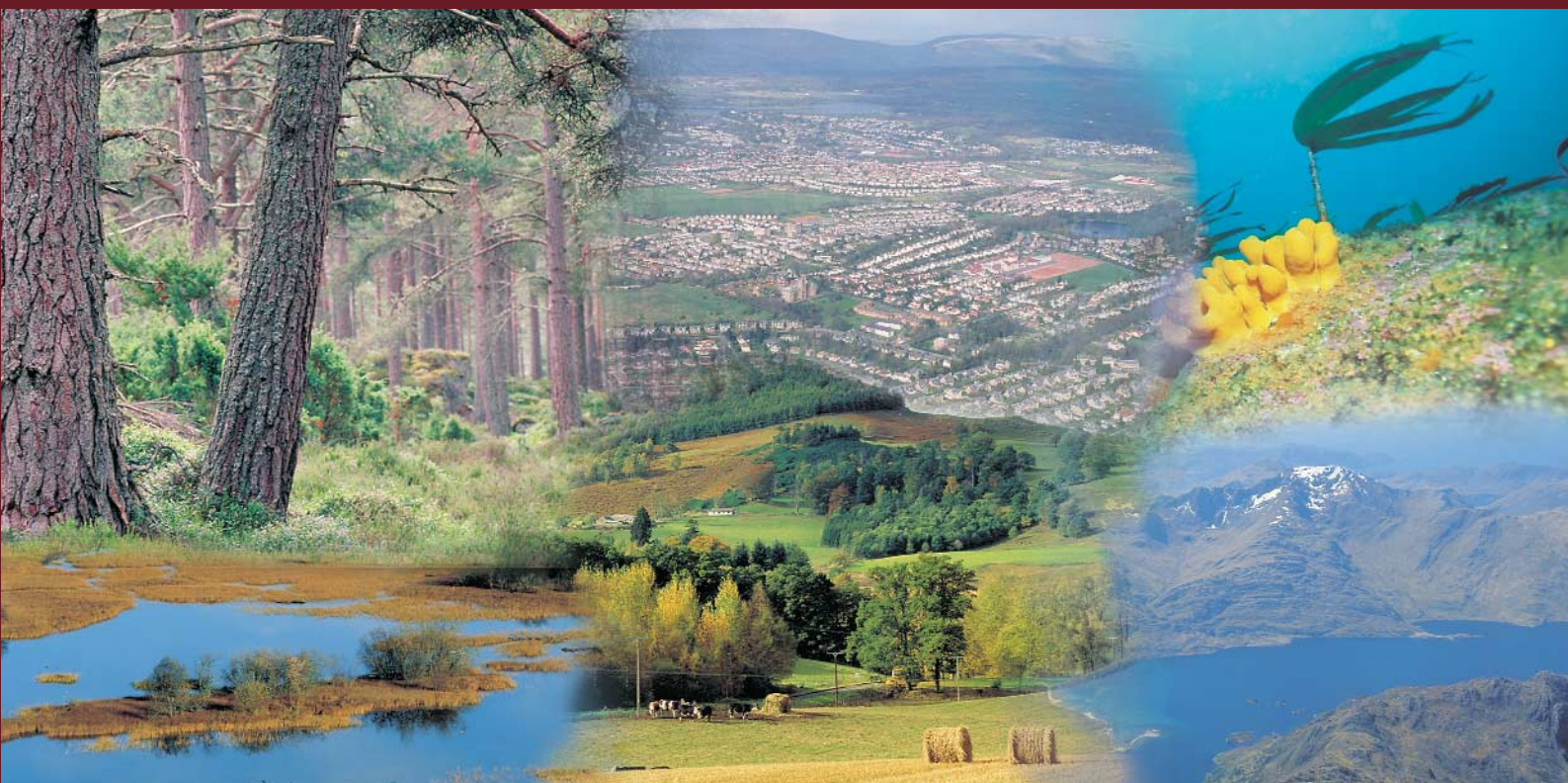


An Overview



An Overview

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Natural Heritage Futures

Scottish Natural Heritage's Natural Heritage Futures is our contribution to putting sustainable development into practice. It will ensure that we take an integrated approach to our work across our whole remit and, at the same time, provide the basis for our engagement with other stakeholders. Caring for the natural heritage is a long-term business and we have deliberately taken a more visionary approach in setting goals for the natural heritage and society's use of it. Also SNH cannot do everything itself: it does not have the powers, or the resources, or the desire to do so. Many other public, private and voluntary organisations have an important role to play. It is our hope that, through engagement on Natural Heritage Futures, together we shall have a substantial, positive and long-lasting impact on the management and use of the natural heritage and the benefits which society derives from it.

