

Ayrshire Local Biodiversity Action Plan

SAFEGUARDING OUR NATURAL ENVIRONMENT



Edited by Morven Buchanan and Ken Gibb

Funding partners: Scottish Natural Heritage; Royal Society for the Protection of Birds;
SCOREEnvironmentLtd; East Ayrshire Council; North Ayrshire Council; South Ayrshire Council.

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Foreword

AYRSHIRE LOCAL BIODIVERSITY ACTION PLAN



Ayrshire is a unique place. It has a distinct identity and a landscape that is a tremendous asset for tourism, recreation and economic development. Most importantly, the Ayrshire identity is a source of pride for its people and contributes greatly to the quality of life we enjoy in Ayrshire.

Ayrshire contains a remarkable range of habitats from the marine environments of the Firth of Clyde, notably the internationally important Ailsa Craig, to the uplands of Muirkirk and North Lowther as well as the spectacular Isle of Arran Northern Mountains. With this remarkable range of habitats comes an amazing range of species. Ayrshire enjoys sights such as the golden eagle through to the basking shark with a rich variety of species in between.

It is little wonder that one of the most famous of Scots, our national bard, Robert Burns, wrote with such passion, when you consider the landscape in which he found his inspiration. However, even in Burns' time, there was concern for the biodiversity of the area, encapsulated in a line from one of his best-known works about a humble field mouse:

"I'm truly sorry man's dominion has broken Nature's social union."

Robert Burns

This concern for the biodiversity of Ayrshire remains with us and has intensified. While the value of activities such as tourism and recreation for the economic development of the area is recognised, the need to protect the qualities within the landscape which people are so attracted to is also essential if we and future generations are to enjoy the rich and diverse habitats and species in Ayrshire which exist today.

It was with this in mind, that the Ayrshire Biodiversity Group was established. The group is comprised of a wide range of organisations and individuals who collectively provide a vast knowledge and expertise of the biodiversity of Ayrshire but realise that these issues are not isolated from the social and economic responsibilities of the many partner agencies. The commitment of this group and the thousands of hours of work they have put in is clearly evident in the production of this Local Biodiversity Action Plan for Ayrshire.

The Action Plan clearly identifies priority habitats and species which require attention. Furthermore, it sets out what specific actions are required, who should lead such action and determines the timetable action should follow.

East, North and South Ayrshire Councils are delighted to be partners in the production of this Local Biodiversity Action Plan.

With your support, we can all continue to enjoy the wonderful diversity of life and landscape of Ayrshire.



Cllr Andrew McIntyre
Leader of East Ayrshire Council



Cllr David O'Neil
Leader of North Ayrshire Council



Cllr Andrew Hill
Leader of South Ayrshire Council

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(Key to partners - page X)

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Key to Abbreviated Organisations

The following organisations have been identified as key partners in the delivery of the Local Biodiversity Action Plan. Please refer to the Habitat Action Plans for details of their involvement.

Organisation	Abbreviation	Organisation	Abbreviation
Anglers Groups	ANG	Institute of Chartered Foresters	ICF
Arran Naturalists	AN	Joint Nature Conservancy Council	JNCC
Ayr Anglers	AAng	Land Training Association	LANTRA
Ayrshire and Arran Tourist Board	AATB	Marine Conservation Society	MCS
Ayrshire Bat Group	ABatG	Mineral Companies	MinCo
Ayrshire Biodiversity Group	ABG	Ministry of Defence	MoD
Ayrshire Biological Recording Centre	ABRC	National Farmers Union of Scotland	NFUS
Ayrshire Conservation Volunteers	ACV	National Trust for Scotland	NTS
Ayrshire Environmental Education Forum	AEEF	North Ayrshire Council	NAC
Ayrshire Joint Structure Plan	AJSP	North Ayrshire LA21 Group	NALA21
Ayrshire Local Authorities	ALA	Paisley Museum	PMus
Bat Conservation Trust	BCT	Private Woodland Owners	PWLO
Butterfly Conservation	BC	Royal Society for Protection of Birds	RSPB
British and International Golf		Scottish Agricultural College (Auchincruive)	SAC
Greenkeepers Association	BIGGA	Scottish Biodiversity Group	SBG
British Nuclear Fuels	BNF	Scottish Enterprise Ayrshire	SEA
British Trust for Ornithology	BTO	Scottish Environmental Protection Agency	SEPA
Local Businesses	Bus.	Scottish Executive Rural Affairs Department	SERAD
Clyde Muirshiel Regional Park	CMRP	Scottish Fisheries Protection Agency	SFPA
Commercial Tree Nurseries	CTM	Scottish Golf Course Wildlife Initiative	SGCWI
Community Councils	CC	Scottish Hydroelectric	SHE
Deer Commission for Scotland	DCS	Scottish Landowners Federation	SLF
Developers	Dev	Scottish Natural Heritage	SNH
District Salmon Fisheries Board	DSFB	Scottish Ornithologists Club	SOC
East Ayrshire Council	EAC	Scottish Wildlife Trust	SWT
East Ayrshire Woodlands	EAW	South Ayrshire Council	SAyrC
Environment Agency	EnvA	South West Scotland Raptor Group	SSRG
Farming and Wildlife Advisory Group	FWAG	University Marine Biology Station	UMBS
Fisheries Research Service	FRS	University of Glasgow	UoG
Forestry Commission	FC	University of Paisley	UoP
Forest Enterprise	FE	Vincent Wildlife Trust	VWT
Game Conservancy Trust	GCT	West Galloway Fisheries Trust	WGFT
Garden History Society	GHS	West of Scotland Water	WoSW
Golf Course Managers	GCM	Wetlands Birds Survey	WEBS
Glasgow Kelvingrove Museum	GKMus		
Heather Trust	HT		

