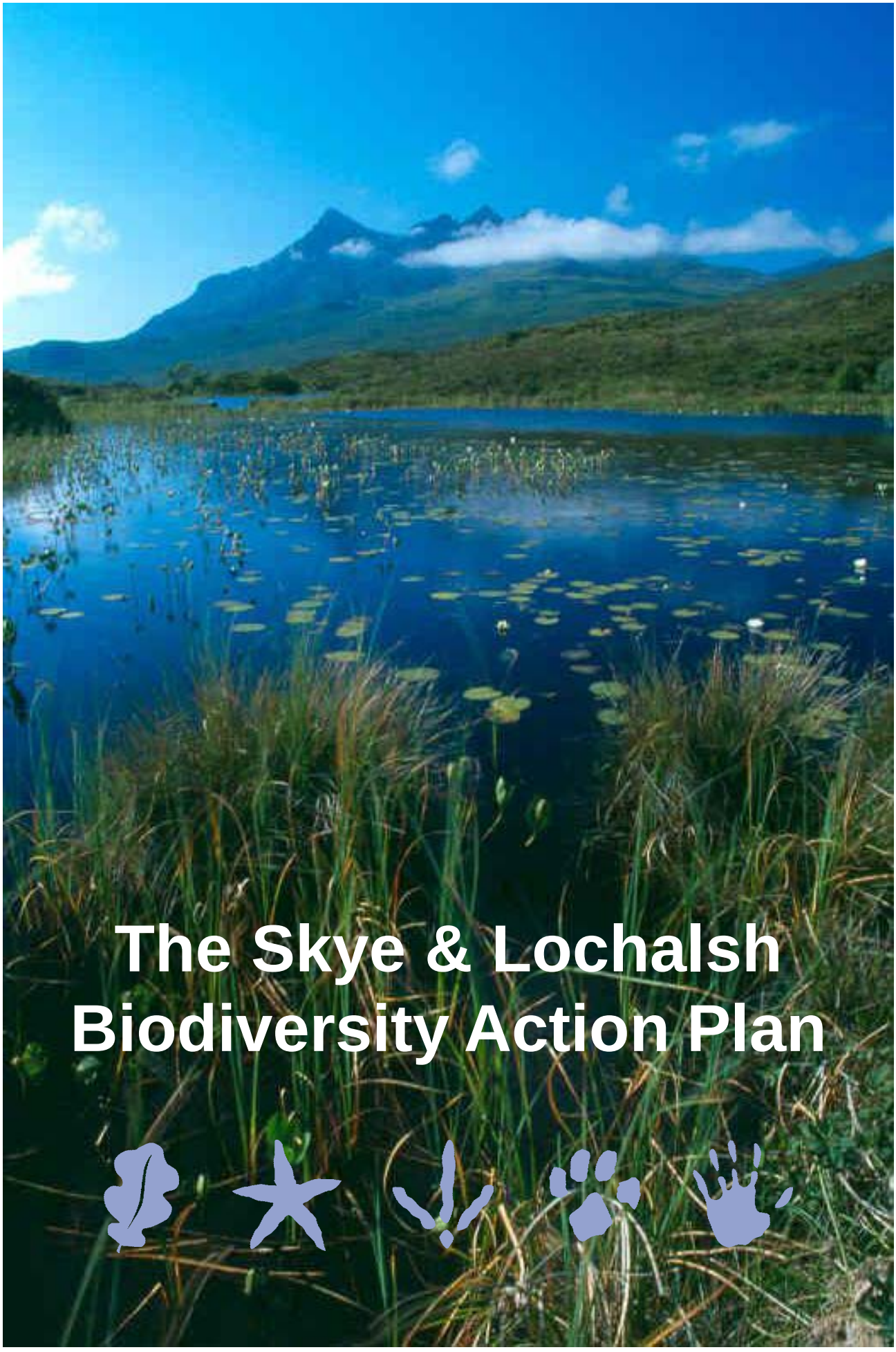

The Skye & Lochalsh Biodiversity Action Plan

FOREWORD

Thank you to the members of the Skye and Lochalsh Biodiversity Group (listed below) and to Scottish Natural Heritage staff for their input and guidance in the preparation of this Plan. Also, to those who participated in a biodiversity workshop in Tigh na Sgire in September 2002, which started the biodiversity action planning process in Skye & Lochalsh, and to those who commented on the draft Plan. Finally, to Rosie Cameron, who was employed for a short period as the Skye & Lochalsh Biodiversity Officer to help draft and consult on the Plan.

Skye & Lochalsh Biodiversity Group

Members:	Representing:	Location:
John Bannister	Crofting (Scottish Crofting Foundation)	Kylerhea
Jryna Batters	Community groups (Sluggans Woodland)	Snizort
Deborah Bogenhuber	Tourism (White Wave Activities)	Kilmuir
Dr Stephen Bungard	Ecology & recording (BSBI)	Raasay
Jed Carter (Chairman)	Independent	Waterstein
David Glover	Land owning (NFUS & SLF)	Inverinate
Diana Holt	Education (NTS Ranger Service)	Kintail
Angus McHattie	Marine & crofting	Breakish
Dr Alison MacLennan	Wildlife & geology (RSPB Scotland)	Broadford
Colin Parsons	Woodland (Fernaig Community Trust)	Achmore
John Phillips	Education (Highland Council Ranger Service)	Broadford

(BSBI: Botanical Society of the British Isles, NFUS: National Farmers Union (Scotland),
NTS: National Trust for Scotland, RSPB: Royal Society for the Protection of Birds,
SLF: Scottish Landowners Federation)

This Plan forms part of a suite of Local Biodiversity Action Plans produced for the Highland Council area by the Highland Biodiversity Project, a two-year project funded by The Highland Council, Scottish Natural Heritage, Highlands & Islands Enterprise, Caithness & Sutherland Enterprise and RSPB Scotland. The Project receives match funding from the Highlands & Islands Special Transitional Programme.

DECEMBER 2003

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SUMMARY

Biodiversity means the variety of life or richness of nature. It is all around us, from the top of the Cuillin and the Kintail Ridge to the bottom of the Minch, from the animals and plants that live in our waters, woodlands, moorlands and grasslands to the flowers, birds and insects in our gardens. We as humans are reliant on a robust and healthy ecosystem for our food, raw materials, clean air and good health.

This Local Biodiversity Action Plan has been written for Skye & Lochalsh. It aims:

- to promote sustainable management of our local biodiversity,
- to raise awareness and educate people about the issues surrounding biodiversity, and
- to suggest opportunities and actions that could be taken to improve our biodiversity.

Skye Bridge

The Plan has been divided into six main chapters reflecting the six broad habitats of sea and coast, freshwater, in-bye croft and farm land, woodland, mountain and moorland, and the built environment. For each section key issues, objectives, opportunities and actions have been identified. Habitats and species that are important at a local or a national level are listed in Chapter 7.

In drafting the Plan a number of themes emerged that were common to many of the sections, and these are listed below.

Co-ordination

There is currently no group or forum with sufficient remit or geographical coverage to oversee the delivery of this Plan. It is suggested that an Environmental Forum be set up to initiate actions and monitor progress on the Biodiversity Action Plan and similar sustainable environmental projects within Skye & Lochalsh.

Lack of information

There is a lack of up-to-date and accessible information on the biodiversity of Skye & Lochalsh, and the information that does exist tends to be fragmented and often technical in nature. The Plan suggests two pieces of work to identify gaps in our knowledge and prioritise the actions that could be taken forward for the locally and nationally important habitats and species identified in Chapter 7.

Accessibility of funding

A number of grant schemes and organisations provide funding for biodiversity-related projects. However, they are often difficult to access for small projects undertaken by community groups and involve a lot of paperwork and management time. This issue is being addressed by initiatives like the Skye & Lochalsh Council for Voluntary Organisations.

Invasive species

Japanese knotweed, rhododendron, New Zealand flatworm and mink are non-native, invasive species that are identified as threatening our native biodiversity. In addition, a number of native species such as ragwort, bracken and rushes are becoming problematic in areas where management is declining. The Plan suggests that training and assistance is provided to road maintenance contractors, crofters and others in effective means of eradicating invasive species from roadside verges and other land. It also suggests that land managers be encouraged to trap mink through a mink control project.

Rhododendron

Inappropriate grazing and burning

Over-grazing and, in some places, under-grazing is causing problems for our hill, moorland, semi-natural woodland, grassland and riparian (river bank) areas. It is important that the correct stocking densities are maintained, and these will vary according to the aims of the land managers.

Muirburn, if carried out in accordance with codes of good practice, can be an effective tool in managing heather moorland for grouse, deer or sheep, but if fires are lit in the wrong conditions or on sensitive areas, or allowed to burn out-of-control, this practice can be extremely damaging to biodiversity.

Wildlife crime

The removal of water lilies from ponds, the collection of rare birds' eggs and the deliberate or accidental killing of birds of prey and other protected species have been identified as key issues threatening our biodiversity. An awareness-raising project for local people and the walking and climbing fraternity has been identified to encourage people to report suspicious behaviour.

Bluebell

Roadside verges

The importance of our roadside verges as a haven for wild flowers, birds and mammals has been highlighted through this Plan. Management such as verge and hedge cutting for safety reasons should always take priority over biodiversity issues, but there may be areas where verges or hedges could be left uncut without compromising road safety, and a project to incorporate biodiversity elements into roadside maintenance specifications has been suggested.

Litter and fly-tipping

Non-biodegradable items can cause problems for mammals and birds in any environment, and the Plan encourages a number of projects including increased clean-ups, building on the good work of communities and schools, and the siting of bins in some strategic locations.

Climate change

Although not an issue that can be dealt with through a Local Biodiversity Action Plan, the Plan encourages organisations such as Scottish Natural Heritage to continue to monitor the impacts of climate change and through research and modelling projects, help us manage the change sensitively to minimise any negative impacts on our wildlife.

Loch Bracadale at dusk

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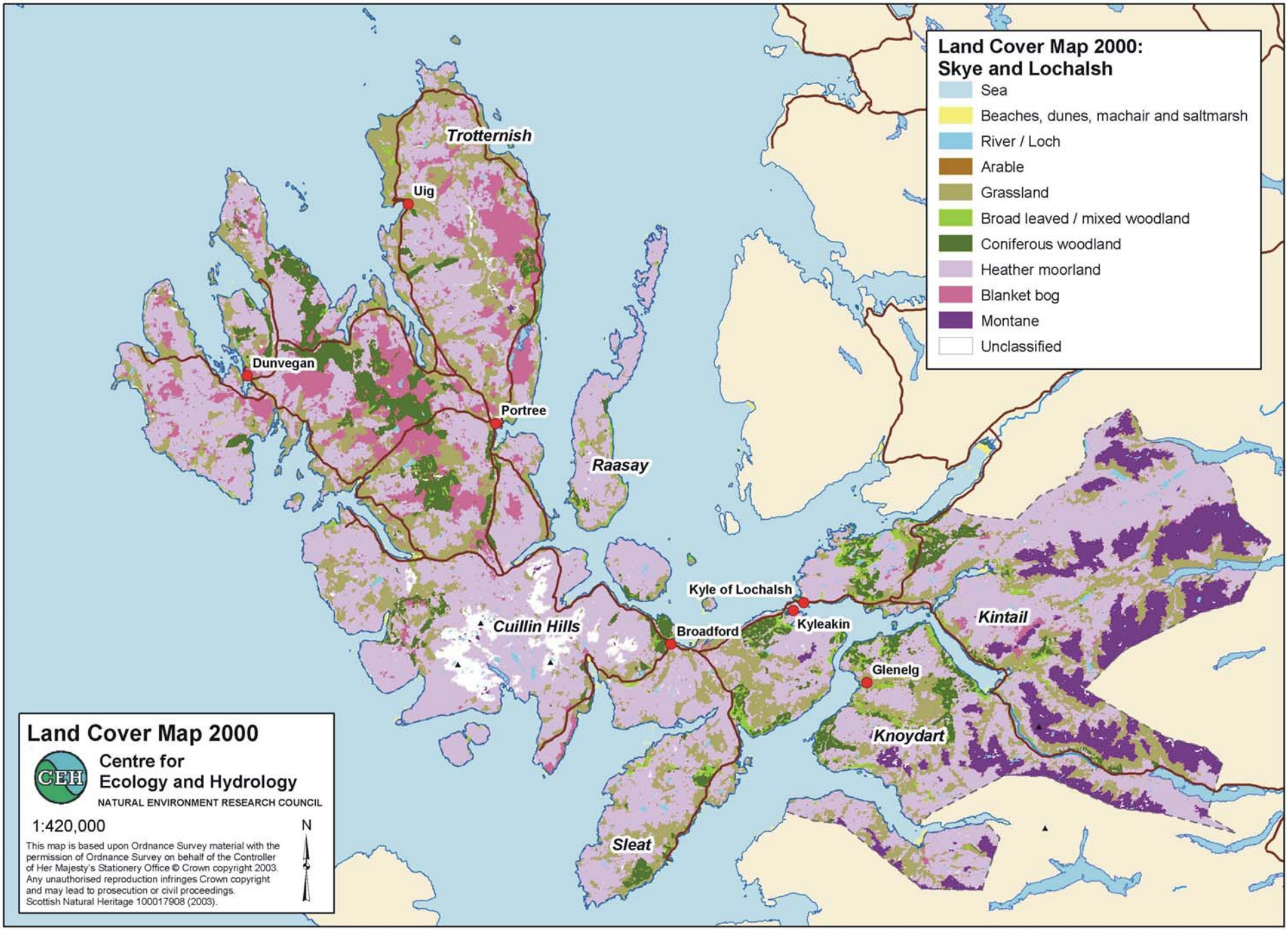
Land Cover Map 2000:
Skye and Lochalsh
Sea
Beaches, dunes, machair and saltmarsh
River / Loch
Arable
Grassland
Broad leaved / mixed woodland
Coniferous woodland
Heather moorland
Blanket bog
Montane
Unclassified
Trotternish
Uig
Dunvegan
Portree
Raasay
Kyle of Lochalsh
Kyleakin
Broadford
Cuillin Hills
Kintail
Glenelg
Knoydart
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INTRODUCTION

Biodiversity

Biodiversity means the variety of life or the richness of nature. This Local Biodiversity Action Plan attempts to set out what is important and valued about the natural environment of Skye & Lochalsh, in terms of broad habitats and species, and to identify a number of actions and projects that could be undertaken to help protect or enhance it.

The word biodiversity is short for 'biological diversity', a relatively new phrase that has been coined to express the richness of nature or variety of life. It came into use after the UK Government signed up to the Convention on Biological Diversity at the Earth Summit in Rio di Janeiro in 1992.

Crucially, biodiversity is concerned with the relationship of nature and people, and sees the natural world as a vital asset, essential to our survival and quality of life. As a concept, it asks us to use our resources in a sustainable manner, i.e. in a way that doesn't compromise our children's abilities to use them too.

"Biodiversity, our planet's most valuable resource, is on loan to us from our children"[1]

Biological diversity is also part of our cultural heritage - the current distribution and numbers of plant and animal species is, for better or worse, heavily influenced by human management. This biological richness is a vital component in the future development of the Highlands. Agriculture, forestry, fishing and fish farming all relate to the natural environment of Scotland, and it is also a major component of the tourism industry.

Ragged robin

Biodiversity Action Planning

In the UK, Habitat Action Plans (HAPs) and Species Action Plans (SAPs) are being produced for a number of national priority habitats and species, many of which occur in Skye & Lochalsh. These are listed in the tables at the end of the Habitats Section of this Report. To help deliver these national plans at a local level, the Government has encouraged the formation of Local Biodiversity Action Plans (LBAPs), which tend to be drawn up for local authority areas by a partnership of interests including councils, agencies and interest groups.

Highland cattle

A plan is being prepared for each area of Highland, focusing on the areas of Caithness, Sutherland, Ross & Cromarty East, Wester Ross, Skye & Lochalsh and Lochaber. Inverness & Nairn and Badenoch & Strathspey are already covered by related initiatives. Their purpose is to raise awareness of local biodiversity, identify priority habitats and species and suggest projects and actions that could be undertaken by individuals, communities & agencies in the next five to ten years.

These plans are non-statutory, i.e. they are not legally binding. However, successive governments are placing increased emphasis on biodiversity and related issues, as can be seen by the current considerations over the Scottish Biodiversity Strategy and Nature Conservation Bill. It is widely accepted that such plans will become more and more important in the targeting of resources and setting of priorities for the natural heritage.

This is reflected in the Highland Community Plan (Wellbeing Alliance, 2000), which outlines a need to

promote biodiversity conservation and help ensure its greater use as a sustainable resource. The Highland Structure Plan (Highland Council, 2001) recognises the importance of Local Biodiversity Action Plans in identifying sites and species of local and national importance, outside statutory designations, which can inform local plan preparation and planning applications. It also highlights the benefits of LBAPs as a means of involving communities in the conservation and enhancement of biodiversity and in relation to identifying local biodiversity needs and aspirations.

The Highland Biodiversity Project

This plan has been prepared under the auspices of the Highland Biodiversity Project, which is a two-year project led by The Highland Council, Scottish Natural Heritage, Highlands & Islands Enterprise, Caithness & Sutherland Enterprise and RSPB Scotland. It forms part of a suite of Local Biodiversity Action Plans produced for the Highland Council area by the Project, which receives match funding from the Highlands & Islands Special Transitional Programme.

Skylark on post

Funding is currently being sought for a second phase of the Highland Biodiversity Project, which it is hoped will start in 2004, to focus on the delivery of local biodiversity action plans in Highland. In the meantime, it is envisaged that the partners listed above and suggested in the main text and Annex 1 of this Plan will work towards the delivery of many of the outputs proposed in the 'Future action' sections.

The Skye & Lochalsh Biodiversity Action Plan

This plan for Skye & Lochalsh has been prepared with help from the Skye & Lochalsh Biodiversity Group, a group of local people representing a broad range of interests, set up following a biodiversity workshop held in Portree in September 2002.
The plan is divided into six chapters according to the following broad habitat types: sea & coast; freshwater; in-bye croft and farm land; woodland; mountain & moorland; and the built environment. Lists of the national and local priority habitats and species (identified in the UK Biodiversity Action Plan and by local people) are given at the end.

White water lily

Each of the six broad habitats chapters gives a short introduction to the habitats and species present in Skye & Lochalsh, lists the main issues, and highlights some projects that are already working to improve the biodiversity of the area. The Plan then highlights some opportunities for future projects that could be undertaken to help biodiversity in the years ahead. Where appropriate, the main partners that could be involved in taking forward these actions are suggested afterwards in brackets, but it has not been possible in the time allocated to discuss and agree delivery, timescales and costings.

The main partners that it is hoped will be involved in the delivery of the plan, be they Council departments, agencies, organisations, interest groups, local communities or individuals, are listed in Annex 1, and Annexes 2 and 3 provide a list of references and a glossary. A map and list of the nature conservation designations is at Annex 4, and Annex 5 is a list of local wildlife sites, taken from the Skye & Lochalsh Local Plan.

[1] Reaka-Kudla, ML, W ilson, DE & Wilson, EO (Eds) (1997) 'Biodiversity II: understanding and protecting our biological resources'. Joseph Henry Press, Washington

Skye and Lochalsh

Skye and Lochalsh is famous for its scenic beauty and diverse landscape of dramatic mountain and hill land, indented with a complex of sea lochs and islets. This gives a variety of habitat types ranging from deep marine trenches and sea bed features through coastal environments to croft land and finally, the high peaks of the Cuillins and Kintail. While many of the species and habitats common to our area are themselves globally rare and valued, it is the sheer range of habitat types found in our small area that makes Skye and Lochalsh special.

