

# Acid grassland

## Definition

Acid grassland occurs on acid rocks such as sandstones, acid igneous rocks and on superficial deposits such as sands and gravels. In the uplands, where much of the acid grassland occurs, it is often derived from other priority habitats, such as dwarf-shrub heath.

## Current Status

Acid grassland is considered to be one of the most extensive semi-natural habitats in Britain. Estimates suggest that there is in excess of 1 200 000 ha of acid grassland in the uplands and around 30 000 ha in the lowlands.



Much of the natural grassland in Ayrshire is acidic because of the high rainfall and lack of basic rocks. This is particularly evident on Arran where it is estimated that there are 1 143 ha of acid grassland out of a total 1 181 ha unimproved grassland. The only statistics available for the whole of Ayrshire are for *Nardus/Molinia* grassland which cover 38 340 ha in Ayrshire which is 11.4% of the total area. While not fully compatible with the definition this does suggest that acid grassland is a significant habitat in Ayrshire. Much of it will be in upland areas.

## Nature Conservation Importance

Large expanses of uniform, acid grassland occur in the uplands and are considered to have limited biodiversity interest, although good examples occur. The Dumfries and Galloway Biodiversity Action Plan suggests that although species diversity is typically low, uncommon species do occur; in particular upland acid grassland forms. In addition, upland acid grassland forms an important part of the territory of upland birds of prey. Acid grasslands are found less frequently in lowland areas, but when present often provide an important reservoir of species.

## Key Sites

- Arran Northern Mountains SSSI/potential SP
- Arran Moors SSSI
- Camregan Hill and Penwhapple Burn
- Noddsdale Water Brisbane Glen
- Auchenroy and Glenmount Uplands
- Dunaskin Glen and Benquhat Hill
- Glen Appand Galloway Moors SSSI/potential SP
- Muirkirk Uplands SSSI/Muirkirk and Northern Lowther Uplands potential SP
- Grey Hill Grasslands SWT Reserve

## Key Species

### Birds

- Hen harrier (*Circus cyaneus*)
- Short-eared owl (*Asio flammeus*)
- Meadow pipit (*Anthus pratensis*)
- Curlew (*Numenius arquata*)

### Invertebrates

- Green hairstreak (*Callophrys rubi*)

### Plants

- Heath cudweed (*Gnaphalium sylvaticum*)
- Mountain pansy (*Viola lutea*)

### Fungi

- Fairy club fungus (*Clavaria zollingeri*)
- Wax cap (*Hygrocybe calyptriformis*)

### Habitat Objectives

#### Main Objective

Maintain and enhance the quality of acid grassland in Ayrshire.

#### Target

Commencing 2002 onwards.

#### Work Objectives

##### Objective 1

Identify and record location, extent and biodiversity interest of acid grassland.

#### Target

Achieved by 2002.

##### Objective 2

Achieve greater awareness and understanding of the habitat and its management requirements.

#### Target

Identify and enter dialogue with key groups by 2002.



# Biodiversity Context

There is a UK Habitat Statement for acid grasslands which gives the following conservation direction:

Maintain and enhance important areas of acid grasslands and restore areas of degraded acid grassland, in particular buffer areas.

Consider further the following measures :

- Identify the true extent and quality of the important acid grassland resource;
- Encourage appropriate livestock grazing to conserve the habitat;
- Protect acid grasslands of conservation importance from inappropriate land use and intensification;
- Restore habitat adjacent to important or vulnerable sites;
- Research appropriate methods of managing and restoring acid grasslands in the uplands.



# Current factors affecting the habitat

In the lowlands the habitat is affected by:

- Agricultural intensification, particularly fertilisation, ploughing and drainage;
- Lack of grazing leading to an invasion by coarse grasses and scrub;
- Change in agriculture to silage production.

In the uplands the main causes of change are :

- Inappropriate grazing regimes, typically excessive grazing;
- Forestry planting;
- Abandonment, neglect and the encroachment of bracken;
- Liming, ploughing and reseeding around the lower fringes of upland areas;
- Open-cast mining.



# Opportunities and Current Action

Designations have been applied to acid grassland habitats to acknowledge their importance. For example, species-rich *Nardus* grassland is listed as a priority habitat in the EC Habitats Directive. The best areas for this habitat could be identified so that land use change mentioned above can be directed away from this habitat.

Use agri-environment schemes to control bracken and scrub.



ACTIONS Acid Grassland	TO BE ACTIONED BY		YEAR (TO BE COMPLETED OR IN PLACE BY)					
	lead	partners	2001	2002	2003	2004	2005	2010
<b>Policy and legislation</b>								
Ensure that key areas of species-rich, acid grassland are identified in all documents concerning land use change such as Subject Plans, Local Plans and IFS.	ALA FC SNH RSPB	SWT AJSP	•	•	•	•	•	•
Ensure that species-rich grassland continues to be a priority in agri-environment schemes and that species-rich acid grassland is recognised as such. Prescriptions, funding and uptake should reflect this.	SERAD	FWAG SAC	•	•	•	•	•	•
<b>Site Safeguard management</b>								
Ensure that there is no net loss of habitat due to agricultural improvement, forestry and other land uses.	FC SNH SERAD	ALA	•	•	•	•	•	•
Maximise the area per farm of species-rich, acid grassland receiving appropriate management under agri-environment schemes.	SERAD	SAC FWAG	•	•	•	•	•	•
Set up systems to reduce damage of species-rich, acid grassland by over-grazing, using close liaison with land managers.	SERAD		•					
Consider SSSI and/or SAC designation of further good acid grassland sites identified through survey and research.	SNH					•		
Proposals for development which affect acid grassland habitat will be assessed to ensure that appropriate measures proposed to conserve, as far as possible, the site's wildlife or habitat interest and provide for replacement of habitats or features where damage is unavoidable.	SNH ALA	RSPB MinCo					•	
Identify areas of acid grassland which may be restored by appropriate management and necessary actions. Set targets for their restoration.	ABG						•	•
<b>Advisory</b>								
Promote appropriate management of important grassland habitat through advice to managers.	SERAD	SNH SWT RSPB	•	•	•	•	•	•
<b>Research and Monitoring</b>								
Set up and implement a programme to monitor the extent and condition of species-rich, acid grasslands, including their fauna.	ABG			•	•	•	•	•
<b>Communications and Publicity</b>								
Set up a habitat group to drive the delivery of the grassland plans and to ensure participation in relevant initiatives.	ABG		•					
Ensure that data collected about this habitat is available to the partners by supporting the Ayrshire Biological Record Centre.	ABG ABRC		•	•	•	•	•	•

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# Purple Moor Grass and Rush Pasture

## Definition

Purple moor grass and rush pastures occur in western Europe on poorly drained, usually acidic, soils of lowland areas receiving high rainfall. In the UK the habitat is found in south-west England, south Wales and south-west Scotland as far north as Argyll. This vegetation has a distinct character and consists of various species-rich types of fen meadow and rush pasture. They occur as diverse mosaics with one another, together with patches of heath, dry grassland, swamp and scrub. Purple moor grass (*Molinia caerulea*) and rushes such as sharp-flowered rush *Juncus acutiflorus* are usually abundant in this habitat.