“a bold and imaginative way of establishing some high-level objectives for the natural heritage of Scotland”

INTRODUCTION

This is one of a suite of publications which Scottish Natural Heritage has prepared to guide the future management of the natural heritage towards 2025, within the wider context of sustainable development. Our landscapes and wildlife are highly valued assets which have often been shaped by human activity. Under sensitive management, the natural heritage also has the potential to enhance people's lives and provide substantial economic benefits, of particular value to fragile rural populations. As far as possible, these documents aim to identify common goals and encourage an integrated approach in which all sectors work together to achieve them.

There are 21 documents which, together, cover the whole of Scotland, each presenting a vision for sustainable use of the local natural heritage and the action required to achieve it. The 21 areas each have their own identity resulting from the interaction of geology, landforms, landscapes, wildlife and land use – and hence are affected by distinct issues. There are also six documents detailing setting national objectives for different settings: Forests and Woodlands, Hills and Moors, Coasts and Seas, Settlements, Farmland and Fresh Waters. Data underpinning these local and national objectives are provided in a series of National Assessments which are available on CD-ROM.

This overview provides the rationale for the programme, and outlines some of the over-arching themes common to both the local and national perspectives.

The suite of publications is intended to assist all organisations and individuals which have an influence on the natural heritage.

The priorities presented will be used to inform SNH's input to plans and strategies for various sectors and geographical areas such as Development Plans, Community Planning, Indicative Forestry Strategies, access, tourism and renewable energy strategies, local and national Biodiversity Action Plans, integrated catchment management, integrated coastal zone management and National Park Plans.

The documents take account of the views of a wide range of partner organisations, which were sought through consultation carried out during 2001. These included local authorities, public agencies, and representatives of private interests and voluntary bodies concerned with conservation, rural development, recreation and land management. There was considerable agreement with the visions, objectives and actions, but SNH recognises that there are also some issues where further discussion is needed: the roles of different parties in taking action and the ability to agree a shared vision being examples. We will be working with partners to achieve agreement and to identify any actions which are not currently being taken forward.

The vision statements and associated objectives set out through this programme remain essentially those of SNH, although shared to a greater or lesser extent by a wide range of partners. A key function of these published documents is to stimulate the wider debate necessary to establish a broader vision for sustainable development in Scotland, and to translate it into action.

The objectives and actions in these documents will be refined and translated into detailed targets through the plans and strategies which will take them forward. Local biodiversity action plans, for example, will identify detailed targets for species and habitats. Also, the framework provided through Natural Heritage Futures can help determine spatial priorities in, e.g. development

plans and community plans. SNH will also review its own work programmes against the objectives and actions in these documents, and make the necessary adjustments.

The objectives for the natural heritage set out through this programme link to a wide range of other plans, strategies and initiatives, including: the Scottish Forestry Strategy, A Forward Strategy for Scottish Agriculture, and Rural Scotland: a New Approach, as well as local initiatives such as the Moray Firth Partnership and the Cairngorms Partnership. The wider policy context also includes the EC Rural Development Regulation, land reform legislation, the Habitats and Birds Directives, the Review of Strategic Planning, the Water Framework Directive and Biodiversity Action Plans.

Natural Heritage Futures does not seek to replace existing administrative boundaries. It does, however, emphasise the need for flexibility across all systems of governance in order to work towards sustainable development, acknowledging that natural systems do not recognise administrative boundaries and that integrated action across those boundaries is essential.

The framework of 21 areas is intended to be used to promote integrated approaches to the natural heritage at the local scale; it is a means to facilitate discussion on areas that share essentially similar natural heritage. The boundaries should be viewed as indicative, with places lying close to a boundary having transitional character with adjacent areas.



Dolphin off Aberdeen

WHAT IS THE NATURAL HERITAGE AND WHY IS IT IMPORTANT?

Our **natural heritage** is hugely diverse, very distinctive, and highly regarded at home and overseas. The superlatives are justified. For its size Scotland has the most varied geology and natural landscapes of any country on the planet, and the study of geology was born here. We have enormously rich marine environments, just as amazing as any tropical seas, with algal maerl beds and populations of whales, dolphins and porpoises; a coastline longer and more varied than any in the world for a country of its size; and very extensive near natural upland landscapes reflecting a combination of Arctic and alpine conditions in an oceanic setting. Some features, such as the ancient oak woodlands of Argyll or the extensive moss- and lichen-rich moorlands of the west coast are unique manifestations of the moist oceanic climate of north-west Europe. The machair lands of the Hebridean islands reflect a wonderfully delicate balance between nature and human activity.

Many aspects of our natural heritage are not rare but they are special in a British and European context. The key elements combine to form distinctive areas throughout Scotland. Vast tracts of heather moorland or blanket bog with patches of birch woodlands and the roar of a stag and 'ga-back' of a grouse; glistening expanses of lochs and lochans, linked by rivers and streams with their salmon stocks in the straths and glens; marsh thistles in wet rushy pastures with the drumming of

a snipe or whaup of a curlew; the rolling patchwork of farmland; the distinctive 'cnoc-and-lochan' landscapes of the north-west or the flat carselands punctuated by isolated hills and laws in the Central Belt; estates with their beech hedges and avenues of oaks and parklands with veteran trees; rocky coastlines contrasting with expanses of sandy beaches; the rugged islands of the west coast and Shetland or the Orkney Islands lying like sleeping whales.