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Part 1: Biodiversity Overview

Introduction

The Ayrshire Local Biodiversity Action Plan is the culmination of three years intensive work. This has been carried out by a wide range of organisations with expertise in safeguarding the natural environment. It provides proposals and actions which translate the UK Government Biodiversity Action Plan and Steering Group Report into effective action at a local level. The Ayrshire local authorities, in collaboration with the Ayrshire Joint Structure Plan Committee, focused on a coherent corporate Ayrshire-wide approach to biodiversity conservation. To assist with this task a comprehensive range of partner organisations and individuals were invited to contribute, all of whom had specific interests in biodiversity and could assist with the production of a comprehensive action plan.

Background

In 1992 the United Kingdom Government signed the Convention on Biological Diversity at the Earth Summit in Rio. There was recognition of the need to protect the biodiversity of the planet from dangers such as pollution, global warming, unchecked economic growth, exploitation of natural resources and ozone depletion.

Signatories to the Convention are obliged to:

“Develop national strategies, plans and programmes for the conservation and sustainable use of biological diversity”

Government commitment is demonstrated in the UK Action Plan for Biodiversity (1994).

This recognised that to achieve commitment, action must be taken at both national and local levels. Local areas were encouraged by the Government to produce Local Biodiversity Action Plans (LBAPs), the aim of this being to protect the biodiversity of plants and wildlife, with measures being made for rare and threatened species.

At UK level, 1252 species of globally threatened/declining species were documented which has set a framework for local groups to set priorities. Four hundred species were selected as priorities for action with appropriate setting of national targets and plans. Thirty-seven key habitats were also selected for action at a UK level to ensure that both nationally important and locally significant species and habitats are conserved through focused local action.

In 1996, the Scottish Biodiversity Group was established in order to agree and co-ordinate action. At present, Biodiversity Action Plans for habitats and species are being developed all over Scotland. The plans recommend targeted and practical actions to protect and enhance threatened species. This is done through the involvement of as wide a range of local partners as possible. Although the plans do not carry statutory force, the commitment by partners to safeguard the environment speaks for itself.

What is Biodiversity?

Biodiversity is the term which describes all varieties of life on the Earth.

“Biodiversity is all living things, from the tiny garden ant to the giant redwood tree. You will find biodiversity everywhere, in window boxes and wild woods, roadsides and rainforests, snow fields and sea shores.”

Biodiversity: The UK Steering Group Report 1995

Biodiversity also includes any genetic variation within species and the ecosystems in which they occur. All of this provides the support that humans require to survive. Whether it is the essentials of life or the pleasures that can be gained from nature's beauty, it is all of significant value.

Most people are aware of the wide variety of wildlife with which humans share the natural environment and of the increasing numbers of threats they face. Within the United Kingdom more than one hundred species have disappeared over the last century. The majority of this has occurred during the post war period and is mainly due to increasing urbanisation and intensive land management.

