Falkirk Area

Biodiversity

Action Plan 2011-2014

Falkirk Council
Development Services

If you would like this information in another language, Braille, LARGE PRINT or audio, please call 01324 504863.

For more information about this plan and how to get involved in local action for biodiversity contact:
The Biodiversity Officer, Falkirk Council, Abbotsford House, David's Loan, Falkirk FK2 7YZ
E-mail: biodiversity@falkirk.gov.uk
www.falkirk.gov.uk/biodiversity

Biodiversity is the variety of life.

Biodiversity includes the whole range of life - mammals, birds, reptiles, amphibians, fish, invertebrates, plants, trees, fungi and micro-organisms. It includes both common and rare species as well as the genetic diversity within species. Biodiversity also refers to the habitats and ecosystems that support these species.

Biodiversity in the Falkirk area includes familiar landscapes such as farmland, woodland, heath, rivers, and estuary, as well as being found in more obscure places such as the bark of a tree, the roof of a house and the land beneath our feet.

Biodiversity plays a crucial role in our lives. A healthy and diverse natural environment is vital to our economic, social and spiritual well being, both now and in the future.

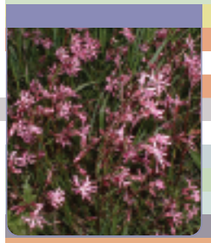
The last 100 years have seen considerable declines in the numbers and health of many of our wild plants, animals and habitats as human activities place ever-increasing demands on our natural resources. We have a shared responsibility to conserve and enhance our local biodiversity for the good of current and future generations.

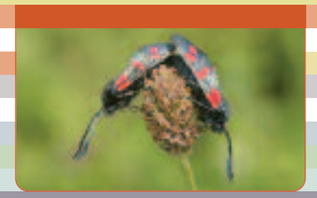
For more information about this plan and how to get involved in local action for biodiversity contact:
The Biodiversity Officer, Falkirk Council, Abbotsford House, David's Loan, Falkirk FK2 7YZ
E-mail: biodiversity@falkirk.gov.uk
www.falkirk.gov.uk/biodiversity

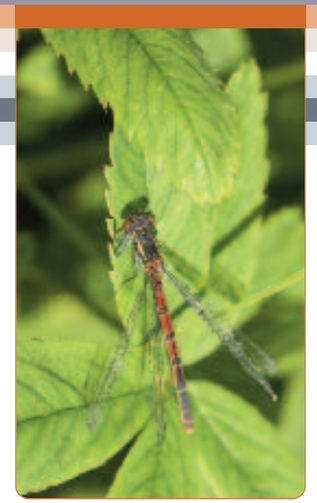
Contents

1

A Biodiversity Action Plan for the Falkirk Area







The Falkirk Area Biodiversity Action Plan (FABAP) was first published in 2002. Its primary objective was to…

Safeguard the local variety of life

Since 2002, various projects and strategies have been implemented in an effort to protect and enhance our locally important habitats and species. These have been enthusiastically supported by a vast array of different organisations, groups and individuals including community groups, (NGO) non-governmental organisations, public bodies, interest groups, businesses, schools, farmers, landowners and the general public.

Nevertheless, much has changed over the last nine years. This updated plan (2011-2014) reviews progress made since 2002 and looks ahead to the forthcoming three years. It provides an opportunity for us to build on the elements of the FABAP process which have worked well and change those which have been less successful. As with the original plan, it has been produced in association with the Falkirk Area Biodiversity Partnership which includes many organisations that have a specialist interest in the local biodiversity of Falkirk.
In keeping with the recommendation of the FABAP steering group, this updated action plan is more project focused, generating a realistic programme of projects, above and beyond the local conservation work that is already taking place, which will help to conserve our priority habitats and species.
Concentrating resources on a relatively small number of priority projects is considered the most effective approach to conserving and enhancing the Falkirk Area's Biodiversity. It is anticipated that this approach will guide the Biodiversity Partnership for the next three years, whereupon it will be reviewed and updated.
Flexibility in the Local Biodiversity Action Plan (LBAP) process is essential to ensure that it effectively responds to local needs and circumstances and to enable new initiatives to be developed, particularly where they help deliver the FABAP. Whilst this plan sets clear actions and challenges to focus local biodiversity conservation, it is not set in stone and hopes to also guide and encourage additional activity where appropriate.

By its nature biodiversity action planning is a development process and this updated Plan represents progression of the first FABAP. The Habitat and Species Action Plans from the original FABAP will therefore continue to be relevant to the protection and enrichment of biodiversity in the Falkirk area and will provide the context to this more project-focused Plan for 2011-2014.