## Current Status

It is probable that the total extent of this habitat in the UK is now about 56000 ha, which is thought to be considerably more than survives in the rest of Europe, with the possible exception of the Republic of Ireland. Of the estimated 2000 ha of purple moor grass and rush pasture in Scotland, it is thought that most of it is found in Dumfries and Galloway. No localities are known in Ayrshire but the habitat's south-west Scotland distribution suggests that there may be some. Many of the species that characterise purple moor grass and rush pasture are found here such as whorled caraway, marsh hawk's-beard, greater butterfly orchid, lesser butterfly orchid, curlew, snipe and barn owl.

## Nature Conservation Importance

The nature conservation importance of purple moor grass and rush pasture in an Ayrshire context can only be assessed once examples are located. Some of its key species (whorled caraway, curlew, snipe and barn owl) are regarded as a priority in Ayrshire. Were sites of this habitat to be identified, their presence would enhance the level of nature conservation importance bestowed upon it. In other parts of the country this habitat is known to be a refuge for notable butterflies.

## Biodiversity Context

There is a UK Action Plan for purple moor grass and rush pastures. This has the following objectives:

- Secure sympathetic management of at least 134 500 ha of purple moor grass and rush pasture by the year 2000, 500 ha of this in Scotland;
- Initiate experimental attempts to re-create 500 ha of purple moor grass and rush pasture on land adjacent to, or nearby, existing sites by the year 2005.

The aim is to secure favourable management for a minimum of 25% of this scarce habitat within the time frame, but also to reverse fragmentation and enlarge existing sites to make management viable.

## Key Sites

None currently identified in Ayrshire.

## Key Species

Not known for this habitat in Ayrshire.

## Habitat Objectives

### Main Objective

Maintain and enhance the extent and biodiversity interest of purple moor grass and rush pasture in Ayrshire.

### Target

Undertaken by 2002.

### Work Objectives

#### Objective 1

Secure sympathetic management of a stated hectareage of purple moor grass and rush pasture in Ayrshire, supporting discovery of viable sites.

### Target

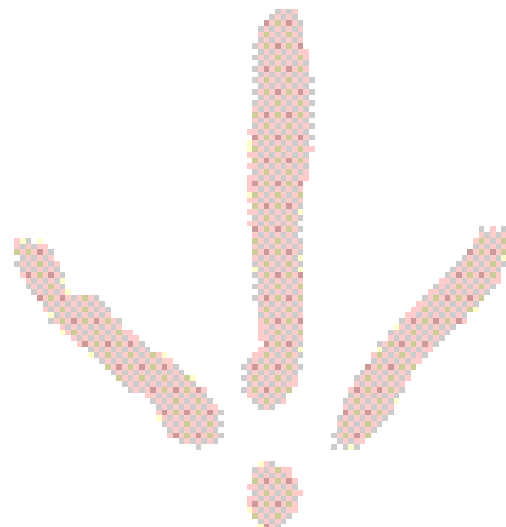
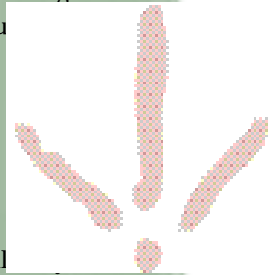
Undertaken by 2002.

#### Objective 2

Liaise with Dumfries & Galloway Biodiversity Group over refinement of management and protection techniques.

### Target

Prepare outline programme by 2005.



## Current factors affecting the habitat

Lack of information and understanding about the distribution, quality and importance of this habitat, leading to poor appreciation of its value, means that it is vulnerable to:

- Agricultural improvement through drainage, cultivation and fertiliser application;
- Inappropriate management, including overgrazing by sheep and burning;
- Agricultural abandonment, leading to rankness and scrub encroachment through lack of grazing;
- Fragmentation and disturbance from developments such as housing and road construction;
- Woodland planting.

## Opportunities and Current Action

### Designations:

No SSSIs have been notified specifically for this habitat in Ayrshire. A survey and research project would ascertain whether this sort of designation is an option.

### Management, research and guidance:

These grasslands could be catered for by the rough grazing priority habitat option in the ESA Scheme and the Species-rich Grassland option in the RSS.

ACTIONS Purple Moor grass and Rush Pasture	TO BE ACTIONED BY		YEAR (TO BE COMPLETED OR IN PLACE BY)					
	lead	partners	2001	2002	2003	2004	2005	2010
<b>Policy and legislation</b>								
Take account of the conservation requirements of purple moor grass and rush pastures in developing and adjusting agri-environment schemes such as the RSS.	SERAD	SNH		•	•	•	•	•
Avoid woodland expansion on the more valuable areas of purple moor grass and rush pasture.	FC			•	•	•	•	•
Within the planning context, ensure that full consideration is given to the value of the habitat when considering proposed developments which threaten loss or damage to the habitat. Where development is liable to proceed, endeavour to minimise any adverse effects through the use of planning conditions and agreements.	ALA	SWT		•	•	•	•	•
<b>Site Safeguard management</b>								
Consider notifying SSSIs for purple moor grass and rush pasture if there are any viable sites.	SNH			•				
<b>Advisory</b>								
No actions proposed								
<b>Research and Monitoring</b>								
Clarify the extent, distribution, composition and status of purple moor grass and rush pasture in Ayrshire through analysis of existing data and further survey work as necessary.	ABG	SWT		•	•	•	•	•
<b>Communications and Publicity</b>								
Set up a habitat group to drive the delivery of the grassland plans and to ensure participation in relevant initiatives.	ABG		•					
Ensure that data collected about this habitat is available for use by partners by supporting the Ayrshire Biological Record Centre.	ABG ABRC		•	•	•	•	•	•

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# Base-rich Grassland

## Definition

Base-rich grasslands occur on shallow soils derived most often from chalk and limestone rocks, where they are commonly described as calcareous, but may also be derived from non-calcareous basic rocks. Ayrshire's known base-rich grasslands occur on serpentinite (a non-calcareous, ultra-basic rock). Hence the title "Base-rich Grassland" was considered more appropriate for the chapter heading than the more usual "Calcareous Grassland" adopted by other Local Biodiversity Action Plans.

## Current Status

There are an estimated 40 000 to 50 000 ha of calcareous grasslands throughout the UK but this habitat type has only been identified at a very small site in Clyde Muirshiel Regional Park. There is no figure available for base-rich grassland as defined in this chapter. Several SSSIs and Wildlife Sites, including an SWT Reserve, have base-rich grassland as part of their interest. These tend to be in South Ayrshire, where serpentinite outcrops occur.

## Nature Conservation Importance

Base-rich grasslands contain an exceptional diversity of plants, many of them notable, such as spring sandwort. Other attractive and interesting plants include oat-grasses, hawkbits, rock rose and autumn gentian. Butterflies and other invertebrates do well on these sites. Conservation efforts in Ayrshire have long recognised the importance of the base-rich grassland habitat and work has been done on examining the resource over the years. The Water of Lendal to Byne Hill area in South Ayrshire, particularly the Grey Hill Grasslands SWT Reserve, as part of the EU Life Project, has been the most recent focus of survey, monitoring and management planning work.