Old Man of Storr

Geology

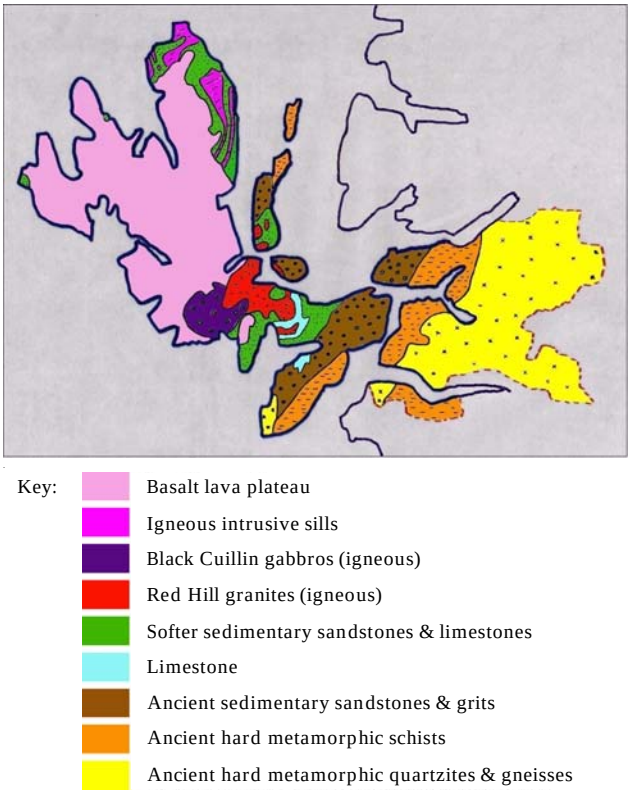
The geology of the area is highly complex and varied, giving rise to the outstanding landscape for which this area is internationally renowned and acknowledged. The oldest rocks, the Lewisian gneisses (up to 3000 million years old), found on Sleat, Glenelg, Knoydart, northern Raasay and Rona form the basement on which other rocks have formed.

To the east, the ancient hard metamorphic quartzites and gneisses of the Moine form the extensive mountainous range around Kintail the most famous of which, the Five Sisters, is popular with walkers and climbers. These rocks accumulated over 1000 million years ago at a time when the area was part of a shallow sea. In contrast the Torridonian sandstones and shales, which were laid down by rivers flowing from the west into shallow lakes, give rise to the rocky moorland landscapes of Sleat, Balmacarra, Scalpay and Raasay.

The most extensive exposure of the Durness limestone in Britain occurs at Strath Suardal on Skye, where limestone pavements support distinctive crevice vegetation and species rich grasslands.

During the Jurassic era the climate was warm and humid, global sea level was high and conditions were right for the accumulation of rhythmic alternations of sandstones, shale, limestone and ironstone, some of which have yielded a rich diversity of fossils including dinosaur prints and remains.

Much of north and north-west Skye is made of basalt, the earliest of the volcanic rocks erupted 58 million years ago. Layer upon layer of horizontal flow reaching over 1000m thickness in places gave rise to the flat stepped plateau features typified by MacLeod's Tables in Duirinish. Basalt lavas extruded onto weaker Jurassic shales and clay-rich rocks in Trotternish, subsequently slipped along joints in the basalt to give rise to the best ancient landslides in Britain. Features such as the Quirang, the Old Man of Storr and the Needle were formed in this way.



Simplified geological map of Skye & Lochalsh

However, it is the remnants of the 60 million year old volcanoes that clearly dominate the Skye landscapes. The basic gabbros and ultrabasic rocks of the Black Cuillin form the base of an eroded volcanic centre. The lower, smoother rounded shapes, of Glamaig and Marsco have resulted from the later intrusion of granite. Vertical dykes aligned northwest-southeast are associated with the Cuillin centre and contribute to the ragged outline of the Cuillin ridge forming well known features such as the Innaccessible Pinnacle.

Dolerite sills intruded into the Jurassic sediments on the eastern edge of the Trotternish Peninsula have given rise to features such as the Kilt Rock.

Trotternish

Climate

The proximity of the Atlantic Ocean and influence of the Gulf Stream ensures that the climate of Skye and Lochalsh is predominantly wet and mild with infrequent frosts and no lengthy snow spells. High rainfall comes mainly in the form of frequent moderate falls, with little seasonal or daily temperature variation. Strong westerlies off the sea make it one of the windiest parts of the UK. These conditions, which suppress decomposition, have given rise to soils which, particularly in Lochalsh, are naturally poor in nutrients and often waterlogged, resulting in peat formation.

The climate of Skye & Lochalsh, coupled with its great range in altitude, aspect, shelter and rock type, gives rise to the great variety of habitats found here. Few other places in the world encounter such a mild oceanic climate, and this fact itself leads to a large diversity of life. The area's oceanic bryophytes (mosses and liverworts) are particularly worth mentioning in this regard.

Eider amonst sea campion

Current predictions on climate change suggest that the next few decades will see a shift towards warmer, wetter and windier conditions in this area. Such changes could lead to a variety of effects on the natural heritage, including the decline of alpine habitats, or the expansion of others, such as wet heath.

Sea level rise is not thought to be a major issue in this area, as the land itself is rising. However, our seas contain a number of species that are on the edge of their range and will be lost if sea temperatures rise or fall even by a small amount. On land too we host arctic and alpine species that are at the southern edge of their range, which we will lose in favour of the expansion of more common southerly species.

Human impact

People may have first begun to explore the shoreline, lochs and forests of Skye & Lochalsh about 10,000 years ago. However, the earliest evidence for human activity dates back to the early Mesolithic period, from 8,000 year old middens on Skye. Containing mainly sea shells, fish, mammal and bird bone and stone, bone and antler artefacts, they indicate a more intensive presence of small bands of hunter-gatherers.

Some time after 4000 BC, society changed with the adoption of farming to augment and replace traditional food gathering. Knowledge of farming practices, stock-rearing and the growing of cereal crops introduced more permanent settlement (the period termed 'Neolithic') and a way of life that remained basically unchanged until industrial times.

From the middle Bronze Age (around 2000 BC) onwards there is evidence for settlement in the form of round houses (the stone footings are known as 'hut circles'). These are often surrounded by groups of stone clearance heaps where land has been used for growing crops. Woodland that had grown up since the end of the Ice Age was now receding due to grazing, clearing through fire, felling and climate change, and the climate had improved to a point that it was warmer than it is today. Many hut circle remains survive in areas that are now too high and cold for cultivation.

Hut circle structures continue throughout the Iron Age (around 700 BC), and increasingly there is evidence for more widespread landuse and division in the form of expanded field systems and groups of stone-clearance cairns.

Viking raiders first came to the area some time around 800 AD, and the area remained part of the Norse world until at least the twelfth century. The influence of the Norse can be seen in place names, for example '*bost*' means farm, (Orbost, Carbost, Skeabost) and '*shadda*' means small village (Herishader, Ellishader, Shulishader).

Coral beach near Dunvegan

There was probably a large degree of continuation from the later prehistoric period for independent self-sufficient farms balancing agriculture, stock-breeding and fishing – supplemented by seasonal hunting and gathering. It is believed that there was a greater emphasis on eating fish and seafood during the Norse period. Although the settlers seem to have taken on indigenous livestock, they may have unwittingly imported smaller mammals. Studies of field mice and cats in the Hebrides show that they are probably descended from Scandinavian stock that must have eventually overwhelmed the local population.

The later Middle Ages, from about 1200 to about 1550 AD, were dominated by the attempts of the kings of Scotland to establish their power over the Highlands, including the Lordship of the Isles in the west. By the mid-eighteenth century, sheep were introduced to the area and major sheep farming took off by the start of the nineteenth century.

Eilean Donan castle

Transhumance, a form of pastoral agriculture where the people move with their animals to summer pastures, was carried out in Skye & Lochalsh and to some extent is still reflected in current grazing patterns despite the decline of the traditional sheilings perhaps 150 years ago.

Between the mid-eighteenth century and late nineteenth century, the Highland Clearances saw whole communities broken up and scattered. As the Agricultural and Industrial Revolutions took off in England and southern Scotland, tenants found themselves evicted by landowners to make way for commercial sheep farming to supply the woollen industry and the new urban markets. For many people there was terrible hardship, especially after a series of famines in the 1840s, and many emigrated, leaving their villages deserted. Others were moved to the coast, where they set up crofts on small units of land. The crofts were never meant to be large enough to support a family, ensuring a supply of labour to the landowners.

Crofting landscape

During the nineteenth and early twentieth century, many woodlands were felled for their timber. The by-products provided bark for the tanning industry, wood for the furnaces of the iron and steel industry and timber for the War effort. These native woodlands were not replaced, although with the establishment of the Forestry Commission, new coniferous plantations were planted. The latter part of the Century saw the harnessing of rivers and streams for hydro-electric power, the planting of large areas of heather moorland and peatland with trees, and the growth of motorised vehicles and mechanisation gradually replacing the horse with the tractor.

Today, many crofts are uncultivated. Sheep is the dominant livestock, although numbers may diminish as EU subsidies change in favour of area and mixed stocking rather than the previous headage payments.

What You Can Do

Everyone can do their bit for biodiversity, whether it is on the farm or croft, in the garden or down at the shops! Here are some examples of how you can help:

Get involved

- Find out about your local environment and take part in local projects. (Contact: Scottish Natural Heritage, or your local community council or association)
- Become one of BTCV Scotland's Highland Volunteers, or volunteer with the Highland Council or National Trust for Scotland Ranger Services. (BTCV: British Trust for Conservation Volunteers)
- Join your local Field or Bird Club, and take part in surveys or projects. (Contact: South West Ross Field Club, Scottish Wildlife Trust's Skye Group, Scottish Ornithologists Club, Highland Biological Recording Group)
- Send any interesting wildlife records or sightings (including a six figure grid reference) to the HBRG (contact: Highland Biological Records Centre, Inverness Museum)
- If you are a tourist business, sign up to the Green Tourism Business Scheme. (Contact: HOST or the Tourism & The Environment Forum, Inverness)
- Keep biodiversity high on the political agenda by writing to your MSP, MP or MEP.

Garden for wildlife

- Plant native species that will provide food and shelter all year round for wildlife, leave a 'wild corner' - long grass, nettles and other weeds can be good for butterflies and log or stone piles can benefit insects and if you have space, dig a garden pond. (Information on gardening for wildlife in this area is available from SNH)
- Put up nest boxes and bat boxes in suitable locations. (Scottish Agricultural College is providing tree sparrow and barn owl nest boxes and advice on where to put them up to farmers and crofters with suitable habitats)
- Grow to organic principles. (Information on organic gardening is available from the Soil Association Scotland)
- Compost all your garden and vegetable waste, and buy alternatives to peat-based composts and other products from local garden centres. (Further information is available from Highland Council's Waste Management Officer, Dingwall)

Shop locally

- Buy locally grown and / or organically produced meat and vegetables where possible.
- Make sure any wood products you buy carry an accredited logo, such as the Forestry Stewardship Council (FSC).

Reduce pollution

- Pick up litter and encourage people not to drop litter. Plastic containers, tin cans and discarded fishing line & nets can cause particular damage as they are not biodegradable and can trap or suffocate birds and mammals.
- Use biodegradable cleaning products and washing powder, and use less bleach and harmful cleaning products at home and in the garden.
- Dispose of hazardous substances such as oil, turpentine and acid wisely and don't flush non-biodegradable items down the toilet. (Information on correct disposal methods is available from the Highland Council)

Don't forget the larger, global issues such as reducing waste and using less energy. Contact details for the Groups listed above are given in Annex 3.

The Cuillin from Elgol

BIODIVERSITY ACTION PLAN

Biodiversity Objectives

The following objectives have been agreed for the Skye & Lochalsh Biodiversity Action Plan. More habitat-specific objectives are given in each of the six main sections.

- To ensure that all habitats are managed in a sustainable manner that takes account of their biodiversity interests, and create more opportunities for individuals, communities and agencies to take action for biodiversity.
- To promote projects and initiatives that help maintain or improve biodiversity, secure additional support for biodiversity and related projects, and help publicise existing sources of funding and advice.
- To raise awareness of the biodiversity of Skye & Lochalsh amongst local people, visitors, funding organisations and policy makers by developing quality education at all levels and improving access to information about important species and habitats and their management requirements.
- To establish a mechanism to help individuals, community groups and partners to deliver the Skye & Lochalsh Biodiversity Action Plan, monitor progress and share information on biodiversity matters.

Recurring Themes and Actions

In drawing up this Plan, a number of cross-cutting themes were identified that are common to many of the broad habitat sections. These themes, and their associated actions, are seen as crucial to the delivery of this Plan, and they are summarised below.

Co-ordination

There is currently no group or forum with sufficient remit or geographical coverage to pick up on the work of the Skye & Lochalsh Biodiversity Group and help deliver this Local Biodiversity Action Plan. The current group was set up on a temporary basis to help draft this Plan, and members have expressed an interest in the establishment of an Environmental Forum comprising local representatives from wider interests that could help deliver the Biodiversity Action Plan and similar projects covering issues such as waste and recycling. This could possibly be established through the evolution of the community planning process in Skye and Lochalsh.

- Set up a Skye & Lochalsh Environmental Forum to help deliver the Biodiversity Action Plan and take forward other sustainable projects in the area.

Sea eagle fishing

Lack of information

There is a shortage of up-to-date, accessible information on the biodiversity of Skye & Lochalsh. The information that does exist tends to be fragmented and is often technical in nature.

A Data Atlas was produced for Skye some years ago, but it is now somewhat out-of-date and limited in coverage. Local Biological Records Centres exist in Inverness and on Skye (c/o International Otter Survival Fund) but they are drastically under-resourced. The area also has representatives from many organisations, such as the British Trust for Ornithology (BTO), the Botanical Society for the British Isles (BSBI) and the Highland Biological Recording Group (HBRG) where volunteers collect and submit species records. However, to date there has been no co-ordinated attempt to bring this information together in a biodiversity audit or records centre setting.

In this regard, two essential pieces of work have been identified to help us deliver this Plan, and they are listed below. It is hoped that these projects would lead on to further works to fill the gaps in our knowledge, and that any information gained through these exercises would be made available on the web, and held by the Local Records Centres.

- Undertake a literature and data search, starting with the Skye Data Atlas and working with local agencies, voluntary groups and key individuals to identify gaps in our collective knowledge of local biodiversity and suggest a means of plugging them.
- Produce a more focused list of habitats and species that we intend to take action to help conserve or enhance and for each, identify the main actions that should be undertaken and agree a lead partner, timescale and costing.

Plockton

Accessibility of funding

There are a number of grant schemes and organisations that will provide funding for biodiversity-related projects. Examples include Scottish Natural Heritage, Skye & Lochalsh Enterprise, Scottish Environmental Protection Agency's Habitat Enhancement Scheme, the Forestry Commission's Scottish Forestry Grant Scheme, and the Scottish Executive's Rural Strwardship Scheme, as well as two Leader + programmes, Heritage Lottery Fund and the New Opportunities Fund. However, such funding sources are often difficult to access for small projects undertaken by community groups and involve a lot of paperwork and management time. Initiatives like the Skye & Lochalsh Council for Voluntary Organisations are trying to address this problem through funding fayres and officer support.

Invasive species

There are many non-native species naturalised in Skye and Lochalsh that, for one reason or another do not give rise to much concern in terms of biodiversity. However some non-native species, such as Japanese knotweed, *Rhododendron ponticum*, mink and New Zealand flatworm are very invasive and causing problems for both our native species and the natural ecosystems which supports them, and the issues are explained further below.

Some native species such as ragwort, bracken and rushes are also becoming invasive in areas where management (including grazing) is declining. Whilst good for biodiversity in small quantities, these plants also can exclude other vegetation, and ragwort is poisonous to most grazing animals, although heavy grazing by sheep keeps it at bay. Control is often expensive and labour intensive.

Japanese Knotweed (*Fallopia japonica*) is an attractive, shrub-like plant that has been planted in gardens and is now widespread throughout Skye and Lochalsh. It forms dense thickets that exclude native vegetation, greatly altering existing ecosystems and reducing biodiversity and destabilising river banks. The spread of Japanese knotweed throughout an area can be rapid because it regenerated from plant fragments and consequently cutting it back can often spread it further and introduce it to new areas. In many parts of Scotland control, far less eradication, is proving a long-term drain on resources.

Japanese knotweed

Rhododendron ponticum is a particularly virulent species, which like Japanese knotweed, spreads rapidly in the wild, forming dense thickets that exclude native vegetation.

Mink have spread throughout Skye & Lochalsh and have even reached the island of Rona – probably by boat. In Lochaber this species has proved to be a particular menace to ground-nesting shore birds such as eider, black guillemot, gulls, terns and shelduck.

Mink

New Zealand flatworm is spreading through the garden habitat and is present in many places in Skye and Lochalsh. It lives on earthworms and has been known to devastate earthworm populations. Changes in the earthworm population will affect the soil condition, for example infected sites in Northern Ireland have become waterlogged and unproductive. Flatworms are spread through the transfer of plants or soil from infected sites onto uninfected areas, and gardeners and horticulturalists should make sure that they treat pot plants when buying in.

- Provide training and assistance to road maintenance contractors, crofters and others in effective means of eradicating Japanese knotweed, rhododendron, ragwort, bracken and rushes.

- Encourage land managers to trap mink through financial assistance and the provision of free traps.

Wildlife crime

Despite being protected by law, some species in Skye & Lochalsh are threatened by wildlife crimes such as the removal of water lilies from ponds for sale in garden centres, the collection of eggs from rare birds or the deliberate or accidental killing of raptors or other rare birds or mammals. Such species would benefit from general awareness raising and encouragement of the public to report any suspicious behaviour to the police.

- Raise awareness of issues surrounding wildlife crime amongst local people through enhanced media coverage and community based projects.

Inappropriate grazing and burning

In certain areas, high or low deer and sheep numbers have resulted in inappropriate grazing. By inappropriate, we refer to both over-grazing and under-grazing. The impacts can include a loss of heather moorland, reduced regeneration potential for semi-natural woodlands, localised erosion particularly at the edges of streams and water courses, or in the case of under-grazing, the dominance of rank vegetation and loss of species rich grasslands.

Controlled strip burning of heather moorland can benefit grouse, red deer and sheep. However, burning of other habitats such as blanket bog, scree and woodland can cause lasting damage and uncontrolled burning is a problem in many parts of north and west Highland. Uncontrolled and inappropriate muirburn practices, often affecting large areas of hill, have a devastating effect on flora and fauna. Many bird species have already started nesting within the allowed muirburn period, which can extend until 15 May for areas above 450 metres above sea level.

Where burning is essential for management and / or safety reasons, it should be carried out on a small scale to minimise loss and injury to wildlife and should adhere to good practice guidelines such as 'The Muirburn Code' (SEERAD, 2001) and its supplement 'Prescribed Burning on Moorland'.

Roadside verges

If verge vegetation is cut before the wild flowers have time to set seeds, they will gradually be lost in favour of rank grasses. Where safety permits, hedges should be left uncut to provide a source of food and shelter for birds through the winter. Spread of invasive species such as ragwort and Japanese knotweed is a big problem in some verge areas.

- Incorporate biodiversity elements into roadside maintenance specifications, combined with awareness raising amongst the public of the likely benefits to be had from such works, and an eradication programme for invasive weeds along roadside verges.

Trotternish ridge

Litter and fly tipping

Sewage, litter and run-off from the land are all potential contaminants in the marine and freshwater environments. In recent years, largely due to the work of organisations such as the Scottish Environmental Protection Agency, we have experienced a reduction in point-source pollution from pipe outfalls, with associated improvements in water quality. Agricultural run-off is not a big problem in Skye & Lochalsh, and a greater threat to marine, freshwater and terrestrial life comes from marine and land-based litter from fly-tipping or discarded plastic items including bags, containers and fishing nets and line. Plastic items or tin cans can cause particular damage as they are not biodegradable, and some communities regularly organise clean-ups.