The **diversity** of Scotland's landscapes inspire people – they provide an essential sense of place for those who live and work here, and those who visit for enjoyment. The key elements are mainly aesthetic and emotive – the interplay between land and water, the wildness and roughness, the perceived naturalness, the grandeur of outstanding landscapes, a settlement against the backdrop of the hills, or a run-rig system and an ancient croft-house. The aesthetic appeal is greatly enhanced by low, northern light and the ever-changing effects of our oceanic weather.



Flower-rich machair plain



Wild land – uninhabited and relatively inaccessible countryside where the influence of human activity on the character and quality of the environment has been minimal

The natural heritage comprises the habitats, species, rocks, and landforms of Scotland, and its natural beauty and amenity. However, it needs to be viewed as an integrated whole: not just particular species or special areas, and certainly not excluding people. The various components form the great variety of green spaces in and around our settlements, and all the different kinds of countryside and coast. The natural heritage comprises all of these and their interaction – the land, the sea and all of the community of life these support, including people.

People's needs from the natural heritage are partly **functional**. We depend on a range of things that the environment provides, but which we often take for granted: clean air and water, food and medical supplies, soil fertility; natural regulation of water flow; biological control of pests; natural coastal defences; provision of building and other raw materials, and energy supplies. If we over-exploit natural resources, or over-stretch their capacity to regenerate, our own health and wellbeing will suffer.

Our relationship with the natural heritage is more than functional, it is an important part of our quality of life, and has **intrinsic value**. It is the background against which we play out our daily lives, in the countryside or in settlements. It is a source of joy and inspiration. It is one element of the Scottish identity and the foundation of powerful cultural links with the land and sea. The elements from which these qualities spring are not fixed, and can be lessened or enhanced.



People's needs from the natural heritage are partly functional: consumer choices for food influence land use and the natural heritage



Greenspace in settlement—playing fields and Arthur's Seat



A rolling patchwork of farmland and woodland

THE NATURAL HERITAGE AND SUSTAINABLE DEVELOPMENT

The quality of people's lives depends upon having a healthy, attractive, and effectively functioning environment, as well as upon robust social structures and a viable economy. The aim of achieving all these things together is captured in the term '**sustainable development**', which Tim O'Riordan describes as 'nurturing and enhancing the life support processes of the planet, by ensuring that all people are fairly and justly enabled to do so consciously and collectively, in such a way as to maintain reliable livelihoods – all this needs to be achieved so that everyone in the future can also follow the same route'.

Action to support social, economic and environmental objectives needs to take account of how they interact. However, to give social, economic and environmental objectives equal weight underplays humankind's fundamental dependence on a soundly functioning ecosystem. Due weight needs to be accorded to long-term stewardship of this aspect of the environment in cases where there is a perceived conflict between environmental and other objectives. Sustainable development therefore requires **integrated and flexible patterns of governance** across various scales and centres of decision-making – including resolving conflicts of interest between public and private interests or local and national objectives. Without this, there will always be a high risk that long-term interests (social and economic as well as environmental) will be sacrificed for short-term, non-sustainable gains.

Much of the real value of the natural heritage is not normally reflected in the investment and management which affect it, either in national income accounting or in the balance sheet of an industrial firm. Traditional methods such as 'cost-benefit' analysis assess monetary value, but are inadequate for broader social and environmental interests, and generally fail to reflect either the intrinsic or functional value of the natural heritage. This has led to the development of the various methods to reflect quantitative and qualitative values associated with decision-making. **Sustainability assessments**, currently mooted in the EU, will be required in Scotland to support the systems of governance required to translate sustainable development into practice. The challenge of such assessments will be to reflect adequately the importance of economic and non-economic values both for current and future generations.



House building in greenspace

People make **decisions** every day which shape the natural heritage. Sometimes those decisions are the direct result of having to discharge responsibilities for the natural heritage, e.g. improving access or protecting particular animals. Sometimes the natural heritage is affected by decisions on other issues, e.g. building houses and developing retail and industrial parks. Sustainable development will mean rejecting certain options, and significantly modifying others, which are based purely on economic or social considerations: integration is the key, and we should not sacrifice long-term interests (social and economic as well as environmental) for short-term gain.