## Biodiversity Context

There is a Broad Habitat Statement for upland, calcareous grassland (Tranche 2, Vol 6). The objectives can be applied to all base-rich grasslands:

- Maintain the current distribution and extent of upland, calcareous grassland in the UK;
- Achieve favourable conditions for at least 75% of upland, calcareous grassland through sympathetic management by 2005 or as soon as biologically practical thereafter;
- Initiate pilot attempts to recreate at least 200 ha of upland, calcareous grassland by 2005 with particular emphasis on reducing fragmentation through linking small, vulnerable and discontinuous sites.

## Key Sites

- Lendalfoot Complex (candidate SAC, incorporating the following SSSIs: except Knockdolian Hill)
- Pinbain Burn to Cairn Hill SSSI incorporates Grey Hill Grasslands SWT Reserve
- Aldons Hill SSSI
- Knockdaw Hill SSSI
- Littleton and Balhamie Hills SSSI
- Knockdolian Hill SSSI

## Key Species

### Invertebrates

- Dark green fritillary (*Argynnis aglaja*)
- Northern brown argus (*Aricia artaxerxes*)
- Dingy skipper (*Erynnis tages*)

### Higher Plants

- Common rock-rose (*Helianthemum chamaecistus*)
- Meadow oat (*Avenula pratensis*)
- Vernal sandwort (*Minuartia verna*)

### Fungi

- Earth tongue (*Geoglossum uliginosum*)
- Wax cap fungus (*Hygrocybe spadicea*)
- An agaric fungus (*Russula persicina*)



Measures to be considered further include:

- Protect from inappropriate changes in land use and management;
- Encourage appropriate grazing of base-rich grasslands;
- Consider how existing measures such as RSS might establish links between fragmented sites;
- Provide management advice and encourage appropriate technological and other innovations.

## Current factors affecting the habitat

- Lack of knowledge of status - the habitat survey of Ayrshire is incomplete so the extent of this habitat in Ayrshire is not fully known;
- Under-grazing and the complete cessation of management, especially at lowland sites, results in reversion to rank grassland and allows scrub encroachment;
- Over-grazing, particularly in the uplands, can result in the loss of species;
- Agricultural intensification;
- Industrial and urban development, particularly the in-filling of abandoned quarries where grassland may have re-established.

## Opportunities and Current Action

- The habitat survey of Ayrshire should be completed and existing data examined to identify hitherto unknown locations for this habitat;
- Areas of appropriate geology and remnant base-rich grasslands could be surveyed for potential restoration sites;
- All the most important sites should be designated for their wildlife interest;
- Incentives are available through agri-environment schemes for the protection of species-rich grasslands;
- Current grazing management experiments should be expanded and given greater support;
- The results of the grazing management work should be made widely available so that advisors can recommend relevant management prescriptions.

## Habitat Objectives

### Main Objective

Maintain and enhance areas of base-rich grassland in Ayrshire.

### Target:

Commencing 2002.

### Work Objectives

#### Objective 1

Identify and record location, extent and biodiversity interest of base-rich grassland in Ayrshire.

### Target

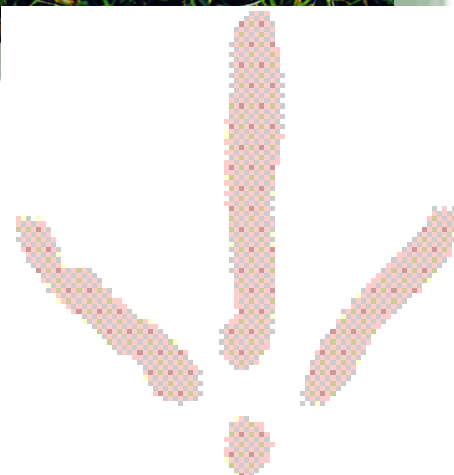
Undertaken by 2002.

#### Objective 2

Achieve greater awareness and understanding of the habitat and its management requirements.

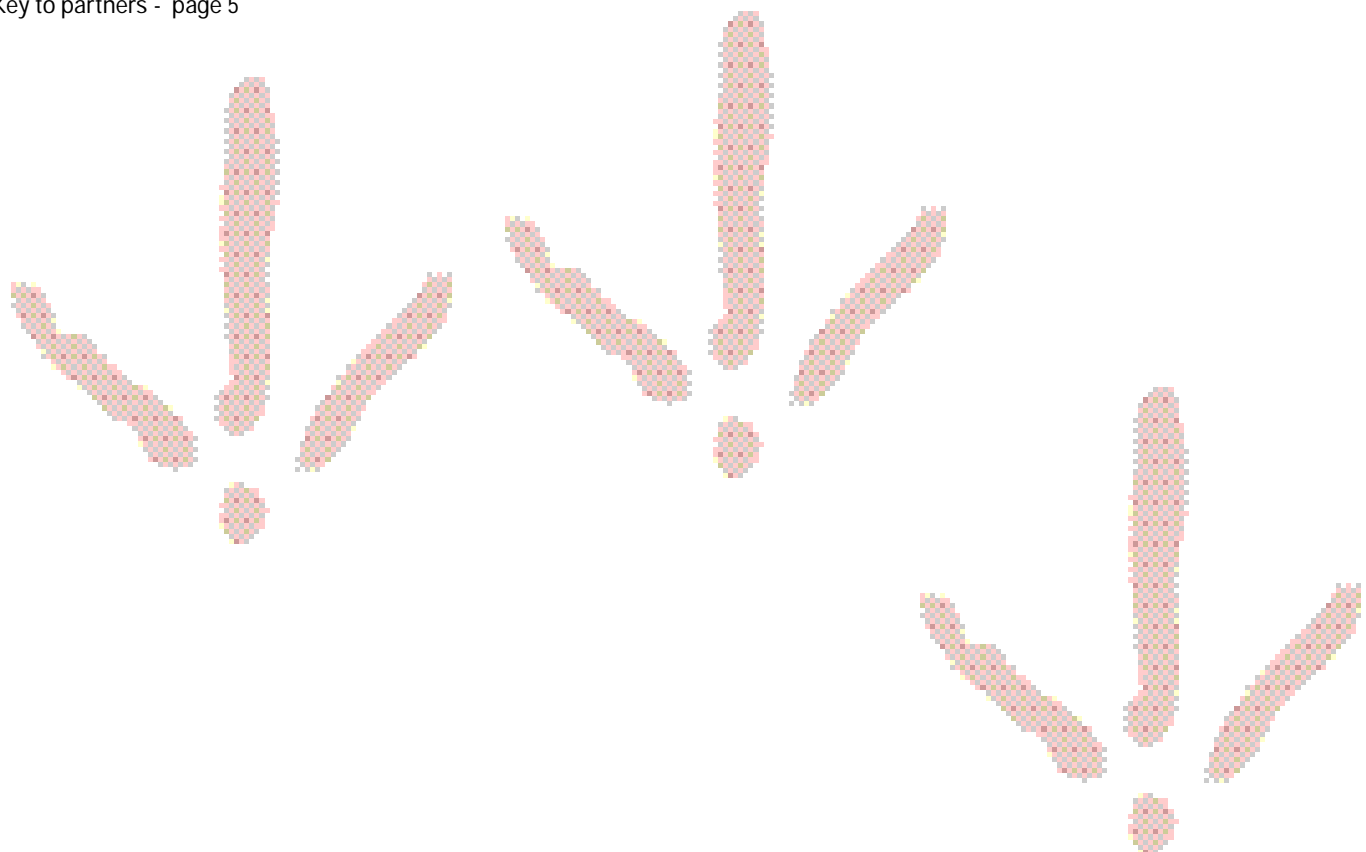
### Target

Identify and enter dialogue with key groups by 2002.