Climate change

Climate change is an issue of concern these days. However, it should be noted that our climate has been getting progressively warmer since the last glaciation, and that Skye & Lochalsh's vegetation and animal life has been responding accordingly. This is not an issue that we can do much about through a Local Biodiversity Action Plan, and Scottish Natural Heritage and others are monitoring the changes in climate and resulting changes in biodiversity on a national scale.

Chapter 1: Sea and Coast

Introduction

The coastline of Skye & Lochalsh is long and heavily indented by sea lochs and numerous skerries and islands. We have some of the deepest underwater cliffs in Scotland, plunging down to depths of over 100m below sea level. The Inner Sound, between Rona and the mainland, is over 300m deep in places, making this the deepest trench on the British continental shelf. We also have some of the fastest flowing water, racing in tidal rapids over sills and through narrow channels.

Because of the Gulf Stream, a warm surface current that originates in the Gulf of Mexico, our water temperatures are much warmer than would be expected this far north. Winter sea temperatures can differ to those in the North Sea by two or three degrees and because of this, our seabed communities are rich and varied, containing many species at the northern limit of their range. Several species of turtle have been recorded swimming in our waters, and we also see seasonal fish species such as John Dory and Sunfish.

Species: unattached egg wrack, herring, cod, whiting, hake, plaice, saithe, mackerel, sole, *horse mackerel*, basking shark, common skate, northern right whale, **minke whale**, humpback whale, *common dolphin*, Risso's dolphin, Atlantic white sided dolphin, white-beaked dolphin, striped dolphin, bottlenosed dolphin, harbour porpoise, killer whale, northern bottlenosed whale, European otter, *native oyster*

Photos of: Coral beach, Fish farms, Nephrops, Trawling and Northern bottlenosed whale

Habitats & species

The **open seas** provide a feeding and breeding habitat for a range of marine mammals and fish including several species of whales and dolphins, grey and common seals, basking shark, cod, herring, whiting, saithe and mackerel. The waters provide a rich resource for auks, gulls, divers and ducks such as eider and red-breasted merganser.

Grey seal

The main underwater habitats around Skye & Lochalsh are made up of exposed bedrock, sand, gravel and mud habitats. **Sublittoral sands and gravels** provide good spawning and nursery grounds for many commercial fish species. The west coast of Scotland is the most important area in the UK for the **deep-water mud habitats**, which contain animals such as the giant sea-pen *Funicularia quadrangularis* at relatively shallow depths in the sea lochs, as well as lobster and crab species, burrowing shrimp and large molluscs.

Lochs Duich, Long and Alsh contain some of the finest examples of **rocky reefs** in Europe. Sheltered reefs in Loch Long, the second most brackish of the large Scottish sea lochs, are unusual due to being subjected to variable salinities. **Horse mussel beds** and **tidal rapids** are national priority habitats that occur in tide-swept areas such as under the Skye Bridge, at Kylerhea and in Scalpay Narrows. In addition, many of the sea lochs contain fine examples of **brittlestar beds**.

Other rare underwater habitats such as **seagrass beds** and **maerl beds** occur in locations such as Loch Carron, Loch Ainort and Claigan. Maerl consists of several species of red algae that come together to form a coral-like structure in high-energy environments. Neither habitat is well surveyed, and both may be more common in Skye & Lochalsh than we think. In some of the more sheltered locations at the head of the sea lochs, the unattached seaweed *Ascophylum nodosum* ecad *makaii* can be found. This rare form of knotted or egg wrack is only found at the head of sea lochs on the west coast of Scotland, and prefers calm conditions of variable salinity.

Otter

Sheltered inlets and lochs such as at Camascross, Loch Greshornish and Nonach support small but important **salt marsh** communities. There are also small, **machair**-like areas at Dunvegan, Sandaig and Glenelg.

Mudflats such as those in Broadford Bay provide important feeding sites for both breeding and passage wading birds such as dunlin, ringed plover, oystercatcher, sanderling, redshank, greenshank and curlew.

Objectives

- Promote integrated marine and coastal management.
- Encourage sustainable use of creels and work with fishermen to identify sensitive 'no take' areas for mobile gear.
- Encourage adherence to existing codes of good practice such as those published by Scottish Quality Salmon, and raise awareness of examples of good environmental management in the aquaculture industry.
- Ensure all future Environmental Impact Assessments consider potential impacts on Biodiversity Action Plan habitats and species.
- Encourage marine users to use waste disposal and collection facilities.
- Raise awareness of sensitive areas amongst recreational users and promote existing codes of good practice.

Main issues

1.1 Fishing

Issues: In the past Skye and Lochalsh enjoyed an abundance of fish, in both numbers and variety. Many species once common to the area, such as cod and herring, are now much reduced in number. As traditional target species decline, commercial fishing is diversifying and a greater range of species is being exploited. The use of mobile gear for dredging and trawling can damage many sensitive marine habitats, including maerl, horse mussel beds and delicate communities of sea pens.

Trawler

Current projects: Local fishermen have set up a company, Highland Shellfish Management Organisation (HSMO), with support from The Highland Council, Scottish Natural Heritage and Highlands & Islands Enterprise. The company is applying for a Regulating Order to enable shellfish stocks in the Highland area to be managed locally.

Nephrops

A Management Scheme is being drawn up for the Lochs Duich, Long and Alsh Reefs candidate Special Area of Conservation (cSAC), and preliminary work is being carried out for a second cSAC covering the Ascrib, Isay and Dunvegan area.

The Highland Biodiversity Project piloted a Marine Innovation Award to highlight best practice in the sustainable use of our coasts and inshore waters. Building on the success of the Award, the Highland Council is now running a second scheme entitled HiMaRCS – Highland Marine Resources and Communities Scheme. In addition, the Crown Estate gives out a Coastal Communities Grant scheme every year.

Future action:

- Encourage creel fishermen to use sustainable methods such as escape hatches (to enable undersize prawns, crabs or lobsters to get out before being brought to the surface), biodegradable catches (to prevent 'ghost fishing' should the creel be lost) and v-notching of female lobsters (to serve as a marker to other fishermen and enable them to continue breeding). *Suggested partners: HSMO, The Highland Council, SNH, HIE*
- Investigate the occurrence of otters becoming trapped in creels. *Suggested partners: HSMO, SNH, International Otter Survival Fund*
- Encourage the establishment of 'no take zones' and the closure of some areas to mobile gear, identified and policed by local fishermen, building on examples from other areas such as Loch Torridon. *Suggested partners: HMSO, Highlands & Islands Fishermen's Association, Mallaig & North West Fishermen's Association*

1.2 Aquaculture

Issues: Both finfish and shellfish farming take place in Skye and Lochalsh, and the industry is a significant source of employment for local people. As wild fish stocks decline, aquaculture is likely to increase both in terms of the volume and diversity of species farmed. This will undoubtedly lead to increased pressure on the marine environment. Issues include interactions with wild fish, spread of disease, sustainability of the feed supply and localised pollution from fish faeces, food and medicines.

Current projects: The Highland Council has produced Aquaculture Framework Plans for Loch Bracadale and Loch Hourn that seek to locate developments in the most suitable sites and highlight issues that would need to be considered by the applicant, such as the impact on BAP habitats and species.

The Scottish Executive and Scottish Environmental Protection Agency (SEPA) monitor and provide safeguards on the impacts of fish farms.

Members of Scottish Quality Salmon have been trained in best environmental practices, including waste management, and some operators have held open days to demonstrate their operations.

Salmon farm

Future action:

- Highlight and encourage best practice in relation to restocking programmes, sustainability of feed and environmental impacts, and work towards sustainability benchmarks for the aquaculture industry. *Suggested partners: Scottish Quality Salmon, Fish farming companies*
- Investigate multi-species projects such as seaweed and finfish polyculture, which could help reduce negative impacts of aquaculture on the seabed and water quality. *Suggested partners: Scottish Executive, Aquaculture industry*
- Undertake research into the carrying capacity of fish farm sites and the effects on local habitats and species. *Suggested partners: Scottish Executive, SEPA*
- Extend the coverage of Aquaculture Framework Plans to the whole of Skye & Lochalsh, ensure they support the sustainable relocation and consolidation of fish farms and encourage developers to consult Framework Plans prior to selecting sites and carrying out Environmental Impact Assessments. *Suggested partners: Highland Council*

1.3 Shipping

Issues: Large shipping passing through the Minch and via the Inner Sound poses an ever-present threat to the fragile coastal environment and creates huge local concern over grounding, collisions and toxic spills. Shipping in general creates its own problems, through the flushing of oily bilge waters, unregulated dumping and introductions of foreign species, particularly diseases, from ballast tanks.

1.4 Pollution & litter

Issues: Although the local marine environment is relatively clean by UK standards, it continues to be a general dumping ground for anything from sewage and old cars to fishing industry junk. Consented discharges of trade effluent also occur, but tend to be concentrated around settlements and fish farms. As demands on the marine environment increase so too do the risks of cumulative impacts resulting from these discharges. Marine litter poses a range of risks to species, including entanglement and ingestion, and greater awareness is needed within the fishing industry. Many sources of pollution directly affect species at the lower end of the food web, such as filter feeding bivalves (mussels, scallops, etc) and pollutants may then be passed on up the food chain. There is concern that dumping at sea or on the coast may increase as recent changes in waste management taxes start to take effect. There are concerns locally about a concentration of radioactivity in seaweeds as a result of discharge from Sellafield.

Future action:

- Help marine users recycle or dispose of waste such as litter, old fishing nets or fish farm waste sensitively, building on existing leaflets and projects. *Suggested partners: Highland Council, Marine Conservation Society, SNH, SEPA*

1.5 Gravel extraction, dumping & beach cleaning

Issues: Sand and gravel extraction and dumping of building materials on the shore impacts directly on biodiversity by removing the habitat and all the associated species.

Beach cleaning is a useful remedial measure to locally reduce accumulated litter. Care needs to be taken when planning such events to avoid disturbance to shoreline wildlife, particularly breeding birds (e.g. oystercatcher and ringed plover) and animals (otter and common seal). It is important to avoid clearing or damaging shoreline plants, including seaweeds that are a normal part of the beach habitat, and if vehicles are used, care must be taken not to damage the foreshore. The unattached egg wrack is particularly susceptible to beach cleaning and seaweed collection.

Current projects: Every year, Second Year pupils at Portree High School take part in a series of clean-ups at popular beaches like Talisker, Glen Brittle and Camas Malag, with funding from Scottish Natural Heritage and assistance from the Highland Council Ranger Service.

The Highland Council and Marine Conservation Society have both issued leaflets to encourage people

to pick up litter from beaches. SEPA enforces current anti-pollution legislation.

Future action:

- Raise awareness of the seaweed unattached egg wrack *Ascophyllum nodosum* ecad *mackaii*. *Suggested partners: SNH, Crown Estate, Highland Council and National Trust for Scotland Ranger Services*

1.6 Shellfish & bait gathering

Issues: In some areas such as Broadford Bay, concerns have been expressed about the potentially negative impacts of gathering cockles, periwinkles and lugworms for bait. Although sustainable shellfish and bait gathering by local people is not generally considered to be a problem, if carried out on a large scale it can remove a valuable source of food for shore birds such as oystercatcher, dunlin, curlew and ringed plover.

Future action:

- Produce a guide to shellfish gathering, including a code of conduct. *Suggested partners: Highland Council, Crown Estate*
- Investigate the level of bait digging being undertaken, the potential impacts of this practice and its sustainability. *Suggested partners: Highland Council, Crown Estate*

1.7 Recreation & tourism

Issues: Marine tourism is a growing industry in Skye and Lochalsh and is generally seen as a good thing for biodiversity at it helps raise awareness. However, marine mammals and shoreline birds can be disturbed by motorised boats, scrambler bikes and all-terrain vehicles, and in some areas dogs can disturb feeding and breeding wildlife, particularly nesting terns and waders.

Minke whale

Current projects: Codes of good practice already exist for many forms of recreation. For example, the Scottish Marine Wildlife Tour Operators Association published 'Navigate with Nature' a code of good practice for wildlife tour operators using powerboats, and the British Sub Aqua Club makes its 'Divers Code of Conduct' available to all members.

There are many wildlife-viewing facilities that raise awareness of marine and coastal species, habitats and associated issues situated around the coast. Examples include the otter viewing facilities at Kylerhea and Eilean Ban, the glass-bottomed boat and remote operated vehicle running out of Kyle of Lochalsh and other seal and boat trips operating ocally.

Future action:

- Assist groups such as Broadford Environmental Group, who are looking to interpret their shoreline and associated wildlife in various ways. *Suggested partners: Broadford Environmental Group, SNH, Skye & Lochalsh Enterprise*
- Encourage local and visiting diving clubs to take part in Seasearch projects, run in conjunction with the Marine Conservation Society, to identify and map important habitats and raise awareness of underwater life. *Suggested partners: Highland Council, SNH, MCS, British Sub Aqua Club*
- Ensure potential disturbance to coastal wildlife is taken into account when planning and creating new access routes, promote responsible behaviour with specific user groups such as dog walkers, and perhaps create new routes or encourage use of existing ones that avoid sensitive sites. *Suggested partners: Skye & Lochalsh Footpath Initiative, Highland Access Project, Highland Council and NTS Ranger Services*

Chapter 2: Freshwater

Introduction

Skye & Lochalsh experiences a high annual rainfall but despite this, we have few large rivers or lochs. As the land area is so mountainous, our rivers are typically short and steep with small catchments, which tends to result in extremely variable 'spatey' flows.

Although most of our lochs are small and nutrient poor, like the dubh lochans associated with the peatlands south of Broadford some, such as Loch Cill Chriosd are enriched by the underlying limestone and are therefore important for their aquatic vegetation.

Species associated with our freshwater and wetland habitats include brown trout, Atlantic salmon, relict populations of Arctic char, freshwater pearl mussel, Daubenton's bat, red and black throated divers, European otter and water vole, as well as many species of dragonflies and damselflies.

Species: reed bunting, **spotted crake**, dipper, a stiletto fly, *European otter*, water vole, freshwater pearl mussel

Photos of: Highland darter, Loch Cill Chriosd, European otter, Loch nan Eilean and Snipe

Habitats & species

National priority freshwater habitats are of limited extent in Skye & Lochalsh. However, small areas of fen-like vegetation and **reedbeds** are present in Glenelg, Strath and Sligachan candidate Special Areas of Conservation, Loch Cill Chriosd, Linicro, Glenelg and Sligachan lochs.

Loch Cill Chriosd & Blaven

Brown trout and eel occur in most rivers, but Atlantic salmon is found in less than half and numbers of salmon and sea trout have been declining in recent years. Arctic char has been recorded from some of the upland lochs. Daubenton's bats live near freshwater areas, and feed over rivers, streams and small lochs in the area. The European otter inhabits rocky coasts, open water, reed beds and marshy areas. Water voles are present in upland streams, bogs and marshy areas in Lochalsh.

Gold-ringed dragonfly

The lochs and pools at Sligachan are part of the British stronghold for the nationally rare pipewort, and Dalavil, Loch Achaidh na h'inich and Sligachan are good sites for dragonfly species.

Objectives

- Promote integrated catchment management on water courses throughout Skye & Lochalsh.
- Promote advice on the sympathetic management of freshwater wetlands and farmland watercourses to crofters, landowners and managers. Also where appropriate, create or reinstate riparian (river bank) woodland and wetland habitats where they have been damaged or removed.
- Raise awareness of the biodiversity of freshwater systems amongst children, local communities, user groups and land managers, and encourage best practice.
- Encourage user groups such as anglers to record and monitor locally important species.

Main issues

2.1 Catchment management

Issues: The biodiversity of rivers, lochs and wetlands is influenced by land use in the water catchment, and issues such as drainage of wetlands, modification of stream banks, overgrazing and pollution from domestic, industrial or agricultural sources can have an adverse effect on it. The correct disposal of sheep dip is of particular concern, but the Scottish Environmental Protection Agency (SEPA) regulate against the misuse of such chemicals and have the power to fine businesses for polluting water courses. With an increasing population, there are concerns over the abstraction of water for domestic supplies.

Snipe

Current projects: Water treatment works and abstraction points undergo consultations. Through its Habitat Enhancement Initiative, SEPA gives out grants for positive biodiversity works.

Crofters and farmers are required to follow the PEPFAA Code (Prevention of environmental pollution from agricultural activity) and useful information and guides are available from sources such as SEPA, SEERAD (Scottish Executive Environment & Rural Affairs Department) and the Scottish Agricultural College (Dos and Don'ts Guide and the Four Point Plan – Straightforward guidance for livestock farmers to minimise pollution and benefit your business).

Future action:

- Undertake a series of catchment management training courses and field visits for land managers, to raise awareness of good practice and sources of help and advice on issues such as management of riparian woodland, appropriate grazing regimes, correct disposal of sheep dip and other agricultural chemicals, and control of invasive species. *Suggested partners: SAC, SEERAD, Crofters Commission, SNH, SEPA, National Farmers Union (Scotland), Scottish Crofting Foundation*

- Undertake an agricultural waste collection and disposal project, building on examples from elsewhere (e.g. Cairngorms Agricultural Waste Project). *Suggested partners: as above, Highland Council*

- Raise awareness of issues surrounding septic tank maintenance and alternative technologies and treatment methods such as reed beds, dry composting toilets, etc. through workshops and demonstration projects. *Suggested partners: SEPA, Scottish Water*

- Raise awareness of the different habitats occurring in river catchments through e.g. school project focusing on the biodiversity of waterways. *Suggested partners: Wester Ross Fisheries Trust, Fishery Boards, SNH*

2.2 Bank-side vegetation

Issues: Removal of bank-side or riparian vegetation, particularly broadleaved woodland, not only removes that habitat and its associated species, but also reduces the bank stability and can lead to erosion.

Future action:

- Encourage the natural regeneration of existing native riparian woodland by e.g. reducing stock levels or fencing to reduce grazing pressure, and creating new native riparian woodlands using locally sourced seed. *Suggested partners: Forestry Commission, land managers, Wester Ross Fisheries Trust, Fishery Boards*

Marsh marigold

2.3 Invasive species

Issues: Introduced species such as Japanese knotweed, Himalayan balsam and giant hogweed are known to spread along watercourses. These species can out-compete local wildlife and lead to bank erosion and a decrease in biodiversity. Mink, increasingly reported as resident in Skye and Lochalsh, pose a particular threat to birds and animals that live and breed in waterside habitats, such as the common sandpiper, dipper and water vole. The introduction of non-native fish species such as rainbow trout pose a threat to stocks of native fish species. This may be of particular concern where populations of locally important species such as arctic char are present.

The Black Cuillin from Loch nan Eilean

Current projects: Scottish Natural Heritage, RSPB and local mammal specialists are monitoring the occurrence of mink within Skye & Lochalsh. SNH operate a small scheme to assist in trapping offending animals.

Future action:

- Raise awareness through education of the potential to spread invasive species via machinery; and remove invasive species from sensitive areas. *Suggested partners: Highland Council, SNH*

- Produce a comprehensive code of practice for freshwater managers and anglers covering issues surrounding stocking, the use of non-native live bait, and catch and release programmes. *Suggested partners: Wester Ross Fisheries Trust, Fishery Boards*

Chapter 3: In-bye Croft and Farm Land

Introduction

In-bye land is generally the more fertile land close to the croft house, which is or has been cultivated. In the past, these areas have represented one of the most biologically diverse land types found in Skye & Lochalsh, supporting a range of crops and associated wildlife. The hill land, including common grazings, is considered under the section entitled 'Mountain and Moorland'.

In Skye and Lochalsh, there are over 2000 crofts, with the majority of them being between two and five hectares in size. Historically many crofts were set close to the coast, either dispersed or grouped around a small harbour or sheltered glen. They have significant cultural importance, and also provide an additional aspect to the stunning landscape of the area. In many places, such as Staffin and Plockton, the crofting landscape provides a popular tourist attraction.