In situations of great complexity or uncertainty we may need to use the **precautionary principle** to help to decide how to maintain or improve the benefits that we derive from the environment. Scientific uncertainty is common because ecosystems are complex and dynamic, and lack clear boundaries. We interpret the precautionary principle to mean that *'full scientific proof of a possible adverse environmental impact is not required before action is taken to prevent that*

impact'. Development should be restrained, or be capable of adaptation, where there is a possibility of significant environmental damage and where the complexity of the system makes accurate prediction of impacts difficult. Application of the precautionary principle is equally valid in situations that we know are very complex and in situations where we lack knowledge and understanding.

Better stewardship of the natural heritage is not something that SNH or any other organisation can achieve alone. Management of the environment requires action that is cross-cutting, with **integrated solutions** requiring co-operation from everyone who makes decisions that affect the natural heritage. Spatial plans (such as Development Plans), sectoral plans, and partnerships must be sufficiently flexible to be co-ordinated, consistent, and clear in their objectives for the natural heritage. We believe that such co-operation is fundamental to sustainable development: no group or organisation can realise such an aim on its own. Locally Community Planning has a critical role to play in bringing together aspirations and reality across all relevant functions discharged by the public sector.



Our lifestyle choices generate a range of environmental footprints locally and globally: from how we dispose of our waste to air pollution (including greenhouse gas emissions)

The natural heritage is affected equally by the decisions of people who live in the countryside and those who live in settlements. The vast majority of Scotland's people live in towns and cities and, although settlements cover a relatively small area of land, they exert a profound and far-reaching **environmental footprint** – the combined effects of the energy, resources and land, including modes of transport and associated infrastructure, required to sustain the population and the effects of these on the wider environment. In and around settlements, the planning and use of the natural heritage has become separated from social and economic interests. This affects the management of events that happen naturally such as flooding, eroding the quality of life for citizens, and decreasing awareness of the dependencies between people and their environment. Raising awareness of the environmental footprint of our society is critical to achieving greater sustainability.

We need to reconfirm the links between settlements and the countryside and pursue **recovery of fully functioning ecosystems** in ways which are both sensitive to, and contribute to, human needs, and which respect the cultural heritage of the land. This could include: major native woodlands alongside vibrant, open heath and alpine habitats; dynamic mudflats, saltmarsh and dune systems along our coasts; management of rivers in sympathy with natural processes; better connectivity between our fragmented habitats; and better use of greenspace in and around towns to realise the full potential of our flora and fauna. This would deliver robust, healthy and diverse ecosystems over extensive areas throughout Scotland.

We are concerned here mainly with the natural heritage in Scotland, but Scotland does not exist in isolation: we affect development elsewhere in the world, and we ourselves are affected by decisions taken elsewhere. Sustainable development requires an **equitable distribution of costs and benefits** for any development. Thus, development should not benefit one country, or geographical area, or sector of society, while imposing costs on another. We need better stewardship of our own resources without imposing inequitable demands on people and natural resources outside Scotland.



Coffee plantation – cash crops are often grown on prime agricultural land, forcing domestic food production onto more marginal land, often with serious environmental consequences



With natural features, gardens and allotments, it is often easy to underestimate the amount and potential use of greenspace in our towns



A 'cnoc-and-lochan' landscape, punctuated by sandy beaches

WHAT CHANGES ARE TAKING PLACE?

Decisions on our lives and lifestyles must reflect the fact that we live in a **changing world**. Change results from both natural processes and human activities, and these factors may interact. We focus here on atmospheric pollution and related climate change because they affect processes that are relevant everywhere in Scotland. In addition, there are other changes that we must be aware of, such as population growth, demographic structure, and transport and energy supply and demand.



A simplified landscape of arable fields with few boundary features

Over the past 200 years, and in particular over the last 50 years, **rates of change** have dramatically increased. For example, our use of fossil fuels has greatly accelerated the rate at which greenhouse gases such as CO₂ are added to the atmosphere, leading to changes in climate. Ecosystems have been affected by the deposition of fine particles, such as ash and nitrogen, increasing acidity and eutrophication.

Technological advances have dramatically increased productivity on the land and the rate at which we exploit marine resources, contributing to, e.g. simplification of landscape character, changes in the way water flows through our river systems and around the coast, and losses in biodiversity. In turn, these changes have created problems for people including increasingly serious flood events, and declines in species of commercial importance, such as fish stocks. Although technological advances can also help solve environmental problems – such as the development of catalytic converters for vehicles – such 'end-of-pipe' solutions may be less beneficial than addressing problems at their source.

The rate and complexity of change in our climate is faster than we are familiar with, and dealing with it is testing for people everywhere. Management of our environment must be informed by past, present, and predicted change.

In addition to higher temperatures, there is a likelihood of more frequent and more intense storms, with increased risk of flooding. This picture may be complicated by generally wetter conditions in the west and increased summer droughts in the

east. In the longer term, it is possible that ocean circulation patterns may change: if the North Atlantic Drift is disrupted, then Scotland would experience severe cooling in spite of a continuing overall trend of global warming, although this is thought unlikely before 2100. In any event, sea level in Scotland is predicted to rise by about 25-30cm by 2050, and possibly to double by 2100.