Biological diversity is considered to be a principal measure of society's impact on the environment. Evidence from around the world indicates a loss of species at an escalating rate and this is as true in Ayrshire as it is in a tropical forest or a coral reef. If no action is taken to prevent the unraveling of the web of life, it is predicted that many important global processes will be seriously impaired. This will in turn affect the economic and social well-being of our society and have profound consequences for our future.

Ayrshire's Geography and Identity

Ayrshire is comprised of the three unitary authorities of East, North and South Ayrshire. It includes the spectacular islands of Arran, Greater Cumbrae, Little Cumbrae and Ailsa Craig to name just a few. For the purpose of this document, Ayrshire refers to the area on the mainland and the islands which are under the jurisdiction of the three authorities. Map 1 illustrates the main towns and villages of Ayrshire.

Ayrshire is probably best known both in national and international terms for its tourist resource. It has many superb golf courses and is the birthplace of our national bard, Robert Burns.



The Ayrshire coast plays a vital role in shaping the way of life of the area through industry, fishing and tourism. In recent years the recreational value of the coast, particularly for links golf and other leisure pursuits, has been more widely appreciated. This has been accompanied by increasing concern about water quality, safeguarding the coastal environment from development pressure and the potential impact of a sea-level rise accompanying global warming.

Ayrshire's natural heritage resource is made up of a range of habitats, containing many species of plants and animals. This resource also includes features of great geological and geomorphological interest. Some of these are protected through European and United Kingdom legislation and by a variety of non-statutory designations. In many cases protection of specific species is achieved through protection of habitats.

Nationally, protection is given to sites through designation as a National Nature Reserve (NNR) or as a Site of Special Scientific Interest (SSSI) and there is a requirement through legislation to protect such sites from adverse development. In addition, the European Union also offers protection to sites through Special Protection Areas (SPA) under the Birds Directive and Special Areas of Conservation (SAC) under the Habitats Directive. These sites are collectively known as Natura 2000 sites.

Geological Diversity

Ayrshire boasts a breathtaking array of geology and landscape that have together contributed to the extensive biological diversity and wide range of habitats within the area.

Most of Ayrshire is lowland in character but it does have areas of strong relief that give dramatic contrasts. These include the remains of volcanic plugs such as Loudoun Hill and Ailsa Craig. Even more dramatic are the rugged peaks of Arran and the Loch Doon Mountains with their splendid glaciated features such as corries and frost shattered ridges.

Ayrshire with the exception of Arran lies to the south of the Highland Boundary fault. Its character is a result of lying within the rift valley (Midland Valley) bounded by the Highland Boundary Fault to the north and the Southern Upland Fault to the south. It covers the entire western seaboard of the midland valley and extends beyond the Southern Upland Fault to include parts of the Southern Uplands.

The islands which range from small islands such as Little Cumbrae, Holy Island and Ailsa Craig to the larger islands such as Greater Cumbrae and Arran, comprise of important landscapes and habitats in their own right. They also greatly enhance the aesthetic quality of the views across the Firth of Clyde from the Ayrshire mainland.

Ayrshire's complex geology provides a great range of geological and geomorphological interest. This is reflected in the designation of over 70 Sites of Special Scientific Interest (SSSIs), of which 50% are related to geological interest. This impressive geological diversity plays a role in shaping Ayrshire's distinct biodiversity.



The Framework for Delivery

Preparation of the Action Plan

In preparing an Action Plan for Ayrshire, the UK lists of priority species and action plans for species and habitats were used along with extensive local expertise as a base for the compilation of Habitat Action Plans relevant to Ayrshire. No new survey work was undertaken although the need for such work has been constantly highlighted throughout the preparation of this document. Information has been derived from a number of sources as indicated by the extensive list of partners involved in the Action Plan process.

Seven broad habitat types have been identified as important in Ayrshire and reflect national criteria. For these, an attempt has been made to determine their status and extent, identify threats and opportunities for action, and propose achievable targets with partners and resources identified if necessary.

The criteria used to select Local Priority Habitats is in common with that for other LBAPs, being habitats which:

- have a high rate of local decline;
- Ayrshire has a high proportion of the UK resource;
- are locally rare;
- are locally under threat;
- are locally fragmented but with the potential for repair;
- are important for key species; and
- are locally distinctive.