Species: skylark, linnet, corncrake, **song thrush**, spotted flycatcher, *reed bunting*, an earth tongue fungus, pink meadow waxcap, brown hare

Photos of: Highland cattle, Trotternish, Corncrakes, Crofting landscape, Sheep grazing

Habitats & species

Crofting typically represents a less intensive form of farming which has created and maintained valuable wildlife habitats. It has been relatively uninfluenced by modern developments in agricultural technology and depends less on chemical inputs than many other forms of farming. It has responded to production-led subsidies by increasing stock numbers however, with the result that grazing pressures have increased and the diversity of habitats has reduced.

Crofting areas tend to show a small-scale patchwork of pasture, meadow and cultivated land. A typical croft consists of a small area of enclosed land close to the house and steading and a share of more extensive, common hill ground. Livestock rearing is the main activity and sheep predominate. Cattle keeping has declined and although some hay, silage and fodder may be grown on in-bye land, there is very little cultivation of crops.

Unimproved grassland or **lowland hay meadow** is an important habitat that has gradually declined elsewhere with intensification of agriculture, and Skye and Lochaber now hold the largest extent of these grasslands in Highland. The sward can include a wide variety of plants such as orchids, devil's-bit scabious, and hawkbit. Unimproved grassland can support good populations of voles, which are important food for kestrels and barn owls. The insect populations support birds such as spotted fly catchers and skylarks. Many of the UK Biodiversity Action Plan priority invertebrate species present in Scotland depend on unimproved grassland, including the pearl-bordered fritillary and the narrow-bordered bee hawk moth, both of which have been recorded in the area.

Twite

The combination of low intensity agriculture and small scale provide a patchwork of habitats that is attractive to a wide variety of wildlife including wild flowers, otters and many bird species including skylark, lapwing, twite, reed bunting and Greenland white-fronted geese. Rare bird species like the corncrake and spotted crake are restricted to relatively few crofting areas locally.

Croft at Maligar, Trotternish

There is a close relationship between the structure and diversity of in-bye croft and farm land, and its wildlife value. In the past, the land use mosaic associated with crofting provided a very valuable habitat for wildlife. However, with less cultivated fields and more recently, a reduction in the number of fields mowed for hay or silage, this diversity of use is being lost and with it, the valuable crofting mosaic so important for biodiversity.

Objectives

- Continue to improve awareness & understanding of the schemes available, and encourage and help land managers enter into them.
- Investigate the feasibility of and work towards local schemes that improve the biodiversity of in-bye croft and farm land, where appropriate.
- Help land managers to diversify current land use to benefit biodiversity, encourage organic farming principles, and develop local opportunities for marketing croft produce.
- Run training courses in traditional agricultural practices and skills, and provide a means of accessing machinery in order to increase the diversity of activities taking place on crofts.
- Encourage small scale horticulture and raise awareness of local and locally adapted breeds and varieties of plants and animals.
- Raise awareness of the importance of different parts of the crofted system for biodiversity.

Main issues

3.1 Increasing focus on sheep

Sheep grazing

Issues: There are issues concerning the management of in-bye land that directly affect biodiversity. The increasing practice of retaining sheep year-round on in-bye land instead of out-pasturing during the summer months on the common grazings, coupled with the decline in the amount of land that is cultivated for crops and a decreasing number of cattle, has lead to the decline in the number and variety of different habitats present within crofting landscapes. This has a knock-on effect for the number of species that are present within in-bye areas.

Future action:

- Encourage crofters to maintain or acquire cattle and consider implementing a scheme to assist crofters starting up with cattle. *Suggested partners: SEERAD, Crofters Commission, SAC, National Farmers Union (Scotland), Scottish Crofting Foundation, Highland Council, Highlands & Islands Enterprise*

- Encourage establishment of slaughtering facilities in Skye and Lochalsh, to lower transport costs and making diverse small-scale livestock production more feasible. *Suggested partners: as above*

3.2 Land use trends

Issues: Under-use of croft land is an issue affecting biodiversity. Because croft livestock has provided such poor financial returns in recent times, for many crofters there have been few incentives to work the land, hence the increasing proliferation of rushes, heather and bracken now often seen on otherwise productive agricultural land. Many jobs are now full-time, which does not enable adequate time to be dedicated to working the croft. The difficulty in accessing the necessary machinery, and the increasing levels of paperwork required, all act as dis-incentives to utilising croft land to its full potential. Traditional farming and crofting skills such as dyking, ditching and ploughing are also being lost, and this has a knock-on effect on biodiversity.

Current projects: The Croft Entrant Scheme is run by the Crofters Commission and Skye & Lochalsh Enterprise, and encourages people to take on the tenancy of crofts where the existing tenant is finding the upkeep burdensome and thus under-utilised.

The Crofters Commission also operate the Crofting Counties Agricultural Grant Scheme (CCAGS), which give financial assistance towards capital projects on croft land. Whilst these do not themselves directly benefit biodiversity, they can be used to help conservation management projects.

Land use around Trotternish

The Scottish Executive Environment & Rural Affairs Department (SEERAD) provides grant aid towards diversification through their Agricultural Business Development Scheme.

The Organic Aid Scheme is open to farmers and crofters that wish to convert to growing or raising organic produce.
The Skye Machinery Ring has been running a plastics recycling scheme.

Future action:

- Provide training courses in traditional local skills, which will enable crofters to undertake a wider range of activities. *Suggested partners: Crofters Commission, Scottish Crofting Foundation, SAC, Lantra, Highland Agricultural Labour Supplies*

- Encourage the use of machinery groups and demonstrations of small-scale machinery. *Suggested partners: Skye Machinery Ring*

- Disseminate information to crofters, farmers and land managers on important croftland species and their conservation. *Suggested partners: as above*

3.3 Lack of agri-environment support

Issues: There are a number of schemes and incentives that are available to assist land managers to maintain or improve natural habitats on their farms and crofts. There are insufficient levels of funding for environmental and agri-environmental schemes, with the Rural Stewardship Scheme being a competitive scheme that has not been easy for crofters to enter into. The new Less Favoured Area Support Scheme attempts to link support with an element of stewardship by encouraging an increase in the ratio of cattle to sheep.

Current projects: The Rural Stewardship Scheme is a national scheme open to farmers and crofters within Skye & Lochalsh, and pays for environmental works undertaken in line with a plan of agreed priorities.

Pair of Corncrakes

RSPB Scotland runs a Corncrake Management Scheme in North Skye with funding from SNH. Crofters are encouraged to undertake corncrake friendly practices such as delaying cutting until after 1st August, leaving field margins uncut, removing stock from hay and silage meadows by 1st May and cutting from the centre out. 180 hectares are being managed to encourage corncrakes to return to the area under this scheme.

The National Trust for Scotland run a corncrake scheme on their estate at Balmacara, and have worked with their tenants to manage land to encourage corncrakes back and gain entry to the Countryside Premium Scheme.

The Crofting Communities Development Scheme can assist with schemes that help improve biodiversity.

The Highland Biodiversity Project is commissioning a grassland survey to build on existing surveys and provide information on the best form of grassland management for biodiversity. It is hoped that the information gained will be able to feed into the Rural Stewardship Scheme or a future grassland management scheme.

Lapwing

Future action:

- Continue to encourage and help farmers, crofters and townships to apply to the Rural Stewardship Scheme for funding to carry out biodiversity works.
- Undertake a wild bird cover project in Skye & Lochalsh, whereby crofters and farmers are encouraged to grow small areas of grain and leave them unharvested as a source of food and cover for over-wintering birds. *Suggested partners: SAC, RSPB*
- In association with the project described above, promote a change in perception of wild plants on croftland and farmland as essential food sources for seed eating farmland birds, rather than weeds. *Suggested partners: SNH, RSPB, SAC*
- Using the updated grassland survey, make much more information available on the most appropriate way to manage wildflower meadows and undertake future projects to encourage the reinstatement of grassland meadows. *Suggested partners: SNH, SEERAD, SAC*
- Extend the grassland survey to cover Raasay and some suitable islands. *Suggested partners: as above*

3.4 Medicines & chemicals

Issues: The use of fertilisers, limes, pesticides, herbicides and broad-spectrum anti-parasitic drugs can have adverse effects on the natural environment. Inorganic, water soluble fertilisers can cause breakdown of the soil structure and can lead to contamination of watercourses. The regular use of medicines, as a precautionary measure, can leave dung sterile and discourage species such as invertebrates and fungi that break down manure and return its nutrients to the soil. This in turn removes a vital source of food (beetles and other invertebrates) for species such as the badger and many species of

bird, resulting in the reduced biodiversity and general health of the farm environment. This is less of a problem in winter.

3.5 Genetically modified organisms

Issues: GMOs are organisms that have had two or more genes from a different species transferred into their genetic material in order to give new properties, such as resistance to weed killers and increased speed of growth. Some may have the potential to compete with naturally occurring species and to interbreed with related native species, with unpredictable results on biodiversity. A precautionary principal should be adopted.

3.6 Diversity of domestic species

Issues: In the past, locally bred species of plants and animals were used because they were suited to local needs and climates. Increasingly, non-local varieties and breeds are used, often as a result of market pressures. For example, there are over 40 Scottish apple varieties, and people are planting varieties such as Worcester Permain and Cox's orange pippin, which are less suited to the area. This domestic biodiversity is an often forgotten, but precious resource, which is being lost.

Current projects: The Skye & Lochalsh Horticultural Development Association holds a weekly fruit and vegetable stall in Portree during the season, selling a wide variety of locally grown produce. The Food Link Group (Skye & Lochalsh) runs a twice weekly van for a large part of the year, linking local producers and consumers.

Future action:

- Encourage local niche marketing of rare breeds and varieties through farmers markets and stalls, building on the successes of the Horticultural Development Association. *Suggested partners: Skye & Lochalsh Horticultural Development Association, Highland Council, Scottish Crofting Foundation*

Chapter 4: Woodland

Introduction

Natural or semi-natural ancient woodland is generally found as scattered fragments throughout Skye and Lochalsh. Planting (with native species) and regeneration are adding to existing woodland cover. The areas semi-natural woodlands are considered globally important for some species, such as their lichen and liverwort communities.

Woodland and forest habitats provide a broad range of environmental, social and economic benefits, from stock shelter, fodder and timber production to recreation and opportunities to learn about biodiversity. Local communities and land managers using, and creating, woodland resources in a sustainable manner are crucial for the survival of woodlands and the diversity of life within them.

Species: Scottish wood ant, **spotted fly-catcher**, bullfinch, *song thrush*, pearl-bordered fritillary butter-fly, argent and sable moth, narrow-bordered bee hawk-moth, barred toothed stripe moths, *lichens*, red squirrel, **Wilson's pouchwort**, Atlantic lejeunea, Wilson's filmy fern, small cow-wheat

Photos of: Woodland scene, Pine marten, Bluebells, Strome wood visit, Pied flycatcher

Habitats & species

Native woodland covers about 2% of the land area of Scotland, while past maximum (probably around 5,000 years ago) is likely to have been about 50%. This area has been reduced by climate change and human activity, with a considerable loss in relatively recent times.

Woodland provides food and shelter for many native species; some of these occur in no other habitat, such as the lichen *Arthothelium macounii* which grows on hazel bark. Woodlands provide crucial habitats for birds, such as the wood warbler, spotted fly-catcher, great spotted woodpecker and treecreeper. Although many areas of woodland and scrub are very small and isolated, all serve an important function in increasing biodiversity in the local area.

Spotted flycatcher

There are several important woodland habitats, such as the **Atlantic Oakwoods** and **birchwoods**, which contain many important species, such as the lichen, *Opegrapha fumosa* and the moss, *Orthotrichum pallens*. Heavy grazing, burning and conifer plantations are among the main factors restricting the regeneration of natural woodland. Therefore many woodland species are limited to steep cliffs and gullies or remain only due to careful past management, such as the woodland pasture at Coille Mhor.

Plockton

Objectives

- Encourage land managers to re-create Forest Habitat Networks, using native species and local seed sources where possible, and extend the coverage of existing native woodland and associated ground cover by management of existing ribbons and pockets of woodland, particularly focusing on riparian (riverine) woodland.
- Encourage woodland managers to undertake sensitive restructuring and integration of conifer plantations into surrounding habitats, moving towards continuous canopy cover systems, with appropriate use of broadleaved and conifer species and varied age structure to enhance biodiversity, allowing harvesting whilst retaining a permanent forest structure.
- Encourage commercial woodland managers to allow small stands of trees to mature in appropriate locations to provide future nesting sites for raptors.
- Promote existing codes of good practice and create and promote other codes for issues such as grazing, including grazing within woodlands.
- Raise awareness of less well-known woodland fauna and flora, and encourage woodland management for fungi, lichens, mosses, liverworts, butterflies and moths.
- Promote and interpret the benefits derived from good woodland management in existing woodlands, and encourage community participation in woodland access, interpretation and management.

Main issues

4.1 Reduced regeneration potential

Issues: Native woodland in Skye and Lochalsh is now mainly found in areas inaccessible to grazing animals and muirburn and is thus fragmented into isolated pockets. The more accessible woodlands have low botanical diversity, due to the combination of heavy grazing (trees and understory) and distance from neighbouring seed source, through fragmentation of the habitat. The age structure of existing woodlands is tending towards older trees and because of over or under-grazing, is incapable of regeneration. Sustained overgrazing reduces biodiversity within woodlands through removal of seedling trees and damage to ground flora, and has led to the complete loss of the woodland habitat in many areas within the two hundred years since the introduction of an Caorach Mor (the big sheep) after

the Clearances. Conversely, some ground flora depends on a certain amount of grazing, while some ground disturbance by cattle or deer can help tree regeneration. Every site is different, and the right balance needs to be constantly monitored.

Current projects: In partnership with Scottish Natural Heritage, the Forestry Commission is establishing a nine-year Restoration Project for the entire Kyleakin and Kinloch Hills Estate, following a successful Millennium Forest project at Kinloch and Leitir Fura during the late 1990s. The existing area of native woodland is expected to double in size through natural regeneration and planting, and the project will also remove non-native conifers and redundant deer fencing, create a footpath network and establish local tree growing projects involving local horticultural businesses and primary schools.

Achmore

Future action:

- Encourage the spread of semi-natural woodlands through natural regeneration and, where appropriate, planting using locally sourced seed. *Suggested partners: Forestry Commission, Highland Council, SNH*

4.2 Planting Native Woodlands

Issues: There is a lack of commercial production of other than softwood forest crops. Little effort is put into growing hardwoods (native or not) for timber, and the fast growing short rotation crops such as willow and alder for craft use and biomass are not significantly encouraged locally. The Scottish Forestry Grant Scheme is creating more opportunities for encouraging the extension and better management of native woodlands.

Current projects: The John Muir Trust has been working with the Millennium Forest for Scotland Trust to promote crofter forestry projects with the communities on its properties. It is also working with volunteers to collect tree seeds and grow them on in local nurseries, then plant them out in existing conifer plantations as part of a restructuring process to turn them into predominately native woodlands.

Tree planting

Future action:

- Undertake research into the economic benefits and risks associated with local provenance seed collection and growing on (without compromising natural regeneration in the wild). *Suggested partners: Forestry Commission*
- Help Kintail Watch Club to create a mini tree nursery for native trees, using locally collected seed. *Suggested partners: SNH, Forestry Commission, National Trust for Scotland Ranger Service*

4.3 Monoculture plantations

Issues: Monoculture (single species) softwood plantations cover large areas of Skye and Lochalsh. Such plantations can lead to acidification and pollution of watercourses and other nearby habitats and destruction of the habitat on which they are planted. Even where the blanket is incomplete, the original habitat is fragmented and remaining pockets may be too small and scattered to maintain their original species. Diversifying to include more broadleaved species as well as European larch, Douglas fir, western red cedar and Scots pine will increase the economic and local amenity value as well as enhancing woodland biodiversity.

Current projects: Today's plantations are heavily regulated through guidelines such as the freshwater guidelines, and woodland managers are restructuring plantations to improve their biodiversity value through the use of Forest Design Plans, Woodland Improvement Grants (now included under the Scottish Forestry Grant Scheme) and other tools.

Timber products have been used locally e.g. as wood chips for fuel, providing a market for thinnings and making forest restructuring, with its associated biodiversity benefits, more viable.

Future action:

- Encourage small scale (individuals and communities) woodland plantations with a diverse species mix. *Suggested partners: Forestry Commission, SNH, Highland Council*
- Provide advisory materials on woodland design, particularly along edges and around open space to maximise the benefits for species such as the spotted flycatcher. *Suggested partners: Forestry Commission, RSPB, SNH*

4.4 Clear felling

Issues: These plantations however have benefited some species of woodland birds and some mammals such as red deer, roe deer and pine marten. Any change from the current monoculture production of timber to e.g. a mixed native woodland system must be managed sensitively to ensure that the shock of removal of this relatively new habitat does not adversely impact on the species its development has favoured. Clear felling is the accepted method of timber harvest for commercial forestry and involves removal of all the trees in one go. The clear fell system is not beneficial for biodiversity as the sudden removal of canopy and exposure of soil not only encourages erosion and silting, but also immediately removes all shelter and food sources that are available in woodland habitats.

Bluebells

Future action: Encourage continuous cover forest management, and mixtures of native and non-native tree species. *Suggested partners: Forestry Commission*

4.5 Awareness & lack of local involvement

Issues: There is a perceived lack of economic viability and opportunity when it comes to native woodland, giving rise to neglect and destruction. Lack of opportunities for local community participation in state and privately owned woods does not engender a sense of commitment and responsibility, for example dumping of rubbish and unofficial grazing. The lack of effective consultation means that opportunities for constructive use and economic benefit are often missed.

Visit to Strome wood

Current projects: There are a number of community groups that are involved in the ownership and management of their local woodlands. Examples include the Sluggans Woodland Park Group, Glean Bheag Woodland Group and Fernaig Community Trust.

Future action:

- Identify and manage trees and woodland fragments in and around settlements. *Suggested partners: Local communities, Forestry Commission, Highland Council, SNH*
- Promote community woodland projects and encourage further effective local consultation regarding woodland management, such as 'forests for real'. *Suggested partners: Forestry Commission, woodland managers, local communities*
- Encourage and support landowners who make forestry resources and / or control available to local communities, where there is an interest to manage and utilise it in a sustainable manner. *Suggested partners: Forestry Commission*
- Encourage innovative use of locally sourced timber for construction and other uses. *Suggested partners: Forestry Commission, woodland groups*

4.6 Recreation & Tidy-ups

Issues: Increased use of woodlands for recreation has many associated benefits. At the same time negative effects need to be monitored, for example erosion of paths, disturbance and removal of species, such as plants and fungi.

The perception of woodland as 'messy', with too many dead leaves and branches lying around on the ground can lead to tidy-ups that do more harm than good. Removal of scrub and dead wood, which is an important habitat for fungi, insects, small mammals and birds, can have detrimental effects on biodiversity.

Current projects: Uig Woodland Group is creating access and interpretation within their woodland, using local ideas, art and skills.

Future action:

- Raise awareness of woodland flora through interpretation and workshops; and conduct surveys and research projects into the distribution, habitats and management required for mosses, liverworts, lichens, ferns and fungi, with the results feeding into management plans and works. *Suggested partners: SNH, Forestry Commission, woodland managers, local interest groups*
- Support, manage and monitor the impacts of recreation within woodlands, and encourage forms of recreation that raise awareness of biodiversity, such as photography, wildlife recording and discussion. *Suggested partners: SNH, Highland Access Project*
- Provide information and interpretation to minimise visitor impact and increase awareness of biodiversity within woodlands. *Suggested partners: SNH, woodland managers*
- Raise awareness of the importance of scrub and deadwood amongst individuals, communities, land users and woodland managers. *Suggested partners: SNH, Forestry Commission, woodland managers*

4.7 Funding

Issues: There are deficiencies in funding and initiatives for the development and continued management of Scottish Forestry Grant Scheme (SFGS) woodlands and pre-existing woods. The improvement or otherwise of biodiversity in grant-aided plantations also needs to be monitored. Existing funding opportunities for small-scale woodland projects are limited.