Alongside this environmental change, there will be continuing **social and economic change**. From 1996 to 2031, Scotland's **population** of about 5,000,000 is predicted to fall by 8% (equivalent to the population of Edinburgh), with the number of children falling and the number of pensioners rising. Regional variations in population trends will lead to rising populations in some of the larger settlements like Inverness, Perth, Edinburgh and Aberdeen. Populations are also rising within smaller settlements in the more heavily populated areas of Fife, Moray, the Highlands, and East and West Lothian; but falling in Falkirk, North Lanarkshire, Renfrewshire and Inverclyde. Changes in other social and economic factors such as increased divorce, higher disposable incomes, and longer life expectancy result in increasing numbers of smaller households. Changes towards more variable working patterns and locations, driven by employment legislation and technology, are enabling people to be more flexible about where they live and work. These factors will influence settlement patterns and transport demand: with probably continued expansion of existing settlements, possibly less commuting, and probably continued reliance on the car at least in rural areas.



New roads can contribute to habitat fragmentation. Associated traffic can increase greenhouse gas emissions and reduce air quality

Until recently the main trend in and around settlements has been the continued upgrading of transport infrastructure. This has encouraged increased vehicle use, extended commuter ranges and facilitated leisure access to rural areas. Increased greenhouse gas emissions, poor air quality, greater traffic congestion, and concerns about safety and health are the main factors behind recent Government policy to encourage more sustainable travel and **integrated transport planning**. Greenhouse gas emissions have also influenced Government energy policy – encouraging a reduction in demand through energy efficiency and the promotion of a higher proportion of energy generation from renewable resources.

In addition to addressing the causes of global warming, we must learn to **adapt to changes** that are now beyond our control, informed by long-term trends. For example, the severity and frequency of autumn and winter storms is likely to be a feature of our weather patterns for several decades. Where this leads to extensive **flooding**, the problem must be tackled from a number of perspectives. Land-use planning and land management and their effect on river flows are particularly critical. Improved management of floodplain meadows and other wetlands, removal of field drains, appropriate levels of grazing and improved woodland management in upland areas will all help to regulate water flow in a river catchment, and provide valuable habitats for wildlife. Similarly, around Scotland's coast greater wave heights and storm surges may damage and remove sand dunes, machair, mudflats and shingles if these habitats are not allowed to migrate inland with changing coastal processes. Such areas have a natural buffering effect, helping to absorb wave energy. Allowing flooding at strategic locations, to permit 'controlled' retreat of the coastline, would also help decrease flood risk in other areas (e.g. centres of population). Achieving the natural functioning of these ecosystems would therefore provide multiple benefits: providing habitats for wildlife and benefits to help society to live successfully in a changing physical world. There is a growing acceptance that the overall pattern and **balance of land uses** needs to reflect the many roles that land can play, in addition to the traditional one of supplying food and timber. Energy generation and the 'feedstock' for it, water supply, natural heritage conservation and recreation are all assuming increasing significance as land uses, alongside the accommodation of housing and other built development. One outcome of this debate over land use may be the return of some former brownfield sites to greenfield, for example to mitigate flood risk.



Land-use planning and wider land management contribute to flood risk

At any time during the last 5,000 years **people** have determined the condition of Scotland's natural heritage. The natural heritage is a result of natural processes together with the prevailing and inherited management which, in turn, is a reflection of social and economic need and the available technology. We cannot recreate the past, nor should we try to, but we can learn from past experience to inform sound stewardship of the natural heritage in the future.

The natural heritage is not a static resource: it is profoundly **dynamic** as a result of natural processes and events and of human use. Any vision of the future should include maintaining and enhancing Scotland's high quality natural environment, not only for its own sake and to benefit people now, but also to leave options open for future generations. We must be flexible in how we view the potential for a variety of land uses in different areas, and how a given area might serve a variety of uses, so that we can respond quickly and appropriately should natural processes force unexpected changes.

Many of the environmental problems outlined above have arisen at least in part because decisions are typically confined to particular sectoral interests or restricted areas. The resolution of these problems, in turn, requires the involvement of all relevant interests so that decisions are no longer taken in isolation by a single sector, or with respect to an unduly limited area.