ACTIONS Base-Rich Grassland	TO BE ACTIONED BY		YEAR (TO BE COMPLETED OR IN PLACE BY)					
	lead	partners	2001	2002	2003	2004	2005	2010
<b>Policy and legislation</b>								
Seek to ensure that the policies of all partners take full consideration of the need to conserve and enhance key habitats.	FC SNH SWT	ALA AJSP	•	•	•	•	•	•
Ensure the habitat continues to be a priority in the CPS and future agri-environment schemes with the prescriptions, funding and uptake reflecting this.	SERAD	FWAG SAC	•	•	•	•	•	•
<b>Site Safeguard management</b>								
Ensure that there is no net loss of habitat due to agricultural improvement and other land uses.	SNH SERAD SWT	ALA	•	•	•	•	•	•
Ensure that all areas of species-rich, base-rich grassland present on land subject to agri-environment schemes receive optimum management.	SERAD	SAC FWAG	•	•	•	•	•	•
Set up systems to reduce damage of base-rich grassland through agricultural improvement or neglect.	SERAD		•	•	•	•	•	•
Consider SSSI and/or SAC designation of further good base-rich grassland sites identified through survey and research.	SNH			•				
Identify areas of base-rich grassland which may be restored by appropriate management. Set targets for their restoration.	ABG						•	
<b>Advisory</b>								
Promote appropriate management of grassland habitat through advice to managers.	SERAD	SNH	•	•	•	•	•	•
<b>Research and Monitoring</b>								
Search areas of appropriate geology and remnant base-rich grasslands for potential restoration sites.	ABG			•				
Set up and implement a programme to monitor the extent and condition of species-rich base-rich grassland, including its fauna.	ABG SWT			•	•	•	•	•
<b>Communications and Publicity</b>								
Set up a habitat group to drive the delivery of the grassland plans and to ensure participation in relevant initiatives.	ABG		•					
Ensure that data collected about this habitat is available to the partners by supporting the Ayrshire Biological Record Centre.	ABG ABRC		•	•	•	•	•	•

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# Unimproved Neutral Grassland

## Definition

Unimproved neutral grasslands are species-rich and have not been subjected to agricultural improvement (extensive fertiliser use and re-seeding). These grasslands are managed mainly as traditional hay meadows or pastures and are colourful because they contain a high proportion of broad-leaved herbaceous species relative to grasses.

## Current Status

The vast majority of the grassland found on lowland farms in the UK is neutral but it is largely agricultural and therefore species-poor. Grassland unaffected by agricultural improvement is rare and threatened. The total UK extent of unimproved species-rich neutral grassland is estimated to be less than 15 000 ha so the figure for Ayrshire is likely to be small.



A large proportion of Ayrshire's unimproved neutral grassland will be found associated with golf courses, post industrial sites, roadside verges and the coast and is dealt with in other chapters of this plan. Only about 38 ha of unimproved neutral grassland were recorded during a recent survey of Arran. Much of this was round the coast where it has a tendency to be particularly species-rich. In the inland, rural setting, unimproved neutral grasslands are likely to be restricted to field edges and steep banks where agricultural improvement has been uneconomical. Such areas are vulnerable to scrub invasion, erosion and dumping.

A recent survey has shown that some sites formerly labelled base-rich are in fact very species-rich neutral sites, for example, Auchalton Meadows. Three SSSIs have neutral grassland as their main interest and it forms part of the interest of many Wildlife Sites.

## Key Sites

- Auchalton Meadows SSSI - Auchalton Meadows SWT Reserve
- Feoch Meadows SSSI (includes Feoch Meadows SWT Reserve)
- Bennane Head SSSI

## Key Species

### Higher Plants

- Spiguel (*Meum athamanticum*)
- Green-winged orchid (*Orchis morio*)
- Small white orchid (*Pseudorchis albida*)
- Frog orchid (*Coeloglossum viride*)
- Greater butterfly orchid (*Platanthera chlorantha*)
- Lesser butterfly orchid (*Platanthera bifolia*)
- Adder's tongue (*Ophioglossum vulgatum*)

### Invertebrates

- Small pearl-bordered fritillia (*Clossiana eutphrosyne*)
- Large skipper (*Ochlodes venatus*)
- Scotch argus (*Erebia aethiops*)

## Habitat Objectives

### Main Objective

Maintain and enhance areas of unimproved neutral grassland in Ayrshire.

### Target

Commencing 2002 onwards.

### Work Objectives

#### Objective 1

Identify and record location, extent and biodiversity interest of unimproved neutral grassland in Ayrshire.

### Target

Undertaken by 2002.

#### Objective 2

Achieve greater awareness and understanding of the habitat and its management requirements.

### Target

Identify and enter dialogue with key groups by 2002.

# Nature Conservation Importance

The nature conservation importance of Ayrshire's unimproved neutral grasslands lies in their plant diversity and the rarity of the flora and fauna they support. They act as a reservoir of common plants and a refuge for endangered and uncommon ones, as well as a wide range of invertebrates. Un-grazed, unimproved neutral grasslands which develop a thick thatch quickly lose their botanical interest but are still important for small mammals and invertebrates.



## Biodiversity Context

There is a UK Broad Habitat Statement for lowland hay meadows (Tranche 2 Vol 2) which has the following objectives:

- Maintain the extent and quality of species-rich unimproved neutral grassland sites in the UK;
- Restore degraded neutral grasslands to buffer sites and restore the range of neutral grassland.

Measures to be considered further include:

- Protect from inappropriate changes in land use;
- Encourage environmentally friendly management;
- Review and use, where appropriate, existing measures such as the RSS to encourage appropriate management;
- Develop a fuller understanding of restoration techniques with the aim of expanding remnant patches of unimproved neutral grassland.

## Current factors affecting the habitat

Large decreases in the extent of this habitat mean these grasslands are now mainly confined to numerous small, scattered and often isolated fields. Unimproved neutral

grasslands are affected primarily by changes in agricultural management including:

- Application of artificial fertiliser, which has been shown to adversely affect floristic richness even at low levels of application;
- Increased use of slurry, which unlike traditional, occasional, light applications of farmyard manure and lime, is detrimental to floristic richness;
- Changes from hay to silage production, whereby more frequent cutting reduces seeding opportunity for plants and disrupts breeding of birds and other animals;
- Changes from mowing to spring and summer grazing resulting in the loss of those meadow plants which are intolerant to summer grazing and adapted to traditional cutting management;
- Abandonment and neglect which results in gradual reversion to rank grassland dominated by false oat-grass and eventually to scrub and secondary woodland;
- Unimproved neutral grassland sites are vulnerable to farm woodland schemes and other community woodland initiatives.