Future action:

- Promote the sympathetic management of farmland scrub for the benefit of reed bunting, bullfinch and other farmland birds. *Suggested partners: Scottish Agricultural College, RSPB, SNH*
- Monitor the success of woodland schemes for biodiversity. *Suggested partners: Forestry Commission*

4.8 Rhododendrons

Issues: The spread of invasive species such as *Rhododendron ponticum* present a threat to biodiversity, and rhododendrons should be controlled where they are found in the natural environment.

Chapter 5: Mountain and Moorland

Introduction

Skye and Lochalsh is perhaps best known for its spectacular mountain ranges. The Cuillins and the Kintail Ridge provide a stunning backbone to the area, but by far the most widespread habitats to be found here are heather moorland, peatland and acid grassland. The marine influenced climate and diverse geology has created habitats that sustain unique species, such as Skye's indigenous bog moss *Sphagnum skyense*, and the area is home to some of the iconic species that have characterised Scotland as a whole, such as the purple heather and the golden eagle.

This broad habitat contains hill croft and farm land, land which is not cultivated and often jointly managed as common grazings for the grazing of mainly sheep. Much of Skye & Lochalsh's hills and moorlands have been managed as common grazings and deer forest for centuries, despite their 'wild' appearance to some visitors.

Species: stabler's rustwort moss, Scottish beard moss, silky swan-neck moss, Skye bog moss, *juniper*, marsh clubmoss

Photos of: Coire Laggan, Golden plover, Mountain avens, Hill walker in the Cuillins, Glacial erratics

Habitats & species

Heather moorland, **peatland** and **acid grassland** often occur together, as intimate mosaics in the varied landscape of Skye & Lochalsh. Base-rich areas occur in several locations and give rise to a distinctive and more species-rich flora. The basalt rocks of Trotternish for example, give rise to base-rich 'brown earth' soils that support a range of rare plant communities.

Black Cuillin

Cliff ledges are also important habitats but the predominant **montane vegetation** consists of dwarf shrub heath and moss heaths. The mountains also have a higher proportion of bare rock and scree than anywhere else in Scotland, due mainly to the amount of this habitat in the Black Cuillin.

Peatlands are widespread, often occurring as mosaics of **blanket bog** and heathlands. More extensive, deeper peat occurs at lower altitudes in a few places, such as Mointeach nan Lochan Dubha and Sligachan on Skye, examples of internationally important oceanic blanket bog with patterned pool systems. Extensive exposures of Durness **limestone pavement** on the lower slopes around Strath Suardal support distinctive crevice vegetation, surrounded by species-rich grasslands.

Hen harrier (female)

Red deer numbers vary enormously and grazing patterns have changed within the last 25 years. Skye and Lochalsh is a key area for golden eagle in terms of the density of territories and continuity of distribution. The Cuillin Hills have been designated as a Special Protection Area for their population of golden eagles. In addition, the area also supports a high proportion of Britain's white-tailed eagle population and is becoming increasingly important as one of the core areas of the establishing population.

Hill and moorland areas also support locally important populations of breeding waders such as golden plover, snipe, dunlin and greenshank. Skylarks are still widespread and common throughout the area, although their numbers may have declined in recent years. As persecution of hen harriers persists on mainland Scotland, their number and importance on Skye increases. Ring ouzels are associated with a number of areas but their numbers have declined markedly in recent years. The higher tops in Lochalsh and the Cuillin and Kyleakin Hills are home to snow bunting, ptarmigan and occasionally dotterel.

Purple saxifrage

Objectives

- Encourage projects that aim to diversify and integrate upland forestry with surrounding land uses.
- Enhance the ecological condition and biodiversity value of mountain and moorland habitats by encouraging moorland management programmes that promote biodiversity (including Deer Management Plans and Muirburning Plans).
- Encourage developers of e.g. paths, tracks, pylons and wind farms to consider the impacts on local and national priority habitats and species in their Environmental Impact Assessments.

Main issues

5.1 Afforestation

Issues: Inappropriate afforestation or other development of sensitive deep peat and heathland habitats can have serious consequences for the biodiversity of flora and fauna reliant on open moorland systems. Valuable wildlife habitats such as peatland and heathland in North Skye have been planted with trees, and the outdated standards of design of many of the older plantations provide few opportunities for wildlife. However, steps are now being taken to open up the woodlands, diversify the age structure and provide more continuity with adjacent moorland. Recent woodland schemes have focused on the planting of broadleaves and allow more open space within the forest. This improves the habitat linkages with open hill ground and provides more opportunities for birds such as the hen harrier and merlin.

5.2 Inappropriate grazing

Issues: Large numbers of red deer and sheep, particularly in recent decades have led to impoverishment of moorland and upland habitats and loss of the amount and condition of native woodland in these areas. The reasons for the high deer numbers are complex, but relate to the strong link between sporting estate valuation, overall stag numbers and their availability for shooting. Sheep numbers are kept high due to a long dependence on agricultural subsidies. Overgrazing is preventing the restoration of upland habitats in most areas.

Sgurr nan Gillean

Current projects: The Skye Deer Management Group undertakes an island count, the Kintail and Affric Sub Group is investigating the possibility of producing a deer management plan, and the Glenelg Deer Management Group has recently undertaken a habitat assessment.

The Deer Commission for Scotland is establishing and promoting codes of good practice.

Scottish Natural Heritage is running a Management Scheme for the Cuillin Hills Special Protection Area, which enables positive environmental management for golden eagles and other mountain species.

Golden plover

Future action:

- Encourage land managers to reduce grazing pressure in some areas, through reduction in deer or sheep numbers and the use of deer fencing where appropriate (using high visibility fencing to minimise risk of collisions from species such as grouse where appropriate). *Suggested partners: Deer Commission for Scotland, Deer Management Groups, Crofters Commission, Scottish Crofting Foundation*
- Encourage the use of rare and local breeds of livestock. *Suggested partners: Scottish Agricultural College, Scottish Crofting Foundation*
- Provide improved education and training opportunities that meet the needs of land users, as well as less formal approaches. *Suggested partners: Highland Council and National Trust for Scotland Ranger Services, SNH*

5.3 Deer

Issues: There are wild populations of three species of deer in Skye and Lochalsh: two native species, red and roe and the Japanese species, sika. Sika deer are closely related to and interbreed with red deer and are diluting their genetic purity.

Future action:

- Encourage research into deer populations in Skye and Lochalsh, population movement, density, including the sika deer populations and effects on biodiversity through the Deer Management Groups. *Suggested partners: Deer Commission for Scotland, Deer Management Groups*

5.4 Inappropriate muirburn

Issues: Uncontrolled and inappropriate muirburn practices, often affecting large areas of hill have a devastating effect on flora and fauna. Many bird species have started nesting within the allowed muirburn period. Where burning is essential for management and / or safety reasons it should be carried out on a small scale and in accordance with the Muirburn Code to minimise loss and injury to wildlife.

Cleat, Trotternish ridge

Current projects: Good practice guidelines such as 'The Muirburn Code' (SEERAD, 2001) and its supplement 'Prescribed Burning on Moorland' have been produced by national advisory groups.

5.5 Vehicles

Issues: Increased use of off road vehicles for feeding, gathering and stalking can have a damaging effect on fragile upland habitats. Of more concern is the recreational use of such vehicles in the uplands where there is little awareness of the sensitivity of habitats and degree of damage caused.

5.6 Hillwalking

Issues: The growth in activities such as hill walking and climbing has resulted in an increased pressure on the mountain environment. This increased pressure brings about the erosion of existing paths and formation of new ones, disturbance to wildlife and litter.

Current projects: The Skye & Lochalsh Footpath Initiative is carrying out a programme of footpath restoration to help manage upland paths and encourage natural regeneration around areas where existing paths have become braided.

North Skye & Sgurr Dearg

Future action:

- Support practical training programmes for the management of mountain, hill and moorland habitats, including skills such as path making and dry stone walling. *Suggested partners: SAC, Lantra, Highland Agricultural Labour Supplies, Skye & Lochalsh Footpath Initiative, Highland Access Project*
- Encourage the planning and construction of walking routes with consideration of the impacts on biodiversity. *Suggested partners: Skye & Lochalsh Footpath Initiative, Highland Access Project*
- Promote the national Access Code, highlight local issues surrounding access and biodiversity, e.g. effects of litter, disturbance to breeding birds and help people reduce potential negative impacts. *Suggested partners: Highland Council and National Trust for Scotland Ranger Services, SNH, Skye & Lochalsh Footpath Initiative, Highland Access Project*
- Encourage walkers / climbers to take litter home and provide roadside litter collection facilities where appropriate. *Suggested partners: as above*

5.7 Wildlife Crime

Issues: Sadly, wildlife crime is an issue in Skye & Lochalsh, and losses in biodiversity occur from practices such as poaching, egg collecting and accidental or deliberate killing of legally protected species. It is encumbant on all those working in the countryside to be familiar with wildlife legislation and suspicious behaviour should be reported to the police.

Peregrine falcon and young

Future action:

- Reduce the persecution of birds of prey through better law enforcement measures and an awareness raising programme that encourages local people, walkers and climbers to report any suspicious behaviour. *Suggested partners: Highland Constabulary, RSPB, Raptor Study Groups, walking and climbing groups, local community groups*

5.8 Infrastructure

Issues: Social infrastructure such as roads, access tracks servicing electric, communications and water facilities, pylons, drainage and water collections all contribute to loss and fragmentation of habitats, erosion of paths and silting of nearby watercourses. This issue was recently extended to include wind farm developments. The majority of new wind farm developments and proposals are based on hill and moor land and the effects that this will have on biodiversity are largely unknown.

Mountain avens

Bogbean

Future action:

- Ensure that developers conduct research into and monitor the impacts of new wind farm development on hill and moor biodiversity by incorporating habitats and species impacts into Environmental Impact Assessments and monitoring impacts during the construction, operation and decommissioning phases. *Suggested partners: Highland Council, developers*
- Raise awareness of the importance of blanket bogs, both in terms of biodiversity and as a carbon sink. *Suggested partners: SNH*
- Investigate means of gaining a local income from trading carbon credits for rehabilitated peatlands in a climate change programme. *Suggested partners: SNH*

Chapter 6: The Built Environment

Introduction

In an area such as Skye & Lochalsh where the countryside is so important for biodiversity, it is possible to overlook the importance of the built environment. However, buildings, gardens, roads and other man-made structures provide an important biodiversity resource, both in terms of the habitats and species that they contain and through the potential for securing an interest in wildlife and raising awareness of the related issues.

The garden is probably the place where most people will have first hand experience of biodiversity, and by securing the interest of the local population in helping the wildlife on their doorstep, many of the aims of this Local Biodiversity Action Plan will be achieved.

Species: **song thrush**, spotted flycatcher, bullfinch, pipistrelle bat

Photos of: Eilean Donan castle, Green hairstreak, Skye bridge, Gardening in Kyleakin and Plockton

Habitats & species

Local gardens provide havens for wildlife, and if sensitively managed can attract many species of wild flowers, birds, butterflies and moths. With the clearing of woodlands, bats have become increasingly dependant on **Buildings** such as old steadings and outhouses, which can provide important roosting sites for common and soprano pipistrelle and brown long-eared bats, whilst daubenton's bats often roost in bridges. Barn owls also roost in out buildings. New sheds and buildings can also provide opportunities for wildlife if designed sensitively, and nest boxes can be erected for many different sizes of birds, as well as for roosting bats.

Species-rich hedges are rare in Skye & Lochalsh, but nonetheless can provide an important boundary habitat. Roadside verges often retain once abundant farmland plants such as ox-eye daisies, meadowsweet and marsh marigold and, if sensitively managed, can provide important wildlife corridors.

Songthrush

Objectives

- Encourage more people to garden for wildlife.
- Promote the later cutting of grass verges to encourage wild flowers and wildlife, and raise awareness of this issue locally.
- Ensure that all future building developments take the potential impacts on habitats and species into account and where possible, incorporate some habitat creation into the design.

Main issues

6.1 Lack of awareness

Issues: There is a general lack of awareness on biodiversity issues around villages and towns in Skye & Lochalsh. People should be encouraged to learn about nature through wildlife gardening projects, school nature studies and local projects.

Current projects: The Highland Council and National Trust for Scotland Ranger Services, along with RSPB Scotland, have been helping primary schools throughout Skye & Lochalsh erect nest boxes with cameras on school grounds, using funds from the Highland Biodiversity Project. In addition to providing additional nesting locations for common birds, the nest box cameras will help the children learn about biodiversity issues.

Broadford Primary have an ambitious wildlife gardening project involving a path network, hedge creation, pond, woodland area, living willow fedge (a cross between a fence and a hedge), bird feeding station, large flower bed, nestboxes and a substantial 'croft' area with lazybeds for growing vegetables etc. Kyleakin and McDairmid Primaries have also undertaken Wildlife Garden Projects this year.

Residents of Skye & Lochalsh are taking part in a garden wildlife survey, initiated by the Skye & Lochalsh Biodiversity Group with help from the South West Ross Field Club and the Highland Council Ranger Service.

Members of Dunvegan community held a biodiversity workshop during the summer, focussing on wildlife gardening and the surrounding landscape.

Green hairstreak

The Broadford Environmental Group has embarked on a programme of Japanese knotweed eradication, with financial assistance from the Highland Biodiversity Project.

A new partnership between the National Trust for Scotland, Forest Enterprise and the community of Balmacara has been set up to manage the old campsite as a Woodland Park, providing a useful recreational area for walks, educational use and organised events such as the Balmacara Country Day.

Stonechat

Future action:

- Produce a wildlife gardening leaflet specific to Skye & Lochalsh, promoting diversity and the use of native species in the planting design, encouraging the use of composting bins, advising on eco-friendly products and raising awareness of issues such as New Zealand flatworm. *Suggested partners: SNH, Highland Council Ranger Service*
- Encourage people to make provision for bats, swallows and other birds when doing up old barns and designing new buildings and sheds. *Suggested partners: SNH, Scottish Agricultural College*
- Promote SNH's School Grounds Grant Scheme, and encourage the erection of bird and bat boxes where appropriate. *Suggested partners: SNH, Highland Council & NTS Ranger Services*
- Produce more information on the sources of advice for gardeners and horticulturalists. *Suggested partners: SNH, Highland Council Ranger Service, Skye & Lochalsh Horticultural Association*
- On a voluntary basis, encourage householders and developers to create customised internal bat spaces in new and refurbished buildings at the design stage. This would ensure that roost sites are available to bats and prevent intrusion into the household living areas. *Suggested partners: SNH, Highland Council*

6.2 The tidy-up & verge maintenance

Issues: Scrub, deadwood, long grass and other natural features can be perceived as messy, resulting in inappropriate 'tidy ups', which can damage sensitive species and habitats.

If roadside verge vegetation is cut before the wild flowers have time to set seeds, they will gradually be lost in favour of rank grasses. In many places, roadside ditches have been piped and filled in for safety reasons, or cleaned, often by removing the vegetation and topsoil.

Road to Elgol

Current project: SNH has produced a roadside verge leaflet.

Future action:

- Include biodiversity issues in future road, park and woodland maintenance contracts, and raise awareness of why the management has changed. *Suggested partners: Highland Council*
- Raise awareness of invasive species along with the potential impacts on biodiversity, and promote recommended control programmes. *Suggested partners: SNH, Highland Council & NTS Ranger Services*

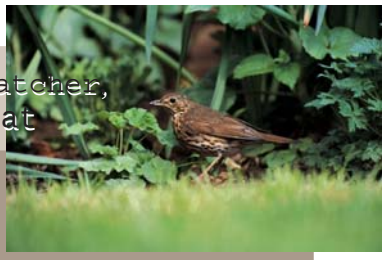
6.3 New developments

Issues: In some instances, new roads or developments have been built with little or no regard for the potential impacts on local habitats or species. By interrupting water courses, trout or salmon spawning beds could be lost. Where non-native grass seed is used, grazing animals such as sheep or deer are attracted to the roadside to eat the sweeter grass. All large new developments will require the production of an Environmental Impact Assessment, which should take such factors into account and amend the development accordingly.

Clouded yellow on Common cat-ear

Future action:

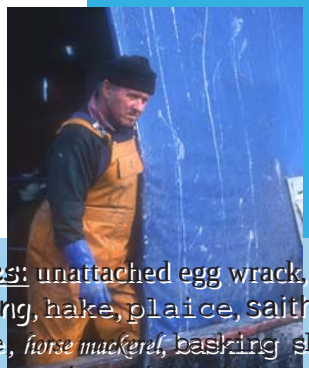
- Ensure road realignment and verge management schemes use appropriate materials to avoid the further spread of invasive species such as Japanese knotweed. *Suggested partners: Highland Council*
- Ensure adequate and appropriate provision is made for otter safety, bat roosts and nesting dippers and wagtails in road alterations or maintenance that affects bridges, drainage ditches, culverts, etc. *Suggested partners: Highland Council*
- Target cutting of roadside verges with an appropriate plan to give the verge flowers time to set seeds without compromising on safety. *Suggested partners: Highland Council*
- Ensure all cattle grids have appropriate escape routes for hedgehogs. *Suggested partners: Highland Council*
- Consider green bridges over roads in areas of high deer mortality, with appropriate fencing. *Suggested partners: Highland Council*



Species: song thrush, spotted flycatcher, bullfinch, pipistrelle bat

Species: stabler's rustwort moss, Scottish beard moss, silky swan-neck moss, Skye bog moss, *juniper*, marsh clubmoss

Species: skylark, linnet, corncrake, song thrush, spotted flycatcher, *reed bunting*, an earth tongue fungus, pink meadow waxcap, brown hare



Species: unattached egg wrack, herring, cod, whiting, hake, plaice, saithe, mackerel, sole, *horse mackerel*, basking shark, common skate, northern right whale, minke whale, humpback whale, *common dolphin*, Risso's dolphin, Atlantic white-sided dolphin, white-beaked dolphin, striped dolphin, bottlenosed dolphin, harbour porpoise, killer whale, northern bottlenosed whale, European otter, *native*

Species: reed bunting, spotted crake, dipper, a stiletto fly, *European otter*, water vole, freshwater pearl mussel

Species: Scottish wood ant, spotted flycatcher, bullfinch, *song thrush*, pearl-bordered fritillary butterfly, argent and sable moth, narrow-bordered bee hawk-moth, barred toothed stripe moths, *lichens*, red squirrel, Wilson's pouchwort, Atlantic lejeunea, Wilson's filmy fern, small cow-wheat

Priority Habitats

The habitats listed below have been identified by the UK Biodiversity Steering Group as 'priority habitats' and are present in Skye & Lochalsh. Habitat Action Plans or Statements have been prepared for these habitats, and are available on the website www.ukbap.org.uk. Additional local priorities, which are not covered by the national categories but are nonetheless important habitats in their own right, have been identified and are listed in a separate table.

A major constraint to the production of this Plan was the lack of a biodiversity audit summarising available information on habitats and species for Skye & Lochalsh.