The natural heritage is dynamic – as far as possible we should aim to work with natural processes, not against them



Ancient oak woodland

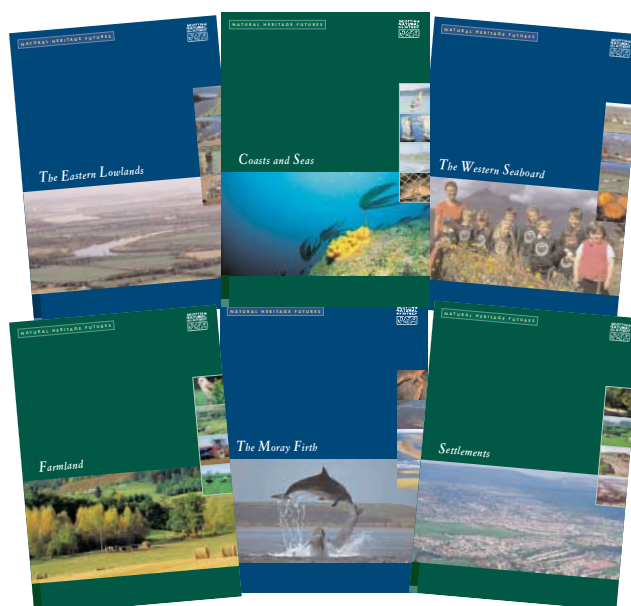
WHY DO WE NEED THE NATURAL HERITAGE FUTURES APPROACH?

In the preceding sections we have demonstrated a close interplay between social and economic issues and the natural heritage. We have briefly explored how decisions affect Scotland's natural heritage and the extent to which their cumulative effect represents sustainable use of natural resources. Our conclusions are that changes are required, and that solutions will require integrated approaches which span social, economic and environmental interests.

In the following sections we demonstrate how substantial progress could be made by making more effective use of existing policy measures, plans, strategies and partnerships. However, this cannot be achieved unless there is a common understanding of the issues and a shared vision for the natural heritage. Without such agreement, any additional financial incentives are unlikely to be effective.

In order to establish this shared vision, we need a framework to agree the needs and opportunities facing the natural heritage in different parts of Scotland. If we try to do this for the whole of Scotland at once we find it is too large and diverse. If we try to do it at too local a scale then we have too much detail and cannot see the wood for the trees. **Natural Heritage Futures** is SNH's response to this – helping us to understand better the diversity, needs and opportunities of Scotland's natural heritage.

The basis for, and the arguments leading to, a proposed vision and action required to achieve it are presented in more detail through a series of 21 documents presenting local priorities and six presenting national priorities. The local documents are based on 21 areas covering Scotland (back cover). The data and information underpinning the arguments presented in the national and local documents are gathered in a series of *National Assessments* which we are maintaining as a 'live' database – growing as our knowledge of the natural heritage grows.



HOW THE FRAMEWORK OF 21 AREAS FOR INTEGRATED APPROACHES TO THE NATURAL HERITAGE IS DEFINED

The function of the Natural Heritage Futures framework is to enable discussion and to agree action to address the needs and opportunities facing the natural heritage in different parts of Scotland. This framework is an operational tool that is founded on the natural heritage. The boundaries between the areas are indicative and there are transitions between adjacent areas – some more subtle than others – but this is not important because the framework is not the basis for prescriptive management.

Three guiding principles were used to devise the framework:

1. The **attributes that form the basis of the natural heritage:** species, habitats, landform, topography, soils, geology, drainage, climate (rainfall, temperature range, exposure, maritime influence), landcover including land cover type, land-use type, landscape character, settlement patterns. All these attributes were used together to identify the 21 areas – no one is of overriding importance and it is the way that they come together to that is important to the natural heritage.
2. **Additional descriptors of the natural heritage itself:** These comprise more specific features of the natural heritage, such as particular species or habitats, people's experience of the landscape and an overall 'sense of place'.
3. **The issues that may influence future options for the natural heritage:** This is an important human factor, expressing how human endeavour has shaped the natural heritage in different areas, and creates opportunities and constraints for future management.

Twenty-one areas were identified using these principles and are shown on the map on the back cover. The paucity of marine data limit the extent to which we can currently apply this approach to our seas, although a similar approach may be required for Scotland's marine environment, and could be developed by a partnership of interested parties. Meantime, however, we have been able to consider how the activities of people shape the natural heritage in the marine realm, the vision for the natural heritage, and opportunities for achieving it around our coasts and seas.

The framework we use in Natural Heritage Futures is referenced to the natural heritage and hence cuts across administrative boundaries, including SNH's. This is a critical advantage. It provides a means to apply the checks and balances to ensure the co-ordination of other plans, strategies and partnerships, and to retain local distinctiveness and wider benefits provided by the natural heritage.

In the Local and National documents the natural heritage is presented in its social and economic context, but the objectives and actions focus on the natural heritage itself. Much change in the natural heritage at the local level results from decisions taken at a national or international level. These issues are presented through the National documents covering themes common throughout Scotland: Coasts and Seas, Farmland, Forests and Woodlands, Fresh Waters, Hills and Moors, and Settlements.

Both National and Local documents follow the same structure: they describe the natural heritage, discuss the key influences and changes taking place, present a vision based on sustainable use of natural resources, and propose objectives and associated actions required to work towards the vision. The vision looks 25 years into the future – it is intended as a rolling horizon, so that we keep an eye on the long term in order to guide our decision-making in the short and medium term – it is neither a 'utopia' nor a blueprint for the future.

