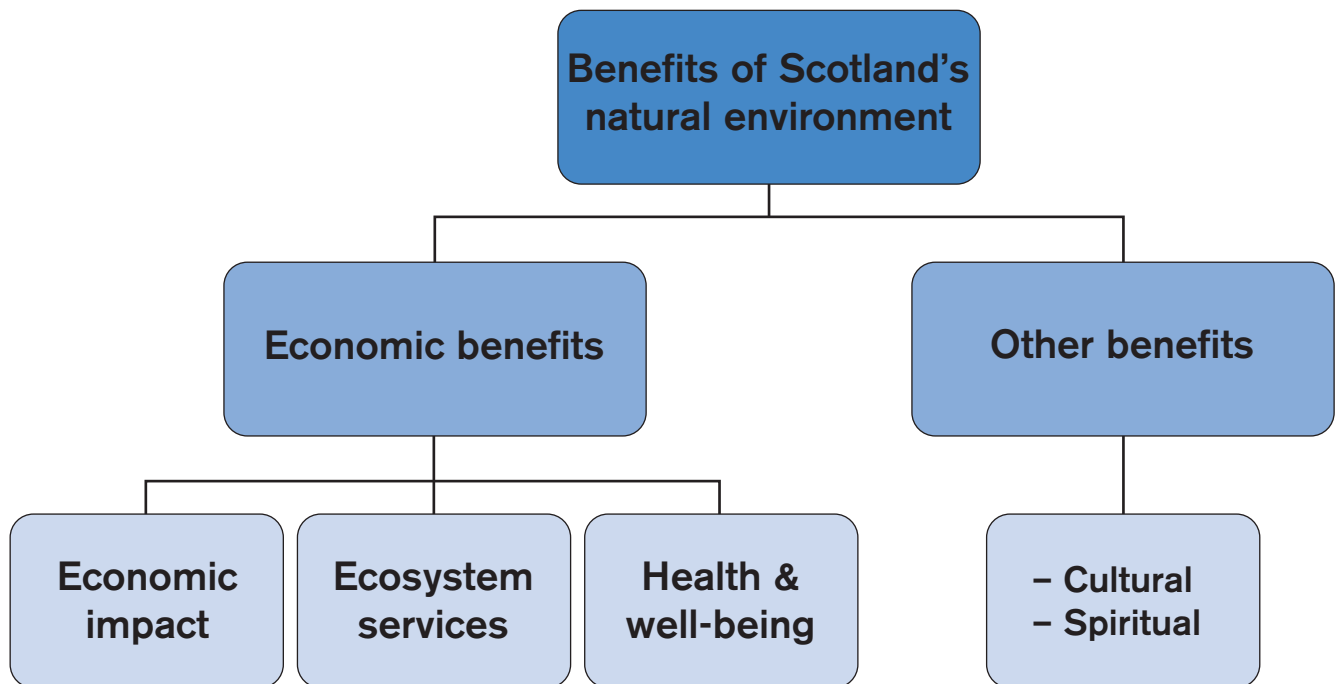
The importance of the environment cannot be counted in economic terms alone

This research establishes the economic impact of Scotland's natural environment. It did not attempt to quantify other economic benefits that the environment contributes to Scotland's economy. Some of these wider economic benefits have been quantified in other research. For example, the Forestry Commission estimate the health benefits of Scottish woodlands (eg from avoiding illness due to physical exercise) to be up to £19 million a year.

Ecosystem services including flood mitigation and absorbing carbon emissions are equally important. In 2002 the capitalised value of carbon sequestration by Scottish woodland was estimated to be worth up to £2.6 billion.

None of these wider benefits are included in this economic impact analysis. Because of conceptual differences, they cannot simply be added to the impact figure.

There are also cultural values that cannot be quantified in financial terms. For example, around 91% of Scots think it important for Scotland to have wild places because they are seen as part of Scotland's culture and heritage. The importance of the environment cannot be counted in economic terms alone.



Securing future prosperity

The vital role of the natural environment in Scotland's economy can be further enhanced. By taking account of the economic importance of the environment, win-win situations, where there are benefits to both business and the environment can be promoted. There is clear potential for sustainable economic growth in sectors such as tourism, food and drink, renewable energy and forestry.

We need to continue to invest in maintaining and enhancing Scotland's natural assets if we want to maximise environment-related employment. We also need to address potential barriers to this growth, such as lack of required skills.

Many existing Government strategies and policies are already focussing on building more sustainable communities and economies. The links between the environment and the economy will continue to grow as sustainability issues become more important, for example in addressing climate change.

There is clear potential for sustainable economic growth in several sectors



This research was commissioned by a partnership led by Scottish Natural Heritage and including:

- Scottish Government
- Forestry Commission
- Scottish Enterprise
- Cairngorms National Park Authority
- Scottish Environment Protection Agency, and
- Scottish Environment Link

Scottish Estates Business Group sat on the steering group. The economic impact analysis was undertaken by Cambridge Econometrics, and other analysis by RPA Ltd. The research partners, either individually or in collaboration, would like to take forward further research in this area, for example to determine the wider economic and social benefits that Scotland gains from the natural environment, as well as the importance that Scotland's people attach to particular landscapes and wildlife.

Further information can be obtained by contacting SNH's Rural Development Team on 01463 725000.

Definitions

Sustainable use

Economic use of a resource or process that can continue over time without having negative impacts on the quality of the environment.

Natural environment

The natural materials, processes, habitats and species, and topography of Scotland (including surrounding seas).

Direct impact

The initial effect of an occurrence in the part of the economy where it originated from.

Full impact

The direct impact plus the indirect and induced effects.

Multiplier

A measure of the knock-on effects in the wider economy of an activity which originated in just one part of the economy.

Input/output

A type of applied economic analysis that aims to account for how sectors of the economy affect one another through their demands for goods and services.

This publication and the study on which it is based were funded by the research partners listed on the inside back cover. Neither the study nor this publication necessarily represent the views of the individual project partners.



Scottish Environment [LINK](#)



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Images: All Lorne Gill/SNH except front cover John Macpherson/SNH

ISBN 978 1 85397 565 6
TCP1K1109

Further copies available from: Publications Distribution,
Scottish Natural Heritage, Battleby, Redgorton, Perth PH1 3EW

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All of nature for all of Scotland