Table 1: UK Priority Habitats

Habitat type	Distribution	Potential links & issues
Sea & Coast		
Coastal salt marsh	Occurs in Skye and Lochalsh	Not large areas, but now subject to lower grazing pressure, possibly causing change in species composition
Coastal vegetated shingle	Present to a limited extent e.g. at Glenelg	Other small sites on Skye e.g. Camusmalag, could be determined by good quality aerial survey?
Lowland heathland (including maritime heath)	Maritime heath present to a limited extent e.g. at Rigg-Bile and Rubha Hunish, including the offshore islands	Potential issue from absence of grazing on smaller islands
Machair	Tiny machair-like patches at Dunvegan on Skye and Sandaig, Glenelg	Smaller sites associated with maerl, e.g. Ardnish, Harlosh, may be important locally
Maerl beds	Created by several species of red algae that form a coral-like structure in high energy environments. Present in less than 1% of UK's inshore waters and in both Skye and Lochalsh	Widely scattered small beds throughout area. Important nurse areas for a range of species and susceptible to mechanical damage. Not well surveyed.
Maritime cliff and slopes	Present on W Skye, e.g. Talisker, Duirinish, E Trotternish, Duntulm, Raasay, Elgol, Point of Sleat	Important for relict woodlands etc
Modiolus modiolus beds (horse mussel)	Horse mussel beds are widespread as individuals, beds are uncommon, but present. Small areas of beds occur within Lochs Duich, Long and Alsh cSAC, Scalpay Narrows etc	
Mud habitats in deep water	The West coast of Scotland is the most important part of the UK for this habitat , which is present to some extent in all sea lochs.	Important bird feeding areas, subject to increasing pressure from small number of commercial shellfish harvesters
Mudflats	Broadford Bay, Loch Slapin, Loch Eishort, Loch Ainort etc	
Saline lagoons	Small areas in Skye & Lochalsh	Important for bird roosts, feeding areas and otters. In Lochalsh on islands in Loch Duich and Ashaig. On South Skye other small areas are present at the head of sealochs
Seagrass beds	Present but limited in extent e.g. Loch Carron, Loch Ainort	Zostera beds probably more common than we imagine- not well surveyed.

Habitat type	Distribution	Potential links & issues
Sheltered muddy gravels	Present within Lochs Duich Long and Alsh cSAC	Probably present in many sealochs
Sublittoral sands and gravels	Most common habitats found below the level of the lowest tide in the UK. Specific variant on Skye	Wide range of subtypes
Tidal rapids	Good examples in Lochalsh at Kylerhea and the Skye Bridge. Other small areas e.g. Scalpay Narrows	
Additional marine habitats which support important BAP species & therefore should be considered:		
Open seas	All around the Islands / Mainland	Feeding and breeding range for marine mammals, seals, otters
Kelp forest / park	Probably extensive in sealochs and open coast	
Subtidal brittlestar beds	Present in Lochs Duich Long and Alsh cSAC, Loch Hourn and possibly other sealochs	Shown in recent surveys of Lochs Duich, Long & Alsh, Hourn
Sea pens and burrowing megafauna	Present in Lochs Duich Long and Alsh cSAC, Loch Hourn, Loch Bracadale and possibly other sealochs	Shown in recent surveys of Lochs Duich, Long & Alsh, Hourn
Freshwater		
Eutrophic standing waters	Not thought to be present, although Loch Mealt and Loch Cill Chriosd, both have eutrophic qualities	
Fens	Present in part of Strath and Sligachan cSACs?	
Mesotrophic lakes	Not present?	
Reedbeds	Limited in extent. Examples include Loch Cill Chriosd, Linicro, Glenelg and Sligachan lochs	Small areas in many dubh lochs
In-bye Farm & Croft Land		
Cereal field margins	Present at Ardmore in Waternish, Stenscholl in Staffin on Skye and at Drumbuie in Lochalsh	Rural Stewardship Scheme would pay, but the calculations are not based on small scale west coast conditions and payments are unattractive
Lowland calcareous grassland	Present at Strath	
Lowland hay meadows	Gradually declined with intensification in agriculture, Skye and Lochaber now has the largest extent of these grasslands in Highland	
Lowland wood-pasture and parkland	Not well represented in Skye and Lochalsh. Possible examples are Coille Mhor and Kinloch	
Upland hay meadows	Questionable how much of Skye grassland falls into this category	

Habitat type	Distribution	Potential links & issues
Woodland		
Native pine woodlands	Barisdale pinewood. Also some from plantation origin e.g. Scalpaidh and Creag a' chaisil in Lochalsh	
Upland birch (not currently on UK BAP list but is to be added)	Widespread. Mudalach is the largest example in Skye and Lochalsh	
Upland mixed ashwoods	Present on Skye e.g. Coille Thogabhaig	
Upland oakwood	Good examples include Coille Mhor, Coille Thogabhaig, Coille Dalavil and Kinloch. Excellent examples of the rare habitat maritime oakwood at Kylerhea and Drymen	
Wet woodland	Limited in extent, but present in Lochalsh at Glen Shiel, Letterfearn and Cosag Sallow Carr	
Mountain & Moorland		
Blanket bog	Blanket bog is of international importance and is well represented on Skye and Lochalsh	
Limestone pavements	Durness limestone at Strath Suardal and Coille Thogabhaig. Limestone outcrops part of the reason for designation as cSAC and therefore of international significance	
Upland calcareous grassland	Skye important for '*dryas*' heath e.g. Strath and Trotternish Ridge	
Upland heathland	Regarded as being of international importance. Of particular significance is hepatic heath, which occurs on Skye in small amounts.	
The Built Environment		
None present		

Local Priority Habitats

The following list of local priority habitats is derived from the discussions at the biodiversity workshop in Portree in September, 2002.

Table 2: Local Priority Habitats

Sea & Coast	Open sea, Sea lochs, Maerl beds, Tidal reefs, Offshore skerries / islets, Kyles, Kelp forest, Subtidal brittlestar beds, Sea pens and burrowing megafauna, Eel grass beds, Intertidal areas, Headlands, Cliffs, Obbs and estuaries, Rocky shores, Saltmarsh, Beaches, Raised beaches, Coastal woodlands
Freshwater	Lochs / Lochans, Dubh lochans, Arctic char lochs (e.g. Mealt), Temporary ponds, Migratory fish routes, Freshwater mussel habitats, Rivers, Upland streams, Reed beds
In-bye Croft & Farm Land	Hay meadows, Silage meadows, Cultivated land, Rough pasture, Wet pasture, Dry pasture, Acid grassland, Field margins and boundaries
Woodland	Upland woods, Semi-native woods, Coastal woods, Riparian woodland, Scrub
Mountain & Moorland	Blanket bog, Heath, Boulder fields / Scree, Limestone habitats, Alpine habitats
The Built Environment	Old buildings, Gardens, Lawns and verges

Priority Species

The following species have been identified by the UK Biodiversity Steering Group as 'priority species' and are present in Skye & Lochalsh. Species Action Plans or Statements have been prepared for these species, and are available on the website www.ukbap.org.uk. Further details of nationally important species are available from Scottish Natural Heritage.

Table 3: UK Priority Species

Scientific name	Common name	Habitat
Algae		
Ascophyllum nodosum ecad mackii	a knotted wrack	Marine
Ants		
Formica aquilonia	Scottish wood ant	Woodland
Birds		
Emberiza schoeniclus	Reed bunting	Freshwater
Alauda arvensis	Skylark	Farm & croft land
Carduelis cannabina	Linnet	Farm & croft land
Crex crex	Corncrake	Farm & croft land
Muscicapa striata	Spotted flycatcher	Woodland
Pyrrhula pyrrhula	Bullfinch	Woodland
Turdus philomelos	Song thrush	Woodland
Butterflies & Moths		
Boloria euphrosyne	Pearl-bordered fritillary	Woodland
Rheumaptera hastata	Argent and sable	Woodland / Moorland
Hemaris tityus	Narrow-bordered bee hawk-moth	Woodland / Moorland
Trichopteryx polycommata	Barred tooth-striped	Woodland
Fish		
Cetorhinus maximus	Basking shark	Marine
Clupea harengus	Herring[1]	Marine
Gadus morhua	Cod[1]	Marine
Merlangius merlangus	Whiting[1]	Marine
Merluccius bilinearis	a Hake[1]	Marine
Merluccius merluccius	a Hake[1]	Marine
Pleuronectes platessa	Plaice[1]	Marine
Pollachius virens	Saithe[1]	Marine
Raja batis	Common skate	Marine
Scomber scrombrus	Mackerel[1]	Marine
Solea vulgaris	Sole[1]	Marine
Trachurus trachurus	Horse Mackerel[1]	Marine
Flies		
Spiriverpa (*Thereva*) *lunulata*	a Stiletto fly	Freshwater

[1] *Grouped plan for commercial marine fish*

Fungi		
Microglossum olivaceum	an Earth tongue	Grassland
Hygrocybe calyptriformis	Pink meadow waxcap	Grassland
Lichens		
Arthothelium macounii	a Lichen	Woodland
Bacidia incompta	a Lichen	Woodland
Pseudocyphellaria norvegica	a Lichen	Woodland
Mammals		
Balaena glacialis	Northern right whale[1]	Marine
Balaenoptera acutorostrata	Minke whale[1]	Marine
Delphinus delphis	Common dolphin[2]	Marine
Grampus griseus	Risso's dolphin[2]	Marine
Lagenorhynchus acutus	Atlantic white-sided dolphin[2]	Marine
Lagenorhyncus albirostris	White-beaked dolphin[2]	Marine
Megaptera novaeangliae	Humpbacked whale[1]	Marine
Orcinus orca	Killer whale[3]	Marine
Phocoena phocoena	Harbour porpoise	Marine
Stenella coeruleoalba	Striped dolphin[2]	Marine
Tursiops truncatus	Bottlenosed dolphin[2]	Marine
Ziphius cavirostris	Northern bottlenose whale[3]	Marine
Lutra lutra	European otter	Marine / Freshwater
Arvicola terrestris	Water vole	Freshwater
Lepus europaeus	Brown hare	Farm & croft land
Sciurus vulgaris	Red squirrel	Woodland
Pipistrellus pipistrellus	Pipistrelle bat	Built Environment

1 Grouped plan for baleen whales

2 Grouped plan for small dolphins

3 Grouped plan for toothed whales

Molluscs		
Ostrea edulis	Native oyster	Marine
Margaritifera margaritifera	Freshwater pearl mussel	Freshwater
Mosses & Liverworts		
Acrobolbus wilsonii	Wilson's Pouchwort	Woodland
Lejeunea mandonii	Atlantic lejeunea	Woodland
Marsupella stableri	Stabler's rustwort	Mountain
Bryoerythro-phyllum caledonicum	Scottish beard moss	Mountain
Campylopus setifolius	Silky swan-neck moss	Woodland / Mountain
Sphagnum skyense	a Bog moss	Moorland
Reptiles		
Dermochelys coriacea	Leatherback turtle[1]	Marine

1 Grouped plan for marine turtles

Scientific name	Common name	Habitat
Sea anemones		
Funiculina quadrangularis	a Tall sea pen	Marine
Vascular plants		
Euphrasia heslop-harrisonii	an Eyebright[1]	Coast
Euphrasia marshallii	an Eyebright[1]	Coast
Hymenophyllum wilsonii	Wilson's filmy fern	Woodland
Melampyrum sylvaticum	Small cow-wheat	Woodland
Juniperus communis	Juniper	Moorland
Lycopodiella inundata	Marsh clubmoss	Moorland

1 Grouped plan for eyebrights

Local Priority Species

Skye & Lochalsh contains a number of additional species that are rare or scarce in either Highland or Britain as a whole, and these 'local priority species' are listed below. We have also included a number of species that although not rare or scarce nationally, are rare in Skye & Lochalsh, as well as species that are valued by local people because of their economic or social importance.

Table 4: Local Priority Species

Scientific name	Common name	Gaelic name	Habitat
Amphibians			
Bufo bufo	Common toad		Freshwater
Triturus Helvetica	Palmate newt		Freshwater
Rana temporaria	Common frog		Freshwater
Beetles			
	Ladybird species		Croft & Farm
Birds			
Melanitta nigra	Common scoter[1]	Tunnag-dhubh	Sea & Coast
Haliaeetus albicilla	White tailed eagle[1]	Iolair mhara	Sea & Coast
Sterna paradisaea	Arctic tern[2]	Stearnan	Sea & Coast
Cepphus grille	Black guillemot[2]	Calltag	Sea & Coast
Larus canus	Common gull[2]	Faoileag	Sea & Coast
Phalacrocorax carbo	Cormorant[2]	Scarbh	Sea & Coast
Calidris alpine	Dunlin[2]	Pollaran	Sea & Coast, Mountain & Moorland
Somateria mollissima	Eider[2]	Lach Lochlannach	Sea & Coast
Fulmaris glacialis	Fulmar[2]	Fulmair	Sea & Coast
Morus bassanus	Gannet[2]	Sulair	Sea & Coast
Gavia immer	Great northern diver[2]	Muir-bhuachaill	Sea & Coast
Uria aalge	Guillemot[2]	Gearradh breac	Sea & Coast
Larus argentatus	Herring gull[2]	Glas-fhaoileag	Sea & Coast
Rissa tridactyla	Kittiwake[2]	Ruidaig	Sea & Coast
Puffinus puffinus	Manx shearwater[2]	Fachach ban	Sea & Coast
Falco peregrinus	Peregrine[2]	Gille Brighde	Sea & Coast
Fratercula arctica	Puffin[2]	Buthaigre	Sea & Coast
Calidris maritime	Purple sandpiper[2]		Sea & Coast
Alca torda	Razorbill[2]	Coltraiche	Sea & Coast
Gavia stellata	Red throated diver[2]	Learga chaol	Sea & Coast, Freshwater
Phalacrocorax aristotelis	Shag[2]	Scarbh	Sea & Coast
Tadorna tadorna	Shelduck[2]	Cra-gheadh	Sea & Coast
Podiceps auritus	Slavonian grebe[2]		Sea & Coast
Sterna hirundo	Common tern[3]	Stearnan	Sea & Coast
Ardea cinerea	Heron[3]	Corra-ghritheach	Sea & Coast, Freshwater
Gavia arctica	Black throated diver[2]	Learga dhubh	Freshwater
Motacilla cinerea	Grey wagtail[2]	Breacan baintighearna	Freshwater
Riparia riparia	Sand martin[2]	Gobhan gainmhich	Freshwater
Gallinago gallinago	Snipe[2]	Gobhar	Freshwater
Porzana porzana	Spotted crake[2]	Traon bhreac	Freshwater
Mergus serrator	Red-breasted merganser[3]	Siolta dheag	Freshwater
Pyrrhula pyrrhula	Bullfinch[1]	Deargan coille	Croft & Farm

Scientific name	Common name	Gaelic name	Habitat
Crex crex	Corncrake[1]	Traon	Croft & Farm
Locustella naevia	Grasshopper warbler[1]		Croft & Farm
Carduelis flavirostris	Linnet[1]	Gealan lin	Croft & Farm
Coturnix coturnix	Quail[1]		Croft & Farm
Emberiza schoeniclus	Reed bunting[1]	Gealag loin	Croft & Farm
Alauda arvensis	Skylark[1]	Uiseag	Croft & Farm, Mountain & Moorland
Turdus philomelos	Song thrush[1]	Smeorach	Croft & Farm
Sturnus vulgaris	Starling[1]	Druid	Croft & Farm
Emberiza citrinella	Yellowhammer[1]	Buidheag	Croft & Farm
Prunella modularis	Dunnock[2]	Corra-ghritheach	Croft & Farm
Turdus pilaris	Field fare[2]	Cathan	Croft & Farm
Anser albifrons	Greenland white fronted goose[2]	Geadh bhlar	Croft & Farm
Anser anser	Greylag goose[2]	Geadh glas	Croft & Farm
Brenta leucopsis	Barmacle goose[2]	Cathan	Croft & Farm
Vanellus vanellus	Lapwing[2]	Adharcan luchrach	Croft & Farm
Anthus pratensis	Meadow pipit[2]	Snathag	Croft & Farm, Mountain & Moorland
Numenius phaeopus	Whimbrel[2]	Eun Bealltain	Croft & Farm
Prunella modularis	Dunnock[2]	Gealbhonn nam preas	Croft & Farm
Turdus iliacus	Redwing[2]	Deargan sneachda	Croft & Farm
Turdus pilaris	Field fare[2]	Liathruisg	Croft & Farm
Turdus viscivorus	Mistle thrush[2]	Smeorach mhor	Croft & Farm
Tetrao tetrix	Black grouse[1]	Coileach-dubh	Woodland
Muscicapa striata	Spotted flycatcher[1]	Breacan sgiobalt	Woodland
Carduelis flammea	Lesser redpoll[2]	Deargan seilich	Woodland
Phoenicurus phoenicurus	Redstart[2]	Ceann-deargan	Woodland
Anthus trivialis	Tree pipit[2]	Riabhag choille	Woodland
Phylloscopus sibilatrix	Wood warbler[2]	Conan coille	Woodland
Phylloscopus trochilus	Willow warbler[2]	Crionag ghiuthais	Woodland
Circus cyaneus	Hen harrier[1]	Breid-air-toin	Mountain & Moorland
Turdus torquatus	Ring ouzel[1]	Dubh-chreige	Mountain & Moorland
Carduelis flavirostris	Twite[1]	Riabhag mhonaidh	Mountain & Moorland
Aquila chrysaetos	Golden eagle[2]	Iolaire bhuidhe	Mountain & Moorland
Asio flammeus	Short-eared owl[2]	Comhachag chluasach	Mountain & Moorland
Cuculus canorus	Cuckoo[2]	Cubhag	Mountain & Moorland
Falco columbarius	Merlin[2]	Meirneal	Mountain & Moorland
Falco tinnunculus	Kestrel[2]	Deargan allt	Mountain & Moorland
Lagopus lagopus scoticus	Red grouse[2]	Coileach-fraoich	Mountain & Moorland
Plectrophenax nivalis	Snow bunting[2]	Gealag	Mountain & Moorland
Saxicola torquata	Stonechat[2]	Clacharan	Mountain & Moorland
Pluvialis apricaria	Golden plover[3]	Feadag	Mountain & Moorland
Tringa nebularia	Greenshank[3]	Deoch-bhiugh	Mountain & Moorland
Passer domesticus	House sparrow[1]	Glaisean	Built Environment
Delichon urbica	House martin[2]	Gobhlan taighe	Built Environment
Hirundo rustica	Swallow[2]	Gobhlan gaoithe	Built Environment

[1] denotes Red List species

Scientific name	Common name	Gaelic name	Habitat
[2] denotes Amber List species			
[3] denotes Green List species			
Crustaceans			
Homarus gammarus	Common lobster		Marine
Palinurus elephas	Crawfish		Marine
Macropipus puber	Velvet swimming crab		Marine
Nephrops norvegicus	Norway lobster / Dublin Bay prawn / Scampi		Marine
Dragonflies & Damselflies			
	Dragonfly species		Moorland
Fish			
Cyclopterus lumpus	Lumpsucker		Marine
Salmo salar	Atlantic salmon		Freshwater / Marine
Salmo trutta	Sea trout		Freshwater / Marine
	Lamprey species		Freshwater / Marine
Salmo trutta	Brown trout		Freshwater
Salvelinus alpinus	Arctic char		Freshwater
Mammals			
Halichoerus grypus	Grey seal		Marine
Phoca vitulina	Common seal		Marine
	Bat species		Woodland
Martes martes	Pine marten		Woodland
Lepus timidus	Mountain hare		Mountain
Molluscs			
Pecten maximus	King scallop		Marine
Reptiles			
Vipera berus	Adder		Moorland
Anguis fragilis	Slow worm		Moorland
Lacerta vivipara	Common lizard		Moorland
Vascular plants			
Alchemilla wichurae	A Lady's-mantle		
Arabis alpina[1]	Alpine rock-cress		Mountain
Arabis petraea	Northern rock-cress		
Arctostaphylos alpinus	Arctic bearberry	Barr-dearg (f)	Mountain
Armeria maritima	Thrift		Coast
Asplenium septentrionale	Forked spleenwort		(Not seen here since pre-1970)
Atriplex praecox	Early orache		
Callitriche hermaphroditica	Autumnal water-starwort		
Caltha palustris	Kingcup	A'chorra-fhod (f)	Freshwater
Carex aquatilis	Water sedge		
Carex rupestris	Rock sedge		
Cephalanthera longifolia	Narrow-leaved helleborine		
Cerastium arcticum			
Cochlearia officinalis	Arctic mouse-ear A Scurvygrass		