## Opportunities and Current Action

Designations:

- Some SSSIs and Wildlife Sites have unimproved neutral grassland as part of their interest.

Incentive schemes:

- Species-rich grassland is a conservation priority for Ayrshire in the RSS. Many of these will be neutral;
- The RSS should be further promoted to help deliver appropriate management of this habitat.

Advisory:

- Training should be offered to farmers and advisors in the recognition and management of species-rich unimproved grassland.



ACTIONS Unimproved Neutral Grassland	TO BE ACTIONED BY		YEAR (TO BE COMPLETED OR IN PLACE BY)					
	lead	partners	2001	2002	2003	2004	2005	2010
<b>Policy and legislation</b>								
Ensure that key areas of unimproved neutral grasslands are identified in all documents concerning land use change such as Subject Plans, Local Plans and IFS.	SWT FC SNH	ALA AJSP	•	•	•	•	•	•
Ensure the habitat continues to be a priority in the CPS/RRS and the prescriptions, funding and uptake reflect this.	SERAD ABG	FWAG SAC	•	•	•	•	•	•
<b>Site Safeguard management</b>								
Ensure that there is no net loss of habitat due to agriculture, woodland planting and other land uses.	FC SERAD	ALA	•	•	•	•	•	•
Maximise the area per farm of unimproved neutral grassland receiving appropriate management under agri-environment schemes.	SERAD	SAC FWAG	•	•	•	•	•	•
Set up systems to reduce damage of unimproved neutral grassland through agricultural improvement or neglect.	SERAD		•	•	•	•	•	•
Consider SSSI and/or SAC designation of further good unimproved grassland sites identified through survey and research.	SNH			•				
Identify areas of unimproved neutral grassland which may be restored by appropriate management. Set targets for their restoration.	ABG						•	
<b>Advisory</b>								
Promote appropriate management of grassland habitat through advice to managers.	SERAD	SNH	•	•	•	•	•	•
<b>Research and Monitoring</b>								
Set up and implement a programme to monitor the extent and condition of species on unimproved neutral grassland, including its fauna.	ABG			•	•	•	•	•
<b>Communications and Publicity</b>								
Set up a habitat group to drive the delivery of the grassland plans and to ensure participation in relevant initiatives.	ABG		•					
Ensure that data collected about this habitat is available to the partners by supporting the Ayrshire Biological Record Centre.	ABG ABRC		•	•	•	•	•	•

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## Key Contacts

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## Further Information

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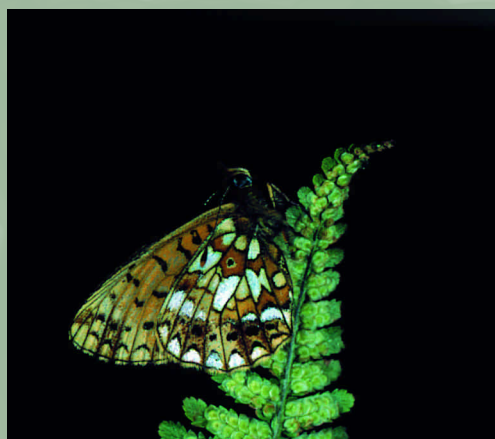
## Further Reading

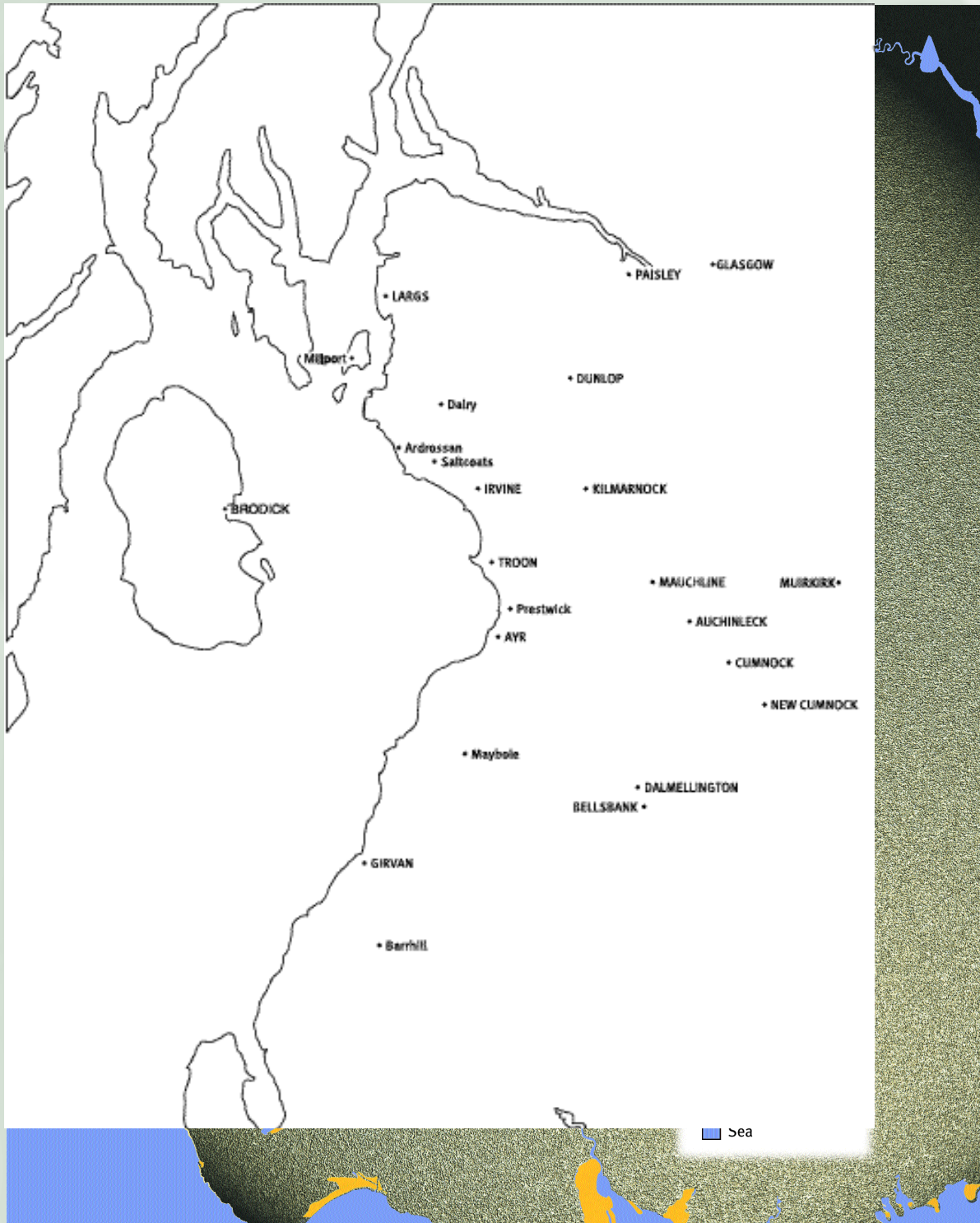
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# Urban habitats

AYRSHIRE LOCAL BIODIVERSITY ACTION PLAN



## Introduction

The greenspaces which exist within urban areas frequently provide a rich and diverse wildlife resource. There are many types of greenspace with some representing remnants of natural habitats such as woodlands, wetlands and rivers which have become integrated into the urban environment. In many cases these now represent important features in the local landscape.