Natural Heritage Futures provides a framework to complement and integrate efforts on implementing the Convention on Biological Diversity by extending work beyond particular species and habitats to whole ecosystems – and providing a basis on which to identify resource priorities for different parts of Scotland. In developing the programme we take some factors as given, such as the prevailing legislative framework of protected areas mechanisms: SSSI, and implementation of the EC Directives on Habitats and Birds through the Natura 2000 network.

Natural Heritage Futures is intended to work towards a consensus on how we relate to and use the natural heritage in Scotland. Social and economic themes are strong, but this is not a vision for sustainable development: that is a wider programme for all public bodies collectively; and Natural Heritage Futures is an important part of that broader debate. Neither is it a new designation, but simply a way of dividing Scotland into areas with similar natural characteristics.

Through Natural Heritage Futures we are seeking to ensure that the key issues and objectives for the natural heritage are reflected in the decisions reached by existing and new partnerships and pursued in current and future plans.



In some places protected areas are of very large extent whereas in others they tend to be more fragmented and isolated

INFLUENCING CHANGE:

Policy Measures

Policy measures comprise a range of tools designed to influence behaviour, including economic instruments such as taxation and direct subsidy, regulation and legal liability, and trade agreements. For the natural heritage, these instruments are of limited use unless they are linked to a shared vision about the way ahead. This shared vision should clarify why Government needs to intervene with the market place, what balance of policy measures is required to achieve the stated objectives, and how achievement of those objectives is to be measured. Government needs to intervene for a variety of reasons if and when the market does not otherwise deliver the desired solution. For example, in the case of environmental issues, the market does not often value or reward environmental goods and services sufficiently, nor does it penalise external environmental costs such as pollution. In general, policy measures should reward the provider of ‘environmental goods’ and penalise the provider of ‘environmental bads’.



Clear vision and policy objectives are required to progress sustainable development

There are good examples of direct **economic instruments** to influence behaviour, including agri-environment payments, woodland grant schemes, EU Structural Funds, application of the ‘polluter pays’ principle through taxes on landfill and pollution, and tradeable permits for greenhouse gas emissions and water abstraction. Indirect measures are also available such as cross-compliance where financial support for an activity is conditional on meeting certain environmental standards. Various combinations of fiscal and regulatory instruments are likely to be required to deliver natural heritage objectives.

For the natural heritage one of the key functions of **legislation** is to conserve areas of intrinsic value for their natural heritage interest. Often these areas are those that have been least modified by human activity, but in many cases the intrinsic value is a direct result of management. In some areas, such as the Highlands, the areas can be of very large extent and in others, such as the Eastern Lowlands and Central Belt, they are of lesser extent and tend to be more fragmented and isolated. The legislative framework needs to develop appropriate mechanisms of management that meet the needs of owners and managers of protected areas and also take into account the interests of the local community. This requires effective consultation between, e.g. SNH, owners and managers of land and the local community, as well as adequate support for positive management. A further function for legislation should be to provide minimum standards of stewardship to ensure that the benefits provided by the environment to society remain intact. A particular challenge for the legislative and policy framework is to develop the flexibility required to adapt to new circumstances in the wake of factors such as climate change. In order that any network of protected sites is able to underpin such benefits, **individual sites must be viewed in a wider**

context rather than as isolated oases of nature conservation interest, which has been the tendency to date. The benefits of these sites go well beyond wildlife. An example stems from the lack of integration between land management and land use and planning which has impaired freshwater ecosystems, increased flood risk and hampers our options for response. A solution may lie in establishing the way in which a series of sites protected for their freshwater and wetland interests contribute to regulating the flow of water in a river catchment and so help to reduce the risk of flooding. This would then need to be complemented directly by land stewardship elsewhere in the catchment stimulated by measures such as agri-environmental schemes or codes of practice. This integrated approach lies at the heart of the EC Water Framework Directive. A similar approach might be applied to the consideration of protected areas in the marine realm: to establish the size, extent, and management required so that protected areas serve as nurseries or refuges to replenish commercial fisheries – as part of an ecosystem approach to fisheries management.

Our legislative and national policy framework should actively promote more sustainable development, with decisions based on the cumulative effects of our management of the land and sea. To do this the framework should take a **long-term view** rather than just trying to accommodate short-term demand. Current mechanisms, such as the Town and Country Planning system, can be highly effective in dealing with developments in isolation but are ineffective in addressing the incremental impacts of a range of developments leading to the gradual attrition of biodiversity and of the character and distinctiveness of Scotland's landscapes. This weakness reinforces the needs for more comprehensive forms of appraisal to guide decision-making. These appraisals must give appropriate weight to qualitative as well as quantitative values associated with the natural heritage, guided by reference to relevant carrying capacities both now and for future generations.