Scientific name	Common name	Gaelic name	Habitat
subsp. Scotica			
Crataegus monogyna	Hawthorn	Ban-sgitheach (m)	Croft & Farm
Dactylorhiz incarnata	Early marsh orchid	Dobhrach-bhallach (f)	Freshwater
Dactylorhiza lapponica[1]	Lapland marsh orchid		
Dactylorhiza purpurella	Northern marsh orchid		Croft & Farm, Road verges
Deschampsia cespitosa subsp. Alpine	Alpine tufted hair-grass		
Deschampsia setacea	Bog hair-grass		
Draba norvegica	Rock whitlowgrass		Mountain
Dryas octopetala	Mountain avens		
Elatine hexandra	Six-stamened waterwort		
Epilobium alsinifolium	Chickweed willowherb		
Epipactis atrorubens	Dark-red helleborine		
Equisetum pratense	Shady horsetail		
Equisetum variegatum	Variegated horsetail		
Eriocaulon aquaticum[1]	Pipewort		
Euphrasia frigida	An Eyebright		
Euphrasia ostenfeldii	An Eyebright		
Fumaria capreolata	White ramping-fumitory		
Gnaphalium supinum	Dwarf cudweed		Mountain
Gnaphalium sylvaticum	Heath cudweed		
Hammarbya paludosa	Bog orchid		
Hycinthoides non-scripta	Bluebell	Brog-na-cubhaige (f)	Woodland
Iris pseudacorus	Yellow flag	Bior-bogha (m)	Freshwater
Isoetes echinospora	Spring quillwort		
Juncus biglumis	Two-flowered rush		Mountain
Koenigia islandica[1]	Iceland-purslane		Mountain
Leucanthemum vulgare	Ox-eye daisy	Neoinean-mor (m)	Built Envt (Not seen here since pre-1970 – but site not revisited - on Scalpay)
Lycopodium annotinum	Interrupted clubmoss		
Mertensia maritime	Oysterplant		
Minuartia sedoides	Cyphel		
Ophioglossum azoricum	Small adder's-tongue		
Orobanche alba	Thyme broomrape		
Orthilia secunda	Serrated wintergreen		
Oxyria digyna	Mountain sorrel		Mountain
Phragmites australis	Common reed	Biorcah lachanm	Freshwater
Poa alpina	Alpine meadow-grass		
Poa glauca	Glaucous meadow-grass		
Polygonum oxyspermum	Ray's knotgrass		
Potamogeton coloratus	Fen pondweed		
Potamogeton filiformis	Slender-leaved pondweed		
Potamogeton praelongus	Long-stalked pondweed		
Potentilla crantzii	Alpine cinquefoil		

Pyrola media	Intermediate wintergreen		
Pyrola rotundifolia	Round-leaved wintergreen		
Ranunculus ficaria	Celandine	Grain-aigein (m)	Croft & Farm
Rhynchospora fusca	Brown beak-sedge		
Ribes spicatum	Downy currant		
Ruppia cirrhosa	Spiral tasselweed		
Sagina saginoides	Alpine pearlwort		
Salix myrsinites	Whortle-leaved willow		
Saussurea alpina	Alpine saw-wort		Mountain
Saxifraga nivalis	Alpine saxifrage		Mountain
Saxifraga stellaris	Starry saxifrage		Mountain
Sibbaldia procumbens	Sibbaldia		
Sorbus rupicola	A Whitebeam		
Subularia aquatica	Awlwort		
Thymus polytrichus	Wild thyme	Luibh-na-macraidh	Moorland
Tofieldia pusilla	Scottish asphodel		
Woodsia alpina[1]	Alpine woodsia		Mountain
Zostera marina	Eelgrass		Marine

[1] *denotes British Red Data Book species*

Rural Stewardship Scheme

The Rural Stewardship Scheme incorporates a list of 30 locally important habitats and species, that have been drawn up jointly by agricultural and conservation interests. There are different lists for different areas throughout Scotland, and Skye & Lochalsh falls under the West Highland list, which is shown below. This list is not to be confused with the national and local priority habitats and species above, as it is used specifically for RSS applications and is updated by the Scottish Executive Environment and Rural Affairs Department on an annual basis.

RSS 2003 LBAP Species and Habitats List: West Highland

Habitat

1. Acid grassland
2. Marshy grassland and rough pasture
3. Purple moor grass and rush pastures
4. Neutral grassland
5. Upland meadows
6. Watercourses (rivers and streams)
7. Rushes & marginal vegetation (including species-rich rush pasture)
8. Wetland margins
9. Blanket bog
10. Wet heath
11. Dry heath
12. Overwintering crops
13. Wet woodland
14. Wood and scrub pasture
15. Scrub woodland (upland scrub)

Species

16. Ragged robin
17. Yellow rattle
18. Devil's bit scabious
19. Bird's foot trefoil
20. Common eyebright
21. Knapweed
22. Brown trout
23. Redshank
24. Lapwing
25. Snipe
26. Curlew
27. Woodcock
28. Yellowhammer
29. Goldfinch
30. Twite

ANNEX 1: CONTACT DETAILS

Organisation	What they can help with	Contact details
Bat Conservation Trust	Information on bats, bat habitats, bat boxes and conservation.	www.bats.org.uk
Biological Recording in Scotland	Promote the gathering of environmental data, initiate projects and circulate information to help the recording community in Scotland.	www.brisc.org.uk
British Dragonfly Society	Information on dragonfly habitats, training of volunteers in identification & collation of dragonfly records.	www.dragonflysoc.org.uk
British Trust for Ornithology	Investigate the populations, movements and ecology of wild birds, organise annual breeding and winter bird surveys locally.	RL McMillan, Regional Representative www.bto.org
Broadford Environmental Development Group	A local group set up to undertake environmental projects in and around Broadford.	c/o Alison MacLennan, RSPB
BSBI - Botanical Society of the British Isles	Holder of the botanical records for the Skye & Lochalsh area.	Stephen Bungard www.bsbi.org.uk
BTCV Scotland - British Trust for Conservation Volunteers	Volunteer participation in practical conservation activities, can work with communities to deliver local environmental projects & provide insurance for such works.	Kerry Jones, 30 Millbank Road, Munlochy, Inverness IV8 8ND Tel: 01463 811560 www.btcv.org.uk
Butterfly Conservation (Scotland)	Encourage surveying and monitoring of butterflies and moths, and advise on habitat management for priority species.	Tom Prescott, Kingussie. (HQ: Balallan House, Allan Park, Stirling FK8 2QG, Tel: 01786 447753) www.butterfly-coservation.org
Community Toolkit	Can help organisations find solutions to a range of problems and issues. Specifically designed for community groups and is based on common themes identified by local voluntary groups from around Inverness and Nairn.	www.communitytoolkit.org.uk
Crofters Commission	The Crofters Commission was set up in 1955 to develop and regulate the crofting system and to promote the interests of crofters.	4-6 Castle Wynd, Inverness IV2 3EQ Tel: 01463 663450 www.crofterscommission.org.uk
Deer Commission Scotland	Provide advice on deer management and welfare issues.	Knowsley, 82 Fairfield Road, Inverness IV3 5LH Tel: 01463 231751 www.dcs.gov.uk

Eilean Ban Trust	A joint project between the Kyleakin community and the Born Free Foundation, which aims to bring the island back into community ownership and to instigate a program of environmental and conservation measures.	Bright Water Visitor Centre, The Pier, Kyleakin, Isle of Skye IV41 8PL Tel: 01599 560040
Farming and Wildlife Advisory Group	Provide advice to farmers, crofters and landowners on conservation projects and agri-environmental grants.	Alan Boulton, Dairy Cottage, Achnacarry, Spean Bridge PH34 4EJ Tel: 01397 712075 www.fwag.org.uk/scotland
Fernaig Community Trust	A community group set up to manage farm land and South Strome Forest in association with the Forestry Commission.	Colin Parsons, Old Forest Office, Achmore,. Ross-shire IV53 8UT Tel: 01599 577319
Forestry Commission	Administer the Scottish Forestry Grant Scheme, which provides woodland management and expansion incentives for private woodland owners, and regulate and control works through Felling Licence and Environmental Impact Assessment regulations.	Donald Macleod, Fodderty Way, Dingwall IV15 9XB Tel: 01349 862144 www.forestry.gov.uk
Forestry Commission	Formerly called Forest Enterprise, this arm of the Forestry Commission is responsible for managing state-owned forestry land.	Malcolm Wield, Strathoich, Fort Augustus, Inverness-shire PH32 4BT Tel: 01320 366322
Froglife	Provide habitat advice about amphibians and reptiles in gardens and the wider countryside, and encourage their recording.	www.froglife.org
Grounds for Learning	Provide advice, contacts, programmes, grant and award schemes tailored for Scottish schools, for the improvement of school grounds for education, biodiversity and enjoyment.	www.ltl.org.uk/scot.html
Hebridean Whale and Dolphin Trust	A charity which has pioneered the study of the whales, dolphins and porpoises found in the waters of the Hebrides	Main Street, Tobermory, Isle of Mull, Argyll, PA75 6NU Tel: 01688 302620 www.whales.gn.apc.org
Highland Biodiversity Project	Responsible for the preparation and implementation of Local Biodiversity Action Plans in Highland.	Janet Bromham, The Highland Council, Glenurquhart Road, Inverness IV3 5NX Tel: 01463 702274

Highland Biological Records Centre	Stores biological information and records on the Highlands.	Jonathan Watt, Inverness Museum & Art Gallery, Castle Wynd, Inverness IV2 3EB Tel: 01463 237114
Highland Biological Recording Group	Record biological information individually and through co-ordinated atlas projects, surveys, field trips and events.	David MacAllister, Chairman c/o Inverness Museum & Art Gallery, Castle Wynd, Inverness IV2 3EB
Highland Council Planning & Development Service	The primary functions of the Planning & Development Service are to protect and enhance the environment, control development and generate employment.	Catriona Maclean, Tigh na Sgire, Park Lane, Portree, Isle of Skye IV51 9GP Tel: 01478 613812 www.highland.gov.uk
Highland Council Ranger Service	Run a programme of environmental education events and guided walks, run practical conservation projects, and give advice on access and conservation issues.	John Phillips, Office C, Old Corry Industrial Estate, Broadford, Isle of Skye IV49 9AB Tel: 01471 822905
Highland Council Sustainable Development Officer	Provides advice on sustainability issues and appropriate community action.	Una Lee, The Highland Council, Glenurquhart Road, Inverness IV3 5NX Tel: 01463 702543
International Otter Survival Fund	A charity dedicated to the conservation of all 13 species of otter worldwide. IOSF safeguards areas of good habitat and support people working in research and rehabilitation worldwide.	Paul & Grace Yoxon, Harrapool, Broadford, Isle of Skye IV49 9AQ Tel: 01471 822487 www.otter.org
Highland Birchwoods	A partnership initiative to promote and stimulate the development of a local woodland economy and culture in the Scottish Highlands.	Hazel Allen, Chief Executive, Littleburn, Munlochy, Ross-shire IV8 8NN Tel: 01463 811 606 www.highlandbirchwoods.co.uk
John Muir Trust	The John Muir Trust was formed in 1983 to protect and conserve wild places and to increase awareness and understanding of the value of such places.	Andrew Campbell, Clach Glas, Strathaird, Broadford, Isle of Skye IV49 9AX Tel: 01471 866260 www.jmt.org
JNCC – Joint Nature Conservancy Council	The UK Government's wildlife adviser, undertaking national and international conservation work on behalf of the three country nature conservation agencies English Nature, Scottish Natural Heritage and the Countryside Council for Wales.	Monkstone House, City Road, Peterborough PE1 1JY Tel: 01733 562626 www.jncc.gov.uk
Marine Conservation Society	Run a number of volunteer coastal and marine projects including beachwatch, seasearch and	Calum Duncan, 3 Coates Place, Edinburgh EH3 7AA Tel: 0131 2266360 www.mcsuk.org

National Farmers Union of Scotland	Provide information on agricultural matters and representation on behalf of members.	www.nfus.org.uk
National Trust for Scotland	A conservation charity that protects and promotes Scotland's natural and cultural heritage for present and future generations to enjoy.	Ian Turnbull, Lochalsh House, Balmacarra, Kyle of Lochalsh, Ross-shire IV40 8DN Tel: 01599 566325 www.nts.org.uk
National Trust for Scotland: Kintail Ranger Service	Run a programme of environmental education events and guided walks, run practical conservation projects, and give advice on access and conservation issues.	Diana Holt & Willie Fraser Morvich Farm, Inverinate, By Kyle of Lochalsh, Ross-shire Tel: 01599 511231
Plantlife	Acts to stop common wild plants becoming rare in the wild, to rescue wild plants on the brink of extinction, and to protect sites of exceptional botanical importance by practical conservation work, and influencing policy and legislation.	www.plantlife.org.uk
RSPB Scotland – Royal Society for the Protection of Birds	Provides advice and assistance on the conservation of wild birds and their habitats, especially declining, threatened or rare species. Conduct monitoring & survey work, & run management initiatives for corncrakes.	Dr Alison MacLennan, Sutherlands, Broadford, Isle of Skye IV49 9AB Tel: 01471 822882 www.rspb.org.uk
SASA – Scottish Agricultural Science Agency	Contact for suspected New Zealand flatworm outbreak on agricultural land (do not send sample)	Dr J Pickup East Craigs, Edinburgh EH12 8WJ Tel: 0131 2448859
Scottish Agricultural College	Provide advice to farmers, crofters and land owners on wildlife habitat improvement, and help prepare and submit Rural Stewardship Scheme applications.	Gwyn Jones, Somerled Square, Portree, Isle of Skye IV51 9EH Tel: 01478 612993 www.sac.ac.uk
Scottish Crofting Foundation	Promotes the benefits that crofting brings to its communities, as well as to the wider public.	Patrick Krause, Chief Executive The Steading, Balmacara Square, Kyle of Lochalsh IV40 8DJ Tel: 01520 722891 www.crofting.org
Skye Environmental Centre	Stores local biological information and records.	Paul & Grace Yoxon, Harrapool, Broadford, Isle of Skye IV49 9AQ

Scottish Environmental Protection Agency	Regularly monitor and classify coastal waters, rivers and lochs, deal with pollution incidents and provide advice and, through its Habitat Enhancement Initiative, provides guidance and support on the creation and best management of wildlife habitats.	Carr's Corner, Lochy Bridge, Fort William PH33 6TQ Tel: 01397 704426 Tel: 0800 806070 (24 hour pollution emergency number) www.sepa.org.uk
Scottish Natural Heritage	Provide advice and assistance on protected species and designated areas, grant-aid practical biodiversity and awareness-raising projects.	Alex Turner, Bridge Road, Portree, Isle of Skye IV51 9ER Tel: 01478 613329 www.snh.org.uk
Scottish Ornithologists Club	Brings together amateur birdwatchers, keen birders and research ornithologists with the aims of documenting, studying and enjoying Scotland's varied birdlife. The local Club collects and collates bird records for Skye & Lochalsh.	HQ: Harbour Point, Newhailes Road, Musselburgh EH21 6SJ. Tel 0131 6530653 www.the-soc.fsnet.co.uk
Scottish Water	Provides water and waste water services to household and business customers across Scotland.	www.scottishwater.co.uk
Scottish Wildlife Trust	Provide advice on habitat management, identification of areas of high biodiversity and conservation volunteer activities.	Roger Cottis, Area Representative Unit 4A, 3 Carsegate Road North, Inverness IV3 8DU Tel: 01463 714746 www.swt.org.uk
SEERAD – Scottish Executive Environment & Rural Affairs Department	Advises on and implements policy relating to agriculture, rural development, food, the environment and fisheries.	David MacVicar, Estates Office, Budhmor, Portree, Isle of Skye IV51 9DH Tel: 01478 612516 www.scotland.gov.uk
Skye & Lochalsh Council for Voluntary Organisations	Provide advice and assistance to communities and voluntary organisations on various issues including funding.	Bridge Road, Portree, Isle of Skye IV51 9ER Tel: 01478 612921 www.slcvo.co.uk
Skye & Lochalsh Enterprise	Provide advice and support for environmental projects and community-led works.	King's House, The Green, Portree, Isle of Skye IV51 9BT Tel: 01478 612841 www.hie.co.uk
Skye & Lochalsh Horticultural Development Association	Aims to raise awareness and stimulate interest in horticulture, expand markets and develop local skills and resources.	Tel: 01478 640276 www.horticultureskye.co.uk
Skye the Island and Lochalsh website	Provides information on the area and things to do and see.	www.skye.co.uk

Sluggans Woodland Park Group	Community group set up to manage Sluggans Woodland.	Jryna Batters jryna@lineone.net
Soil Association	Exists to research, develop and promote sustainable relationships between the soil, plants, animals, people and the biosphere, in order to produce healthy food and other products while protecting and enhancing the environment.	Bristol House, 40-56 Victoria Street, Bristol BS1 6BY Tel: 0117 929 0611 www.soilassociation.org
South West Ross Field Club	Encourage recording of animal and plant observations, and organise a number of talks and field trips.	Brian Neath, Secretary bandj@culag.plus.com
The Mammal Society	Organise mammal surveys and work to protect British mammals, to halt the decline of threatened species.	www.mammal.org.uk
The Woodland Trust (Scotland)	A UK conservation charity dedicated to the protection of our native woodland heritage.	Ian Palmer / Paul Young www.woodlandtrust.org.uk
Wild Skye website	A weblog for news of birds and other wildlife on the misty isle.	www.pacarras.net
Whitewave	Skye's Outdoor Centre	Linicro, Kilmuir, Isle of Skye IV51 9YN Tel 01470 542 414 info@white-wave.co.uk www.white-wave.co.uk

ANNEX 2: REFERENCES & SOURCES OF FURTHER INFORMATION

Birks (1973) 'Past and Present Vegetation of the Isle of Skye' Cambridge University Press

Bryan, A (1994) 'The Minch Review'. Scottish Natural Heritage & Comhairle nan Eilean

Darling FF (1995) 'West Highland Survey: An Essay in Human Ecology' Oxford University Press

Dennis, RWG & Watling, R 'Fungi in the Inner Hebrides'. Proceedings of the Royal Society of Edinburgh, 83B 415-429

Department for Environment, Food and Rural Affairs (2002) 'Code of Practice to Prevent the Spread of Non-indigenous Flatworms' www.defra.gov.uk

Farming & Wildlife Advisory Group, Scottish Agricultural College, RSPB Scotland & Scottish Executive Environment & Rural Affairs Department 'Farms, Crofts and Corncrakes: A Guide to Habitat Management'

Forestry Commission 'Forest Nature Conservation Guidelines' ' Management Guidelines for Semi-Natural Woodlands' 'Edge Management in Woodlands' ' Upland Birchwoods: The Management of Semi-Natural Woodlands'

Index to the Tranche 2 Action Plans

Joint Nature Conservation Committee (1996) 'Coasts and Seas of the United Kingdom, Region 3 North-east Scotland: Cape Wrath to St Cyrus'. Coastal Directory Series

Joint Nature Conservation Committee 'Directory of the Celtic Coasts and Seas'

Nature Conservancy Council 'A Preliminary Survey of Native Woodland on the Isles of Skye & Raasay' (available from Scottish Natural Heritage)

PCA Alien Plant Working Group 'Alien Plant Invaders of Natural Areas - Fact Sheets' www.nps.gov/plants/alien/fact.htm (includes information on Japanese knotweed)

Preston, CD, Pearman, DA & Dines, TD (Eds) (2002) 'New Atlas of the British & Irish Flora'. Oxford University Press

Royal Society of Edinburgh Proceedings, Section B Biological Science, Vol 83 (1983) & Vol 100 (1992) (provides information on the ecology of the water around Skye)

RSPB Scotland & Scottish Natural Heritage 'Corncrakes: Naturally Scottish'

RSPB Scotland 'Farmland Waders in Scotland' 'The Loss of Farmland Birds' ' Wildlife and Agriculture in Scotland: A Secure Future'

Scotland's Moorland Forum (2003) 'Principles of Moorland Management' (available from Scottish Natural Heritage) www.moorlandforum.org.uk