Similarly, the criteria used to select Local Priority Species and Species Action Plans are species which:

- have undergone a locally dramatic decline;
- are locally rare;
- are locally under threat;
- have a significant number of their UK population in Ayrshire;
- have a high profile and will therefore illustrate wider environmental issues;
- can be used as indicators of habitat quality; and
- are characteristic of Ayrshire.

Key Aims of the Ayrshire Local Biodiversity Action Plan

Before work could commence on the production of specific Habitat and Species Action Plans, the key aims of what a Biodiversity Action Plan for Ayrshire hoped to achieve were identified:

- safeguard against reduction of priority species populations;
- safeguard against net loss of area or quality of key habitats in Ayrshire;
- identify and record location and extent of key species and habitats in Ayrshire;
- set and pursue targets for the extension and enhanced management of priority species and habitats in Ayrshire;
- raise awareness of biodiversity generally and encourage involvement across all sectors of the community; and
- set up adequate monitoring systems so progress of the plan can be measured.

The Ayrshire Biodiversity Action Plan is comprised of seven Local Habitat Plans and eleven Species Action Plans. Each of these identifies a number of specific actions that will protect and/or enhance the habitat or species directly. There are also general actions that can be taken to benefit Ayrshire's habitat and species as a whole and these too play an important part in the process.

General Objectives and Proposals for Action

There are a number of proposals for action which are generic to the conservation of all biodiversity referred to in this document and are outlined below. Proposals for action relating to specific Habitat Action Plans are detailed in Part 2 of this document.

ACTIONS	
<p>Policy and legislation</p> <p>Ensure that the policies of all partners take full consideration of, and where practical safeguard against decline in priority species.</p> <p>Ensure that protective and proactive biodiversity policies are incorporated in statutory development plans in line with Government requirements, obligations and guidance and encourage a consistent approach throughout the three Ayrshire local authorities.</p> <p>Ensure that in the carrying out of their statutory planning responsibilities the three councils have full regard to the protection and promotion of Ayrshire's biodiversity. Including in this, where practical, provision for migrating birds and animals.</p> <p>Incorporate biodiversity principles in other policy documents, including local authority subject plans and indicative forestry strategies.</p> <p>Seek to protect, enhance, or recreate habitats, where practical, through conditions and/or agreements relating to planning permissions.</p> <p>Raise awareness amongst those bodies concerned with land use development and management of their statutory requirements under the Wildlife and Countryside Act 1981, Habitats Directive 1992, Town and Country Planning (Scotland) Act 1997 and other relevant statutory instruments in terms of biodiversity conservation, including National Planning Policy Guidelines.</p>	<p>Advisory</p> <p>Provide advice to land owners on measures that can be taken to benefit biodiversity.</p> <p>Provide guidance to local authorities on biodiversity conservation and enhancement.</p> <p>Organise training for staff on biodiversity issues.</p> <p>Develop and promote demonstration sites to illustrate examples of good biodiversity practice.</p>
<p>Site Safeguard management</p> <p>Review and where appropriate, designate new wildlife sites in Ayrshire.</p> <p>Consider the declaration of Local Nature Reserves in consultation with local communities.</p> <p>Ensure full consideration is given by the appropriate authorities to the value of habitats and species when considering proposals for changes in land use or management.</p> <p>Ensure full consideration is given by the appropriate authorities to development or other proposed activities that threaten loss or damage to biodiversity value including designated sites, sites containing protected species and wildlife corridors.</p> <p>Complete and maintain active management plans for areas covered by statutory designations and other sites of biodiversity value particularly in instances where other practices may threaten the special interest of a site.</p>	<p>Research and Monitoring</p> <p>Develop and maintain an up-to-date information base on biodiversity in Ayrshire.</p> <p>In particular:</p> <ul style="list-style-type: none"> • complete Phase 1 habitat mapping for Ayrshire; • complete the survey of Wildlife Sites in Ayrshire; • identify green corridor networks to provide links between Wildlife Sites; • undertake more detailed surveys of sites of biodiversity value. <p>Set up and implement a programme to monitor the extent, diversity and quality of the biodiversity resource in Ayrshire.</p> <p>Increase availability of biodiversity information to those with an interest in land use and management.</p> <p>Set up habitat/species groups to drive the delivery of Habitat and Species Action Plans.</p> <p>Contribute information to, and support the upgrading of, the Ayrshire Biological Recording Centre.</p> <p>Monitor the delivery of the LBAP yearly and in detail every 5 years, starting in 2002.</p>
	<p>Communications and Publicity</p> <p>Promote public awareness of biodiversity issues through guided walks, talks, publications, environmental education, interpretation and other appropriate measures.</p> <p>Produce a regular newsletters focusing on the Ayrshire LBAP process.</p> <p>Organise a series of initiatives aimed at raising awareness of and helping conserve identified priority species.</p> <p>Introduce some form of accreditation scheme to recognise examples of good biodiversity practice.</p>