Integrated approaches to land use and planning, including protected areas, could help reduce flood-risk and enhance the natural heritage



Careful re-use of brownfield sites can enhance natural heritage value

The legislative and policy framework requires **strategic direction**. This may be achieved through tools such as Strategic Environmental Assessment, which considers the total cost (including environmental impacts) of a development from inception through to potential future land and sea uses. We also need to examine more closely the links between supply and demand to see if other solutions are available, including ways to reduce demand such as energy efficiency measures. More comprehensive Sustainability Assessments may also be required.

The policy framework should encourage new development that uses natural resources wisely, and is likely to maximise economic, social and environmental benefits. This might include: carefully reusing brownfield sites rather than using greenfield sites; promoting public transport, walking and cycling in all new developments; sensitively reusing existing buildings; achieving greater energy and resource efficiency; and reusing materials rather than dumping them and replacing them with ones from pristine sources. Conversely, the system should also seek adequate compensation for any losses to the environment, e.g. through use of initiatives such as the Landfill Tax, and the principles of 'planning gain' and 'no net loss to the natural heritage'.

The framework needs to be **co-ordinated** so that it avoids conflicting outcomes and works towards a common goal. Collectively, this framework should also be comprehensive in scope to cover all activities that have a significant impact on the environment. For example, current gaps or weaknesses in development plans include certain aspects of agricultural, forestry, and river management operations, and developments below the low-water mark. The latter is under review with regard to aquaculture, and is likely to be increasingly important as the range of nearshore developments, such as renewable energy, expands.

Indicators are required to ensure that the policy measures achieve the desired objectives, and this includes environmental audit, monitoring and review.



The policy framework needs to be comprehensive to cover all activities that have a significant impact on the environment

INFLUENCING CHANGE: Consensus

Policy measures and consensus go hand-in-hand. Policy measures are likely to be of limited effect unless they have widespread public support and understanding. Conversely, appealing to people's better nature is likely to be of little effect if there are limited financial incentives to encourage the required actions, if other, less sustainable, ways of working are more remunerative, or if there is only the stick of legislation without the carrot of cash.

Raising awareness of the role of the natural heritage in sustainable development applies throughout society. This understanding needs to be a shared element of the decision-making process throughout the public and private sectors, in our schools and for people throughout their lives.



The future of the natural heritage lies in all our hands

INFLUENCING CHANGE: Partnership Working and Community Involvement

Achieving better stewardship of the natural heritage requires working in partnership and making decisions based on environmental, social, and economic factors. This does not necessarily mean creating new partnerships or increasing the number of plans and strategies: it can be achieved by rationalising existing initiatives and using them more effectively to deal with cross-cutting issues.

Maximising the benefits of the natural heritage requires not only working in partnership, but also **involving people and individuals** in this process. Such involvement will enable local communities to put the local natural heritage at the heart of their decision-making, aware of its value, providing an informed view on matters affecting it, and taking positive action to care for it. This is already being actioned through the Local Agenda 21 process, land reform and Community Planning. Again the need is to ensure a common purpose in relation to the natural heritage – particularly where neighbouring communities may be concerned with areas of similar character.

SNH has reviewed these documents in the light of comments received during consultation. It is important that we, and other partners, work together to deliver the objectives and actions, including the use of these documents as a checklist to ensure that other strategic documents and decisions are reflecting the key issues.

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SCOTTISH NATURAL HERITAGE

is a government body established by Parliament in 1992, responsible to the Scottish Executive and Scottish Parliament.

Our mission:

Working with Scotland's people to care for our natural heritage.

Our aim:

Scotland's natural heritage is a local, national and global asset. We promote its care and improvement, its responsible enjoyment, its greater understanding and appreciation and its sustainable use now and for future generations.

Our operating principles:

We work in partnership, by co-operation, negotiation and consensus, where possible, with all relevant interests in Scotland: public, private and voluntary organisations, and individuals.

We operate in a devolved manner, delegating decision making to the local level within the organisation to encourage and assist SNH to be accessible, sensitive and responsive to local needs and circumstances.

We operate in an open and accountable manner in all our activities.



- 1 Shetland
- 2 Orkney and Northern Caithness
- 3 Coll, Tiree and the Western Isles
- 4 North West Seaboard
- 5 The Peatlands of Caithness and Sutherland
- 6 Western Seaboard
- 7 Northern Highlands
- 8 Western Highlands
- 9 North East Coastal Plain
- 10 Central Highlands
- 11 Cairngorms Massif
- 12 North East Glens
- 13 East Lochaber
- 14 Argyll West and Islands
- 15 Loch Lomond, The Trossachs and Breadalbane
- 16 Eastern Lowlands
- 17 West Central Belt
- 18 Wigtown Machars and Outer Solway
- 19 Western Southern Uplands and Inner Solway
- 20 Border Hills
- 21 Moray Firth

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