Other sites include managed areas of greenspace such as our local parks, various areas of public open space, golf courses, the grounds of schools and hospitals, and private gardens. In addition

to these, there are also "incidental" areas of greenspace - habitats which have evolved naturally on disused railway lines, derelict sites, or land awaiting development. This habitat plan considers that greenspace should also include habitats which have developed on built structures such as walls.

It is the variety of habitats, both in general and within individual sites, that makes urban areas so valuable for wildlife. For example, the combination of features within parkland can provide a rich mosaic of mini-habitats, and help to redress the loss of habitat experienced elsewhere. Similarly, garden ponds are becoming more important for amphibians with the decline of wetlands in the countryside, while the range of habitats associated with derelict land can support a wide variety of interesting species.

Urban greenspace is not only good for wildlife, it is good for people. In Ayrshire, the majority of people live in urban areas and they enjoy the many benefits of greenspace.



AYRSHIRE LOCAL BIODIVERSITY

PLAN

## Definition

Urban wildlife habitats refer primarily to the greenspaces and associated ecological niches to be found in built up areas, but also includes a number of habitats which occur outwith specifically urban areas such as existing or former industrial sites and routes along transport corridors.

Urban habitats can be divided into four distinct categories:

- Remnants of ancient natural systems such as woodlands, wetlands, waterways and estuaries;
- Pre-industrial rural landscapes with meadows, heathland and other farmland;
- Managed greenspaces such as parks, amenity grassland, cemeteries, private gardens and planted shrubberies;
- Naturally seeded urban areas, industrial sites or transport corridors. These areas may include demolition sites, quarries, opencast coalmines, bings, roadside verges and existing or dismantled railway routes.

It is recognised that wildlife can also be found on built surfaces such as walls, within buildings and on a variety of other structures such as bridges.

## Current Status

Just over 4% of Ayrshire is considered to be urban in nature. Ayr, Prestwick, Kilmarnock and Irvine contain almost 40% of the total population. Six other towns including Troon, Kilwinning and Cumnock have populations of between 10 000 and 15 000 which contributes an additional 15% to the overall population. Smaller towns and villages add further to this figure. Development and urban land uses are often identified as being threats to species and habitats, but these urban areas and the associated human activity create valuable opportunities for biodiversity to flourish on our doorsteps.

It should be noted that other land uses may host notable species or habitats, for example:

- Many of Ayrshire's 156 300 households have gardens; this figure is likely to rise by over 10 000 in the next decade;
- There are over 1000 km of working railways and many other stretches that are disused and which provide important wildlife corridors;
- Of the 1 200 km of main roads, 80% are outwith urban areas and may have species-rich verges and hedges;
- Ayrshire's cemeteries occupy a total area of over 50 ha. These, together with other urban greenspaces such as parks and golf courses, offer significant opportunities for biodiversity conservation.

## Key Sites

### Water Corridors (examples)

The Rivers Ayr, Doon, Garnock and Irvine, together with the numerous burns flowing through urban areas.

### Seafronts (examples)

Sand dunes at Stevenston, estuarine habitats at Bogside Flats, remnants of coastal heath on Troon's golf courses, Ayr seafront and Ballantrae shingle beach.

### Urban Parklands (examples)

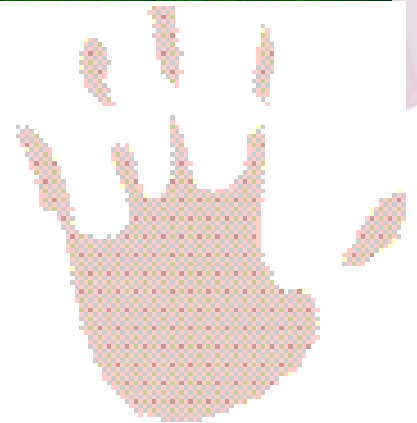
Rozelle Park in Ayr, Eglinton Country Park between Irvine and Kilwinning, Dean Castle Country Park in Kilmarnock, Irvine Towns Moor, Blair Estate Community Woodland at Dalry and Woodroad Park in Cumnock.

### Former Industrial Areas and Transport Corridors (examples)

The ponds at Shewalton Sandpits and Catrine Voes former brewery site, Hessilhead Quarry Wildlife Site near Beith, Parkhouse Nature Reserve in Ardrossan, and the disused railway line at Alloway

### Other Remnant Habitats (examples)

The ancient hedgerows and remnant woodlands in towns such as Ayr, Kilmarnock, Kilwinning, Troon and Irvine as well as remnants of coastal heath on Ayrshire's golf courses.



# Nature Conservation Importance

The urban areas in Ayrshire provide a rich and diverse wildlife resource. Within Ayrshire there are nine sites of national importance in or adjacent to urban areas which have been designated as Sites of Special Scientific Interest. In addition, many areas have been designated as Wildlife Sites by the Scottish Wildlife Trust. Outwith urban areas interesting habitats have developed on some of the redundant quarries and other old mineral workings and these have been designated accordingly.

Of particular value are the ancient or semi-natural habitats that continue to exist in urban areas such as rivers, seafront areas and remnants of woodlands and heaths. Many of these habitats, particularly watercourses, form important wildlife corridors through urban areas. Established gardens and designed landscapes associated with mansion houses can provide particularly rich habitats and in some cases now form attractive parklands. Similarly, street trees and other areas of formal landscaping can be of considerable wildlife value.



Ayrshire's urban resource also includes habitats that have developed inadvertently, often as a result of non-intervention, for example, on former industrial sites, on land awaiting development and along both operational and disused railway corridors.

An important characteristic of urban areas is the variety of habitats that can be found. These habitats support a rich diversity of species, some of which are more typically associated with the countryside.

For example:

- Large concentrations of golden plover roost on the Barassie foreshore during the winter months;
- Many houses in Ayrshire host pipistrelle bat roosts during the summer - often behind roof tiles or weather boarding.