Implementation and Monitoring

A timeframe of five years has been established by the Ayrshire Biodiversity Group in which to implement the objectives set down in the Habitat and Species Action Plans. However, it is necessary to look at the longer term, and with this in mind, a consideration of what should be achieved by 2010 is also included.

The contents of this Action Plan and the methods of implementation proposed in the document will be subject to monitoring and review by the Ayrshire Biodiversity Group on an annual basis.

Although much of the work of identifying and measuring habitat and species decline has depended on the expertise of ecologists, the identification and delivery of the conservation solutions are the responsibility of everyone. This includes local authorities, conservation groups, land managers, industry, developers, educators, communities and individuals. The Ayrshire Biodiversity Group will continue to co-ordinate an integrated action response.

The successful delivery of the Ayrshire Local Biodiversity Action Plan will require its integration with other plans, policies, programmes and processes. These include, for example the Ayrshire Joint Structure Plan, the emerging three Ayrshire Councils' Local Plans, Local Agenda 21/Sustainable Development Strategies, Environmental Policies and Scottish Natural Heritage Zones. The Ayrshire Biodiversity Groups aims to achieve such integration.

Resources

The main funding for the publication of this Action Plan has been generously provided by Scottish Natural Heritage. Contributions have also been made by SCORE Environment Ltd, the Royal Society for the Protection of Birds and the three Ayrshire local authorities.

The most significant resource, however, which has been made available for the production of the Local Biodiversity Action Plan for Ayrshire has been the contribution from the various partners in terms of their expertise and time. This has been a most valuable resource, without which the production of the plan would have been impossible.

Further funding has not yet been secured, but this is not anticipated to hinder the implementation of the Plan. Sponsorship will be sought for specific projects and it is hoped that the involvement of the wide range of partners will continue and implementation of the Plan will proceed through their active participation in the process of protecting the biodiversity of Ayrshire.

The Planning System

The planning system ensures the efficient and effective development and use of land in the public interest and makes a significant contribution to the sustainable development of the area to improve quality of life for all. Planning within this framework should:

- Set the land use framework for promoting economic development;
- Encourage economic, social and environmental regeneration;
- Maintain and enhance the quality of the natural heritage and built environment.



The Government has committed itself to the conservation and enhancement of the natural heritage for the benefit of present and future generations, which in turn has a significant impact on the Development Plan process. Development Plans have a key role to play in conserving biodiversity through the statutory planning system. The statutory planning system recognises that enabling sustainable development requires co-ordinated action, linking together economic, social and environmental factors and ensuring a balance between the promotion of development and environmental issues. In preparing Development Plans (Structure, Local and Subject Plans) there is a requirement to take full account of the natural heritage, in accordance with the statutory framework for safeguarding habitats and species under national and international law.

The Ayrshire Joint Structure Plan has in place policies to protect and enhance the natural heritage and the three Ayrshire Councils' emerging Local Plans require to reflect these policies and pay particular attention to biodiversity whenever reasonably practical.

The protection and enhancement of important natural heritage sites is the most obvious contribution that Development Plans can make towards biodiversity. However, current guidance in National Planning Policy Guideline 14: Natural Heritage, highlights the importance of safeguarding and enhancing the natural heritage beyond the confines of designated areas where the level of protection accorded to local designations is a matter for the planning authority. In this way the statutory planning process can make a significant contribution to the delivery of LBAP targets, both through policies for site protection and enhancement and by providing opportunities for the creation of new habitats in appropriate locations.

Explanation of Site Designations

In recognition of the importance of sites for specific species and habitats, a range of designations has been developed to provide appropriate protection from detrimental development. A full explanation of these designations is available in the 1998 Scottish Office publication: 'Natural Heritage Designations in Scotland - a Guide'. In summary, designations work over three tiers, identifying sites which are internationally, nationally or locally important for biodiversity conservation. The levels of protection are detailed accordingly.