Scottish Crofters Union & RSPB Scotland (1992) 'Crofting and the Environment: A New Approach'

Scottish Crofters Union (1993) 'The Crofting Forestry Handbook' (available from Scottish Crofting Foundation)

Scottish Executive & Forestry Commission (2003) 'Scottish Forestry Grants Scheme - Applicants Booklet'

Scottish Executive (2003) 'The Rural Stewardship Scheme'

Scottish Executive Environment & Rural Affairs Department (2002) Prevention of Environmental Pollution from Agricultural Activity - Dos and Don'ts Guide'

Scottish Executive Environment & Rural Affairs Department, RSPB Scotland & Scottish Agricultural College 'A Management Guide to Birds of Scottish Farmland'

Scottish Native Woods (2000) 'Restoring and Managing Riparian Woodlands'

Scottish Natural Heritage (1992) 'Natura 2000 - A Guide to the 1992 EC Habitats Directive in Scotland's

Terrestrial Environment' & 'Natura 2000 - A Guide to the 1992 EC Habitats Directive in Scotland's Marine

Environment'

Scottish Natural Heritage (1998) 'Wildlife - The Law and You'

Scottish Natural Heritage (2002) 'Natural Heritage Futures' documents

Scottish Organic Producers Association & Soil Association (2000) 'Organic Opportunities - A Prospectus for

Organic Food and Farming for Scotland'

Skye Data Atlas: Provides information on the biodiversity of Skye as well as data on population and landscape. www.bambi.demon.co.uk/skyedata

Soil Association (2000) 'The Biodiversity Benefits of Organic Farming'

Stewart, A, Pearman, DA & Preston, CD (Eds) (1994) 'Scarce Plants in Britain'. Joint Nature Conservancy Council

The Highland Council (1999) 'Skye & Lochalsh Local Plan'. Planning & Development Service

The Highland Council (2001) 'A Framework for Biodiversity in Highland' Planning & Development Service

The Highland Council (2001) 'The Highland Structure Plan Written Statement' Planning & Development Service

The Macaulay Land Use Research Institute (1993) 'The Land Cover of Scotland 1988' (LCS88)

The Scottish Biodiversity Group - Agriculture Working Group 'Biodiversity on Croftland and Common Grazings'

The Scottish Biodiversity Group (1997) 'Biodiversity in Scotland: The Way Forward'. The Stationary Office Bookshop, Edinburgh

The Scottish Biodiversity Group (1999) 'Local Biodiversity Action Plans: A Manual and Guidance Notes'. CoSLA, Edinburgh

The Scottish Biodiversity Group (2000) 'Action for Scotland's Biodiversity'. The Stationary Office Bookshop, Edinburgh

The Scottish Biodiversity Group (2001) 'A Flying Start: Local Biodiversity Action in Scotland'. The Stationary Office Bookshop, Edinburgh

The UK Government (1994) 'Biodiversity: The UK Action Plan'. HMSO, London

The UK Government (1994) 'Sustainable Development: The UK Strategy'. HMSO, London

UK Biodiversity Action Plan 'Tranche 2 Action Plans'. English Nature, Peterborough

UK Biodiversity Action Plans (Habitat Action Plans, Species Action Plans & Local Biodiversity Action Plans) available from www.ukbap.org.uk

Volume I: Vertebrates and Vascular Plants

Volume II: Terrestrial and Freshwater Habitats

Volume III: Plants and Fungi

Volume IV: Invertebrates

Volume VI: Terrestrial and Freshwater Species and Habitats

Wiggington, MJ (Ed) (1999) 'British Red Data Books: 1. Vascular Plants' (3rd Edition). Joint Nature Conservancy Council

ANNEX 3: GLOSSARY

A

acoustic	of sound or hearing
agri-environment	linkage between the rearing of crops and livestock and the surrounding environment
all-terrain vehicle	light vehicle with many low pressure tyres or caterpillar tracks that spread the weight and make it easier to cross boggy areas
amphibian	a vertebrate, such as a newt, frog or toad, that lives on land but breeds in water
aquatic	growing or living in water
arthropod	a creature, such as an insect or spider, which has jointed legs and a hard case on its body

B

biodegradable	capable of being decomposed by natural means
biodiversity	biological diversity, the variety of all living things
bryophyte	a moss or liverwort

C

calcareous	of or containing calcium carbonate
catchment	the area of land draining into a river, basin or reservoir
cetacean	member of an order of aquatic mammals having no hind limbs, front limbs modified into paddles, and a blowhole for breathing, includes whales, dolphins and porpoises
clearfell	an area where all the trees have been felled
coarse fish	any freshwater fish that is not of the salmon family
coastal defences	natural or man-made barriers to slow down or halt erosion from the sea
common grazing	piece of rough grazing land shared between two or more people
community	a group of independent plants and animals inhabiting the same region
conifer	a tree or shrub bearing cones and evergreen leaves, such as pine, spruce, fir or larch
crustacean	usually aquatic arthropod with a hard outer shell and several pairs of legs, such as the lobster, crab or shrimp
culvert	a drain or covered channel that crosses under a road or railway

D

deciduous	a tree or shrub which sheds its leaves annually, such as birch or oak
Deer Management Plan	a plan drawn up by the local Deer Management Group to agree culling targets amongst neighbouring estates
diffuse	spread out over a wide area (diffuse pollution: no single point source)
diversification	to vary products or operations in order to spread risk or expand
dredging	the process of scooping or sucking up material from the seabed or a riverbed

E

ecosystem	a system involving the interactions between a community and its non-living environment
electrofishing	method of surveying fish by stunning them with an electrical pulse
environment	the external surroundings in which a plant or animal lives, which influence its development
eutrophic	describes lochs with high nutrient levels
extensive	(agricultural context) widespread, designed to spread impacts over a large area

F

fauna	all the animal life of a given place or time
fen	peatland that receives water and nutrients from the soil, rock and groundwater as well as from rainfall
fence marking	the act of making a fence more visible to avoid bird collisions from e.g. black grouse
fertiliser	any substance, such as manure, added to soil to increase its productivity
flora	all the plant life of a given place or time

Forest Habitat Network	a concept to link forest habitats for the benefit of woodland species
fry	the young of various species of fish

G

genetic purity	where the internal characteristics of an organism come from one source alone
genus	a group into which a family of animals or plants is divided and which contains one or more species
geomorphology	the study of the shapes and processes of the earth
Gulf Stream	a warm oceanic current originating in the gulf of Mexico that travels north-east as the North Atlantic Drift to warm the west coast of Scotland

H

habitat	the natural home of an animal or plant
hatchery	place where fish eggs are hatched to produce fry or parr for restocking
herbicide	a chemical that destroys plants, especially weeds
hybrid	an animal or plant resulting from a cross between two different types of animal or plant

I

in-bye	grazing or arable land, usually close to the croft or farm steading
Indicative Forest Strategy	a planning tool used by local authorities and agencies to help site new woodlands away from sensitive areas
insecticide	a substance used to destroy insect pests
inshore	in or on the water but close to the shore (inshore fisheries: within 12 miles of the shore)
intensive	(agricultural context) designed to increase production from a particular area
interpretation	explanation provided by the use of original objects, visual display material, etc.
invasive	spreading uncontrollably, taking over, replacing natural community
invertebrate	any animal without a backbone, such as an insect, worm or mollusc

L

ley	land temporarily under grass

M

mammal	any warm-blooded vertebrate animal, the female of which produces milk to feed her young
mesotrophic	describes lochs with intermediate nutrient levels
mollusc	an invertebrate with a soft, unsegmented body and often a shell (group includes snails, slugs, clams, mussels and squid)
muirburning	the controlled strip-burning of heather moorland to create new shoots for grouse, deer or sheep to eat

N

natural regeneration	seeding of plants, especially trees, without direct interference by man
non-native	a non-indigenous animal or plant, not of local origin
nutrient budgeting	the allocation of nutrients (especially fertilisers) to particular areas for particular purposes, to minimise wastage and environmental impacts
nutrient enrichment	an increase or improvement in the substances providing nourishment to a water body, sometimes resulting in a change in the chemistry and corresponding loss in naturally occurring species

O

oligotrophic	describes lochs with low nutrient levels, such as the dubh lochans in the peatlands
out-bye	rough grazing land, usually far from the croft or farm steading
overgraze	to graze land too intensely so that it is damaged and no longer provides nourishment or (if an area is managed for woodland) so that trees cannot regenerate or grow

P

parasitic	the process of one animal or plant living in or on another from which it obtains its nourishment
parr	the intermediate stage of a salmonid fish between fry and smolt
passerine	a songbird or perching bird
pest	any organism that damages crops, or irritates livestock or man
pesticide	a chemical used for killing pests, especially insects
plankton	organisms inhabiting the surface layer of a sea or loch, consisting of small drifting animals or plants
plateau	a wide mainly level area of elevated land

R

raptor	a bird of prey
recreation	refreshment of health or spirits by relaxation and enjoyment, or an activity that promotes this
reedbed	wetland dominated by stands of the common reed Phragmites australis, where the water table is at or above ground level for most of the year
reseed	a crop, especially grass, that has been sown
riparian	of or on the bank of a river or stream
roost	a place, such as a perch, where birds rest or sleep

S

salmonid	fish from the salmon family (includes salmon, trout & char)
sea lice	a fish parasite
second rotation	the second crop of trees grown on a plantation
sessile	a plant with flowers or leaves but no stalk / an animal fixed in one position
sheep dip	a liquid disinfectant and insecticide in which sheep are immersed
siltation	to fill or choke up with silt (a fine sediment of mud or clay deposited by moving water)
silviculture	the cultivation of forest trees
Site of Special Scientific Interest (SSSI)	an area designated under UK legislation for its nature conservation interest
smolt	young salmon at the stage when it migrates from freshwater to the sea
spawning beds	the location where fish, amphibians or molluscs lay eggs
Special Area of Conservation (SAC)	an area designated under European legislation (the Habitats Directive) for its nature conservation interest
Special Protection Area (SPA)	an area designated under European legislation (the Birds Directive) for its wild bird interest
species	any of the groups into which a genus is divided, the members of which are able to interbreed
standing deadwood	dead trees left standing or lying to support fungi and invertebrates

U

upland	an area of high or relatively high ground

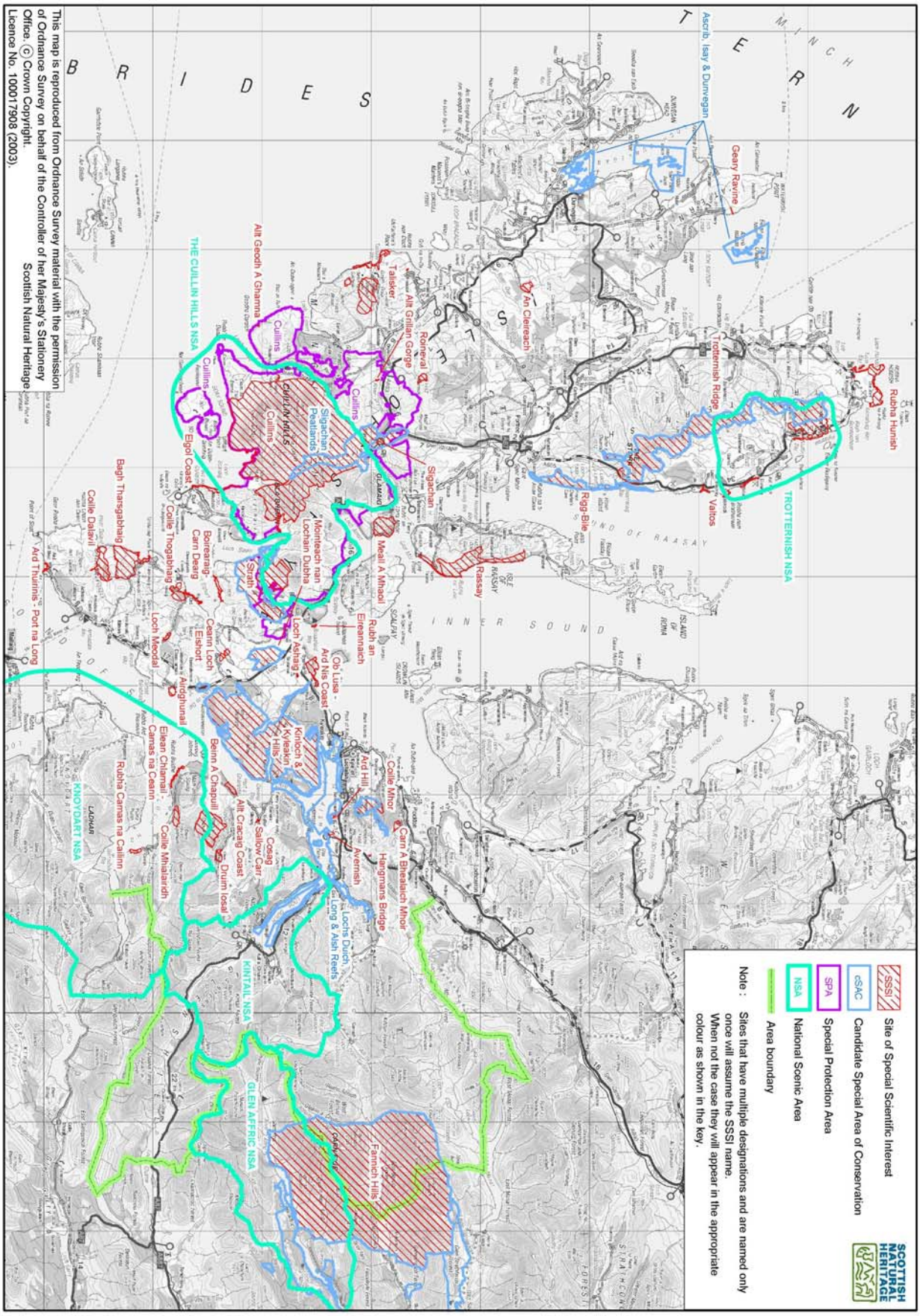
V

vertebrate	any animal with a backbone, such as a mammal, fish, bird or amphibian

W

wader	a long-legged bird that lives near water or in a wetland
waterfowl	bird that lives on or near water, especially one that swims such as a duck or swan
weed	any plant that grows wild and profusely, especially one that grows among cultivated plants
wildfire	out-of-control fire started accidentally or through out-of-control muirburning, which can rage over vast areas and threaten woodlands, roads or even houses
wildfowl	any game bird
woodland restructuring	the process of changing the structure of a woodland to allow more internal space and diversity of tree species

ANNEX 4: NATURE CONSERVATION DESIGNATIONS



ANNEX 5: LOCAL NATURAL HERITAGE SITES

In addition to statutory designations, a number of Local Natural Heritage Sites appeared in the Skye & Lochalsh Local Plan. Here, priority is given to avoiding damage to, or fragmentation of, the most sensitive features, including ancient and semi-natural woodland, local wildlife reserves and other nominated areas of conservation value which contribute to biodiversity, the built heritage and footpaths. The Plan states that resources and management in these sites and the remaining countryside of Skye & Lochalsh should be directed towards habitat management, restoration of spoiled land, diversifying the traditional land use structure including multiple use of forests and estates, and improving public access and interpretation.

Site Name	Grid Reference	Interest
Lochs Duich, Long & Alsh		
Nonach Salt Marsh	NG 930 304	Nature conservation
Loch Shiel	NG 945 184	Nature conservation, landscape
Loch nan Corr	NG 942 210	Nature conservation, landscape
Carr Brae Semi-Natural Woodland	NG 892 246	Nature conservation, landscape
Dornie to Inverinate Road Section	NG 895 244	Geological
Totaig	NG 875 253	Geological
Kirkton Bay & Salt Marsh	NG 830 265	Nature conservation
Kyle, Plockton & District		
The Plock of Kyle	NG 755 275	Nature conservation, informal recreation, green space
Eilean Ban, Eilean Dubh & Eilean a' Mhal	NG 747 273, 749 280	Nature conservation
Kyleakin, Broadford & Strath		
The Green, Kyleakin	NG 748 267	Informal recreation, green space
Mudalach	NG 755 250	Nature conservation
Port Aslaig	NG 771 182	Nature conservation
Drinan	NG 548 153	Nature conservation
Glasnakille	NG 542 138	Nature conservation
Kyleakin Ob	NG 745 262	Nature conservation, informal recreation
Sleat		
Tokavaig Bay	NG 597 115	Nature conservation
Sithean Mor	NG 600 080	Nature conservation
Raasay & Rona		
Brae, Raasay	NG 557 418	Nature conservation
Loch Eadar da Bhaile	NG 558 408	Nature conservation
Torran, Raasay	NG 595 490	Nature conservation
Portree & Braes		
Storr Lochs	NG 495 495	Nature conservation, landscape
Creagliath	NG 471 456	Nature conservation
Loch Portree	NG 477 412	Nature conservation
Portree Mill Pond	NG 473 437	Green space, informal recreation
River Leasgarry	NG 478 437	Informal recreation, green space

Edinbane, Skeabost & District

Loch Niarsco	NG 391 472	Nature conservation
Loch Greshornish	NG 344 510	Nature conservation

UIg, Staffin & Kilmuir

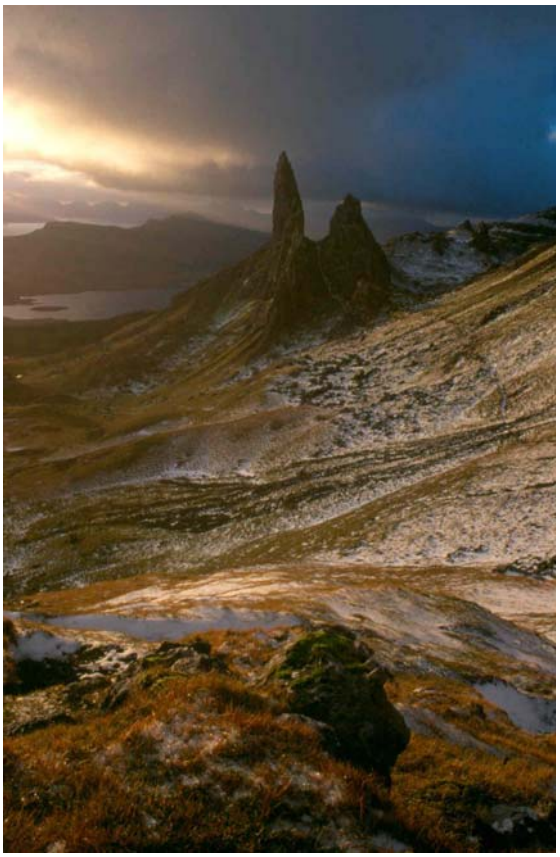
Loch Chaluim Chille	NG 375 690	Nature conservation
Kilmaluag	NG 416 732	Nature conservation
Rubha Garbhaig	NG 499 675	Nature conservation
Lealt Gorge	NG 518 604	Nature conservation, informal recreation
Loch Mealt & Kilt Rock	NG 509 655	Informal recreation, nature conservation, landscape
Valtos	NG 526 626	Geological
Loch Cuithir	NG 475 595	Geological, informal recreation
Uig Woodlands	NG 396 637	Nature conservation, informal recreation
Storr Wood	NG 505 529	Informal recreation

Dunvegan & NW Skye

Sgurr a Bhaigh (Loch Bay)	NG 250 556	Nature conservation
Coral Beaches	NG 224 549	Informal recreation
Loch Suardal	NG 240 510	Nature conservation
Leinish Bay	NG 202 510	Nature conservation
Pool Roag	NG 275 433	Nature conservation
Harlosh Reedbed	NG 290 413	Nature conservation
Loch Mor	NG 144 485	Nature conservation

Bracadale & Minginish

Fernilea	NG 367 338	Nature conservation
Talisker	NG 320 305	Nature conservation, informal recreation
Ros a' Mheallin	NG 375 405	Geological
Glenbrittle Beach	NG 410 207	Informal recreation



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