## Key Species

### Mammals

- Red squirrel (*Sciurus vulgaris*)
- Hedgehog (*Erinaceus europaeus*)
- Banded Pipistrelle bat (*Pipistrellus pipistrellus*)
- Brown long-eared bat (*Plecotus auritus*)
- Brown Pipistrelle bat (*Pipistrellus pygmaeus*)

### Birds

- House martin (*Delichon urbica*)
- Song thrush (*Turdus philomelos*)

### Amphibians

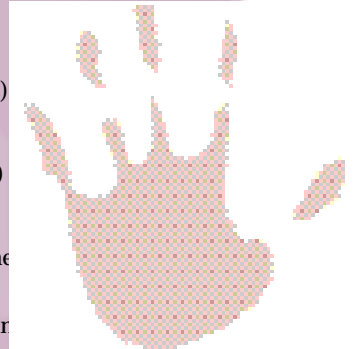
- Common frog (*Rana temporaria*)

### Invertebrates

- Small tortoiseshell (*Aglais urticae*)
- Peacock butterfly (*Inachis io*)
- Common blue butterfly (*Polyommatus icarus*)

### Higher plants

- Common spotted orchid (*Dactylorhiza fuchsii*)



In the winter, long-eared Daubenton and Natterers bats use old mine shafts in East Ayrshire as hibernation sites;

- Common spotted orchids provide an attractive roadside verge display over the summer months on the main approaches to Kirkoswald;
- Black guillemots and other sea birds frequent and often breed in most Ayrshire harbours;
- Red squirrels are resident at Woodroad Park in Cumnock;
- Remnants of coastal heathland survive on many of Ayrshire's links golf courses;
- Skylarks nest on the dunes at Ayr seafront.

It is not just the overall variety of habitats, but also the variety of habitats within individual sites which makes urban areas so special. The combination of trees, shrubberies, flowerbeds and grassland areas within parks and gardens can provide a rich mosaic of mini habitats. In some cases, habitats which have been created in urban areas, for example garden ponds, can play an important role in helping redress the loss of habitats in the countryside.

## Biodiversity Context

A Broad Habitat Statement for urban areas is included in "Biodiversity: the UK Steering Group Report" (1995). The statement sets down a broad objective to:

"Maintain the existing diversity and extent of wildlife in all urban areas, expanding the range and distribution of rare and common species and enabling this resource to be utilised as an educational tool".





It recommends consideration of the following measures:

- Survey and evaluate the full range of urban habitats (including buildings) in terms of their importance in maintaining wildlife interest;
- Protect sites important for wildlife from changes in land use;
- Encourage the integration of green networks (incorporating a full range of wildlife habitats) in planning and developments within the urban environment;
- Implement strategies to enable the use of vacant and derelict land, either temporarily or permanently as wildlife habitats;
- Incorporate the conservation and enhancement of wildlife into the management of urban greenspace;
- Encourage community action to survey, plan for, and manage wildlife habitats;
- Promote wild space in urban areas as an educational resource to inform communities about local wildlife in the context of the wider environment.

## Current factors affecting the habitat

The main factors affecting the ecological integrity of urban habitats in Ayrshire include:

- Lack of information on the location and biodiversity value of urban habitats;
- Adoption of intensive and in some cases, simplified management regimes in parks, cemeteries, roadside verges and other areas of both formal and informal open space;
- Reclamation or redevelopment of disused land to a uniform land use;
- Fragmentation or erosion of habitats and habitat corridors as a result of urban development or inappropriate land management;
- Undertaking works to trees, hedgerows, watercourses and other potential nesting sites during the breeding season;

## Habitat Objectives

### Main Objective

Maintain and enhance sites of biodiversity importance in urban areas.

### Target

Maintain an on-going programme of management.

### Work Objectives

#### Objective 1

Raise awareness within both the private and public sector of opportunities to benefit biodiversity. In particular, highlight opportunities for biodiversity conservation and enhancement through the management of public and privately owned land.

### Target

Produce guidance for developers, planners and land managers.

#### Objective 2

Develop and protect wildlife corridors and green networks through built up areas.

### Targets

Identification of wildlife corridor networks in urban areas by 2002;

Produce methods of safeguarding/enhancement by 2003.

#### Objective 3

Encourage the participation of local schools and other educational establishments in biodiversity conservation.

### Target

50% of schools to have wildlife gardens by 2010.

#### Objective 4

Establish Local Nature Reserves and other community nature areas within, or in close proximity to, the built environment.

### Targets

Establish 5 new LNRs within or close to urban areas by 2010.

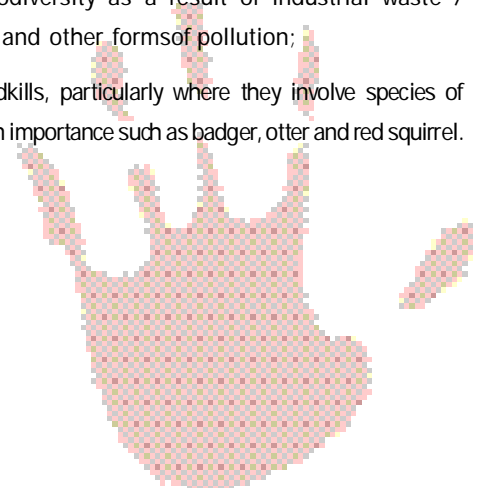
#### Objective 5

Ensure the provision of accessible habitat areas within walking distance from people's homes in urban areas.

### Target

Provision by 2010.

- Use of non-native species where this could pose a threat to existing habitats;
- Conflict of interest on certain sites e.g. erosion of fragile habitats as a result of recreation pressure;
- Loss of biodiversity as a result of industrial waste / discharges and other forms of pollution;
- Wildlife roadkills, particularly where they involve species of conservation importance such as badger, otter and red squirrel.



## Opportunities and Current Action

Control over the management of urban greenspace is wide ranging, from local authorities, businesses, developers and other bodies often with large landholdings, to individuals with gardens. Within these sectors numerous opportunities exist to take positive measures to benefit biodiversity.

### Opportunities for local authorities, businesses, developers and other bodies:

- Local authorities and wildlife agencies could work together to identify habitats and green networks within urban areas and make sure that such information is freely available to those involved in urban land use and regulation;
- Local authorities and other public agencies could be encouraged to adopt wildlife-friendly management techniques and even create new habitats on their landholdings, in particular within parks, cemeteries, roadside verges, the grounds of hospitals and schools. A number of nature areas and gardens have already been



created in the grounds of Ardrossan Academy, Carrick Academy, Whittleys Primary and many other schools;

- Land awaiting development could be managed as meadows rather than closely mown grassland or left to develop naturally. Developers could be encouraged to incorporate existing and new habitats as part of their landscaping plans;
- Developers could be encouraged to take measures to benefit specific species, for example, the provision of house martin or bat boxes;
- Habitats could be developed on former industrial sites. Scottish Coal is aiming to re-establish deep peat habitats on parts of its opencast site at Chalmerston;
- Local authorities could designate Local Nature Reserves for areas of biodiversity importance and value to the local



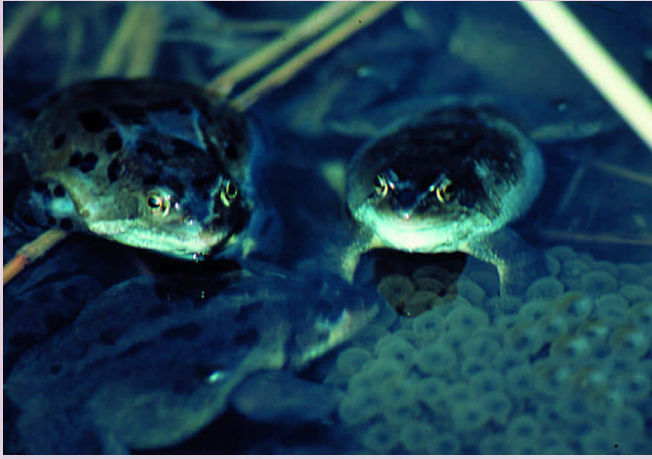
community. Stevenston Beach has been declared a Local Nature Reserve. Further Local Nature Reserve designations are proposed for Maidenhead Bay and the old brewery ponds at Catrine Voes;