Within Ayrshire, the main international designations are Special Protection Areas (SPA) and Special Areas of Conservation (SAC). At the national level, the most common form of designation is the Site of Special Scientific Interest (SSSI). Locally, Local Nature Reserves can be established under UK legislation although their number is relatively small. In addition, local authorities throughout Scotland have recognised areas known as Wildlife Sites. Mainly identified by SWT for their local wildlife significance, these are more numerous. Their status is currently under review to ensure coverage is fully comprehensive and updated. Finally, local authorities and the main conservation charities all own or lease land that they manage as nature reserves for the protection of biodiversity and enjoyment by the public. In each of the Habitat Action Plans in Part 2 of the document, key sites have been identified which are locations that contain the best examples of the wildlife community. In many cases, these have attracted site designations and this is listed where relevant.

Education

The education of the people of Ayrshire in relation to the area's rich and varied biodiversity is a critically important factor in the success of this Biodiversity Action Plan. It is of the utmost importance that we raise awareness across the community of the importance of biodiversity. Formal and informal education will ensure that each generation is aware of the significance of biodiversity to our cultural, social and economic well-being. This will ensure that each generation can pass on their knowledge and understanding as well as an environment still rich in biodiversity to the next generation.

How to use the Ayrshire Local Biodiversity Action Plan

The Ayrshire Local Biodiversity Action Plan is intended to be a working document. It would be an arduous task to read the whole document in one attempt. The best method of utilising the document is to identify your main areas of interest and focus on the relevant Habitat or Species Action Plan.

The Habitat Action Plans are all formatted to provide the following information:

Introduction

This provides a brief overview of the habitat type and its importance to biodiversity and Ayrshire's landscape.

Definition

This describes the biological and physical characteristics of the habitat.

Key Sites

This section provides a list of the specific sites or areas of importance for the habitat. This also includes any statutory designations applicable to these sites.

Key Species

This provides a list of the species that are of UK and local significance for each Habitat.

Objectives

This section provides a list of the major objectives for the habitat.

Current Status

This describes the geographical extent for each habitat in Ayrshire where it is known.

Nature Conservation Importance

An explanation of the conservation importance of each habitat. Some key sites are also included to further illustrate the natural history of the habitats.

Biodiversity Context

The UK Biodiversity Action Plan contains Key Habitats and each of these have a UK Action Plan. It also contains Broad Habitats which have a UK Statement. This section highlights areas of relevance to Ayrshire from these documents.

Current Factors Affecting the Habitat

This section covers the factors which currently affect the habitat within Ayrshire.

Opportunities and Current Action

This section discusses the actions already being taken at present for biodiversity conservation and enhancement within Ayrshire. It also lists the opportunities that are available for enhancement.

Proposals for Action

This section covers the specific actions that are recommended for each habitat. These are in tabular form and list those responsible for their implementation and the timeframes they are set in.

References

This section provides sources of information on the habitat.

The Species Action Plans are also contained within the document and can be found in Part 3. These are formatted as follows:

Species Profile

This provides brief factual information on each species, including the habitat to which it is most commonly associated.

Objectives

This lists the major objectives for each species.

Current Status

This section covers the geographical distribution for each species within the UK and Ayrshire.

Ecology and Management

This describes the ecology of each species together with any management practices known to affect its status.

Biodiversity Context

This lists the UK Objectives for the species where a UK Action Plan has been published for that species.

Current Factors Affecting Loss or Decline

This section provides information on factors which are affecting the species on a UK and local level.

Opportunities and Current Action

This discusses any known action that is being taken at present that may affect the species within Ayrshire.

Proposals for Action

This section covers the specification that is recommended to meet the objectives that are listed. This section also defines who is responsible for these actions and the targets that are set for them.

References

This provides sources of useful information on the species.



How you can get involved!

Everyone in Ayrshire has the ability to play an important part in conserving our local biodiversity. There are many ways in which you can play a part in protecting biodiversity in Ayrshire. Here are some examples:

Enrich the biodiversity of your local area by using wildlife friendly gardening practices. Ideas for this include: creating a pond; put up bat and bird boxes; create log piles in damp corners in your garden; and plant wildflowers to encourage wildlife to visit your garden;

Avoid using peat-based composts in the garden or for houseplants. Use a composter to recycle household and garden waste and to provide you with an inexpensive source of compost;

Recycle more household waste by taking materials such as glass bottles, plastic, cans and paper to your local council recycling facilities;

Reduce the use of chemicals in the home and in the garden by using biodegradable products wherever possible;

Reduce car usage by making use of public transport, particularly for short journeys;

Reduce energy wastage in the home. For example, using energy efficient light bulbs and turning the lights off when you leave a room;

Avoid buying products from companies with poor environmental track records;

Choose ethical and environmental investment schemes.

You can also contact some of the organisations listed in the document for further information on their related areas. For general information relating to biodiversity in Ayrshire, contact the relevant officer for your Council area:

East Ayrshire Council:

Morven Buchanan, Community Services, Western Road, Kilmarnock KA3 1LL
Tel: 01563 554041. E-mail: morven.buchanan@east-ayrshire.gov.uk

North Ayrshire Council:

Antonia Sobieraj, Chief Executive's Office, Cunningham House, Irvine KA12 8EE
Tel: 01294 324131. E-mail: tsobieraj@north-ayrshire.gov.uk

South Ayrshire Council:

Development, Safety and Regulation, Ken Gibb, Burns House, Burns Statue Square. Ayr KA7 1UT
Tel: 01292 616288. E-mail: ken.gibb@south-ayrshire.gov.uk





Coastal and Marine

habitats

AYRSHIRE BIODIVERSITY ACTION PLAN

Open water and sea-bed environments

Inter-tidal zone

Above the tide-line



Introduction

The Firth of Clyde and contribute a major proportion of Ayrshire's biodiversity. Habitats here provide the best of both worlds - life in the open water and at the water's edge. The rich coastal environments - dunes, raised beaches, estuaries, deep open water, coastal heath and others - are habitats of national and even international wildlife importance. Ailsa Craig, Turnberry Dunes, Bogside Flats, and Ballantrae shingle beach are just a few examples.

The coast is also one of the most important areas in the UK for basking shark. Porpoises inhabit the open water in significant numbers and there are occasional sightings of Minke, Humpback and Killer whale. Even rarer visitors recorded are two large turtle species, the Leatherback and Ridley's. The Clyde is also a well-used fishing ground. Half of Scotland's hake are caught here and the waters between Ayr and Irvine Bay are important for plaice. Twenty-one of the 24 species of seabird regularly breeding in Britain, have bred or do breed along the Ayrshire coast or on its islands.

The state of the Clyde and its coastal and marine habitats has changed a great deal. From the industrial revolution onwards, the concentration of industry particularly in North Ayrshire caused major losses of inter-tidal habitats. Alongside this, waste from industry and the expanding coastal towns was dumped, often untreated, into rivers,



estuaries and the sea. Since the 1980s however, the demise of many industries, stricter pollution control and the growing awareness of the Clyde's

ecological value have collectively reduced

the impacts from these long-standing problems. Many of the Firth of Clyde's most sensitive habitats are now protected and the prospects for the coastal and marine environments are improving.

Unfortunately new concerns have also emerged - the threat of over-fishing, intensification of agriculture, growing recreation pressure, increasing development pressure and sea level rise. This last trend alone is likely to produce a 17cm increase in sea level within the next 50 years - a major threat to both the wildlife and human communities living along Ayrshire's coast.

Actions in this chapter therefore focus on resolving the impacts of these threats on biodiversity wherever possible. Many of the sites require to be safeguarded through appropriate local planning actions and also through National and Regional Guidance. NPPG 13 on Coastal Planning provides the main framework for the planning system in respect of these habitats. The coast is perhaps Ayrshire's most important natural asset. Together, we can all help to keep it that way.

Open water and sea-bed environments

The marine environment in the Ayrshire area can be divided into two distinct sections: the three dimensional pelagic zone represented by the water body itself containing planktonic, fish and sea mammal communities; then the largely two dimensional benthos which in effect is the sea floor and the organisms living in or on it.

Both of these habitats are of immense importance to the residents of Ayrshire. Fisheries of both the pelagic and benthic zones are heavily exploited as well as using both of these areas for recreational purposes, as a dumping ground for sewage and, in the past, chemical and industrial waste.

Benthic zone

Definition

The benthic zone refers to the sea floor and the volume below this which is available to the organisms which exist in this habitat.

These organisms are referred to as the benthos. The benthic environment off the Ayrshire coast consists mainly of silty sediments at around 100m depth. These parameters meet the requirements for the habitat type "inshore sublittoral sediment" as identified by the UK Biodiversity Group. Variations in this occur locally and the benthos in any area will be determined not only by the sediment type and depth, but also by factors such as current speed and input of organic or other water-borne materials.