- Training and guidance could be provided for land managers, engineers, planners and other professionals to help ensure that biodiversity principles are incorporated, where appropriate, in their everyday work;
- Advice could be given to teachers and others involved in education on the value of urban habitats, including school nature areas as teaching resources and the potential for incorporating biodiversity issues in a wide range of subject areas. Scottish Natural Heritage offers grants for school nature areas and has produced a "School Grounds Resource Box" with information on developing and using such areas. School ground developments are also being promoted through the Ayrshire Environmental Education Forum;
- Consideration could be given to the provision of badger or otter underpasses and other measures in order to reduce wildlife roadkills;
- Implementation and further development of the South



West Partnership Trunk Road Biodiversity Action Plan (A76/77/78).

### Opportunities for raising community awareness of, and involvement in, urban biodiversity:



- Local authorities and wildlife organisations are well placed to take measures to raise awareness of biodiversity in urban areas. The East and North Ayrshire Ranger Services and the National Trust for Scotland are amongst those who organise a variety of wildlife-orientated events and walks;
- Measures could be taken to help local people and groups become involved in the creation, management and enhancement of community nature areas; Ayrshire Conservation Trust, has plans to transform the old Mauchline bog into a local wildlife area. Further publicity could be given to existing groups and the potential for new local wildlife groups;
- Local people could be encouraged to “garden for wildlife”. Scottish Natural Heritage has produced a “Plant for Wildlife” leaflet which could be promoted locally as part of a wildlife gardening campaign;
- Wildlife agencies, local authorities and others could organise community projects aimed at raising awareness of biodiversity issues. East Ayrshire Woodlands, one of 80 projects being developed under the Millennium Forest for Scotland Initiative is involving local people in the creation of new community woodlands. Ayrshire Conservation Volunteers provides training opportunities in respect of practical conservation work.

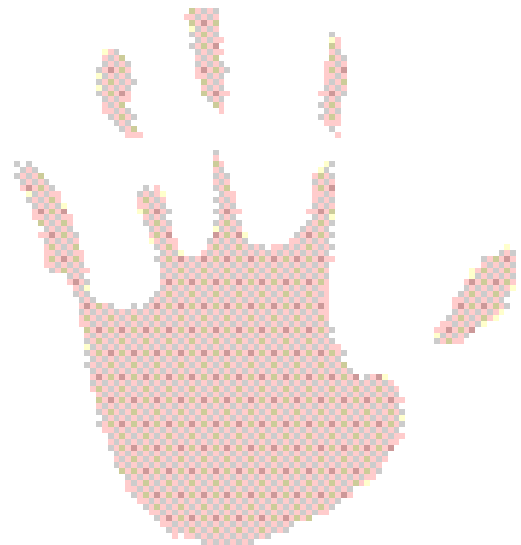
## Key Contact

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## Further Information

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ACTIONS Urban Habitats	TO BE ACTIONED BY		YEAR (TO BE COMPLETED OR IN PLACE BY					
	lead	partners	2001	2002	2003	2004	2005	2010
<b>Policy and Legislation</b>								
Ensure that both protective and proactive biodiversity policies for urban areas are incorporated in statutory development plans in line with Government requirements and obligations.	ALA	SNH RSPB	•	•	•	•	•	•
Encourage a consistent approach to urban biodiversity conservation in statutory development plans throughout the three Ayrshire local authorities.	ABG ALA	SWT	•	•	•	•	•	•
Incorporate biodiversity principles in other policy/strategy documents concerning urban areas, where appropriate. ( eg Ayrshire Structure Plan, Local Plans, Local Transport Strategies)	ALA SWT RSPB		•	•	•	•	•	•
Within the planning context, ensure that full consideration is given to the value of the habitat when considering proposed developments which threaten loss or damage to the habitat. Where development is liable to proceed, endeavour to minimise any adverse effects through the use of planning conditions and agreements.	ALA SWT		•	•	•	•	•	•
Use Tree Preservation Orders as a means of protecting urban trees / woodlands of biodiversity importance.	ALA		•	•	•	•	•	•
Raise awareness amongst those bodies concerned with land use development and management, of their statutory requirements under the 1981 Wildlife and Countryside Act, 1992 Habitats Directive, 1997 Town and Country Planning (Scotland) Act and other relevant statutory instruments, in relation to urban biodiversity conservation.	ALA	ABG	•	•	•	•	•	•
<b>Site Safeguard and Management</b>								
Ensure the protection of sites of biodiversity importance including designated sites, sites containing protected species and identified green corridors within urban areas.	ALA SNH SWT RSPB		•	•	•	•	•	•
Consider the declaration of Local Nature Reserves in urban areas with relevant owners and managers.	ALA	SNH SWT RSPB	•	•	•	•	•	•
Consider the preparation of management plans for sites of biodiversity importance in urban areas, particularly where other practices may threaten the special interest of the site.	ALA	SWT RSPB CMRP	•	•	•	•	•	•
Phase out the use and sale of peat-based composts and mulches within local authorities and try to ensure that any plants purchased have been grown in peat free composts. Encourage other users to do likewise.	ALA SWT			•				
Check for bats before undertaking works to bridges, roofspaces, old mine workings and other potential roost sites.	ALA and others	ABatG SNH	•	•	•	•	•	•
Identify "blackspots" for animal roadkills and take appropriate measures to reduce the number of incidents.	SWT	ALA SNH	•	•				
Consider the adoption of pro-biodiversity management techniques in areas of public open space.	ALA	SWT RSPB	•	•	•	•	•	•
Encourage biodiversity conservation and enhancement measures on golf courses.	GCM SGCWI	ALA SWT RSPB	•	•	•	•	•	•
Consider the management and enhancement of meadow habitats on roadside verges.	ALA SE	SWT	•	•	•	•	•	•
Undertake any works to watercourses, hedgerows, trees, meadows and other potential nesting sites for birds, outwith the breeding season.	ALA	FWAG RSPB	•	•	•	•	•	•
Seek to protect and enhance the biodiversity value of hedgerows in urban areas and roadsides. Consider the creation of new hedgerows, particularly where such hedgerows would contribute to green corridor networks.	ALA	FWAG SWT	•	•	•	•	•	•
Maintain and enhance the biodiversity value of watercourses in urban areas.	ALA	SEPA SWT	•	•	•	•	•	•
Incorporate biodiversity principles in new projects and initiatives, where appropriate.	ALA	SWT RSPB	•	•	•	•	•	•
Seek to extend the principles of the Trunk Road BAP to local road networks	ALA		•	•	•	•	•	•
Incorporate biodiversity principles in the reinstatement of former industrial sites.	ALA	Bus.		•	•	•	•	•