Nature Conservation Importance

A common perception of the benthic environment off the coast of Ayrshire is that it is dominated by the intensive effort of the Scampi (or Nephrops) fishery. Undoubtedly this is a massively important fishery with a revenue of several million pounds annually. However, it is important that we recognise not only the commercial fisheries of the area, but also the rich and diverse faunal complement of the benthos which supports these, and other, fisheries. In addition, there are also the fragile maerl habitats present whose value has been long under-rated as well as important breeding sites such as the Herring spawning banks off Ballantrae.

Biodiversity Context

There are UK Habitat Statements (Tranche 1, Vol 2, Tranche 2 Vol 5) which address the maintenance and enhancement of the extent and quality of offshore seabed and sublittoral sands and gravels. Measures for consideration include increasing knowledge of offshore seabed through research and mapping, monitoring improvement/deterioration of the habitat, minimising the impact of commercial activities, continuing to monitor dump sites and examining options for the establishment of "undisturbed areas" of seabed.

Key Sites

There are many sites along the coast where the sublittoral flora and fauna would merit mention, however, few detailed surveys have been carried out and few of us have the opportunity to experience them first hand. Due to this the impact of their terrestrial surroundings and conservation value is our first concern.

- South Coast of Arran SSSI
- Tidal rip between Arran and Pladda, and channel between Arran and Holy Isle (maerl grounds)
- Ballochmartin Bay SSSI
- Isles of Cumbrae
- Ballantrae Bank
- Main Channel between 30 and 50 fathoms

Key Species

Fish

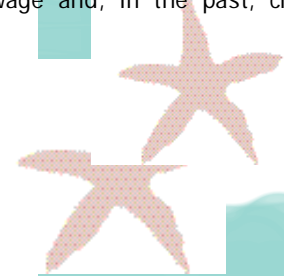
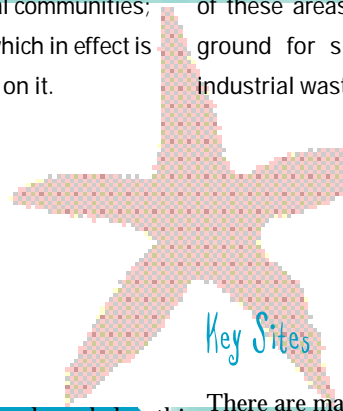
- Herring (*Clupea harengus*) (pelagic species but spawn on bankings)
- Cod (*Gadus morhua*)
- Haddock (*Melanogrammus aeglefinus*)
- Whiting (*Merlangius merlangus*)

Invertebrates

- Norway lobster (*Nephrops norvegicus*)
- Queen scallop (*Aequipecten opercularis*)
- Great scallop (*Pecten maximus*)
- Erioisa elongata
- *Monoculodes packardii*

Lower Plants

- Red algae (*Mastocarpus stellatus*)
- Calcareous algae, *Phymatolithon calcareum* (*Lithothamnion corallioides*)



Habitat Objectives

Main Objective

Maintain and enhance the range of sublittoral sand and gravel communities off the Ayrshire coast.

Target

Active involvement of LBAP partners, whilst ensuring no loss in quality of habitat.

Work Objectives

Objective 1

Within the planning context seek to conserve and enhance the biodiversity value of the benthic zone.

Target

Develop joint monitoring policy between LBAP, SEPA and SFPA by 2003.

Objective 2

Undertake survey work for key sites within the benthic zone.

Target

For key sites, put monitoring policy in place.

Objective 3

Propose exceptional or susceptible sites identified from survey sites for legislative protection through designation.

Target

Designate key sites wherever possible.

Objective 4

Promote the marine environment through educational programmes aimed at all sectors of the community

Target

Expand promotional and educational programmes, ensure resource directory reaches all schools by 2003.

Current factors affecting the habitat

- Scallop dredging in sensitive areas;
- Discharge of sewage from sea floor outlets;
- Anchoring on sensitive areas;
- Nephrops fishery which has replaced exhausted herring fishery.

Opportunities and current action

The main measure currently undertaken is a voluntary restriction in the working week of Nephrops trawlers in the area. This, however, is under threat as vessels which usually operate in other areas encroach due to a poor season and enforced restrictions on other shellfish fisheries.