A list of projects accompanies each plan, aimed at protecting and enhancing associated priority habitats and species. These projects will be led and supported by members of the Biodiversity Partnership and the Biodiversity Officer.

This action plan is not just for Falkirk Council and its partners. Everyone benefits from biodiversity and everyone has a role to play in caring for it. The table below provides some ideas of how individuals and groups can take action for local biodiversity.

Action Plans ....

As part of the 2011-2014 plan, a series of revised action plans have been produced, which describe Falkirk's varied landscape and the rich diversity of species that it supports. These action plans are as follows:

- Estuary
- Farmland & grassland
- Heath & bog
- Inland water & wetland
- Urban
- Woodland
- Education, awareness raising & participation
- Bean goose action plan

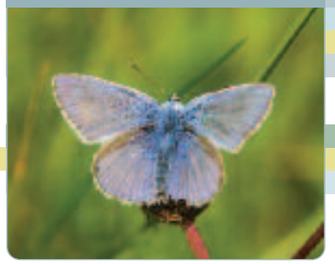
Take Action for Biodiversity ....

Whether or not you can help implement some of the projects within this plan why not take action for local biodiversity by:

- Gardening for wildlife
- Learning how to identify and record local wildlife
- Working with colleagues, school friends or neighbours on a wildlife project
- Encouraging your local community to improve areas of openspace to benefit biodiversity
- Finding out more about your local biodiversity on one of the countryside ranger's walks or events
- Joining a local conservation group
- Getting in touch with the Falkirk Environment Trust if you are a member of a group who need funding for local environmental projects

2

Local Biodiversity Action 2000 - 2010



"Think global".... International, National and Scottish Action for Biodiversity

At the Earth Summit in Rio de Janeiro in 1992, the UK signed the Convention on Biological Diversity, agreeing to implement conservation measures to ensure that biodiversity in their country and worldwide would be protected and enhanced. The famous quote ***"Think global, act local"*** which appears in the first Falkirk Area Biodiversity Action Plan stems from this United Nations (UN) Conference, and, prior to that, from the Scottish polymath Patrick Geddes (Cities in Evolution, 1915).

To take forward the aims of the Convention, the "UK Action Plan for Biodiversity" was published in 1994 setting out 59 steps that should be taken to safeguard the nation's biodiversity, and directing statutory organisations and public bodies to promote biodiversity. Crucially it recommends that Local Action Plans should be produced to identify appropriate action close to where people live and work.

In May 2004 "In Your Hands - A Strategy for the Conservation and Enhancement of Biodiversity in Scotland" was published with the purpose of adapting the UK Biodiversity Action Plan to Scotland. It sets out a clear 25 year vision to conserve and enhance biodiversity in Scotland and is supported by detailed implementation plans which identify the priority actions to be taken forward over the coming years.

Also introduced in May 2004, The Nature Conservation (Scotland) Act 2004 placed a duty on all public bodies in Scotland " to further the conservation of biodiversity" in the course of exercising their functions.

With the advent of the 2004 Nature Conservation (Scotland) Act, the Scottish Biodiversity List (2005) was developed which lists the species of flora and fauna and habitats considered to be of principal importance for the purpose of biodiversity conservation in Scotland. The list contains over 1900 terrestrial, freshwater and marine species and over 180 habitats. In 2007 the UK BAP priority species and habitats lists were reviewed. These identify priorities for conservation action within the UK and now include 1150 species and 65 habitats. Both the Scottish List and the new list of UK BAP Priority Species and Habitats (2007) have been used in prioritising species and habitats in this reviewed plan.

Act local... The Falkirk Area Biodiversity Action Plan

For the ambitious programmes of national and Scottish action to succeed, they must be interpreted and implemented at a local level. Local Biodiversity Action Plans have been established all over Scotland, and over much of the rest of the UK to do just that. These plans aim to translate national and Scottish targets for the conservation of key species and habitats into focused local action, while also taking account of local values and priorities.

To take forward the Local Biodiversity Action Plan process in this area the Falkirk Area Biodiversity Partnership was established in 2000. This partnership consists of representatives of various organisations drawn from local government, NGOs, the voluntary and commercial sectors, research, education and amenity groups. A smaller steering group has led on the development, implementation and review of the Falkirk Area Biodiversity Action Plan.

The first Falkirk Area Biodiversity Action Plan, published in 2002 and implemented thereafter, has proven a valuable tool for encouraging and focusing local conservation effort.

Following an assessment of the priority habitats and species in the Falkirk area the Plan identified 112 species and 20 habitats as priorities for local conservation action. The Plan addressed the conservation of these priorities through the production and implementation of a suite of 16 Habitat Action Plans, 33 Species Action Plans (addressing 85 species) and a further 21 shorter Species Statements (addressing 26 species). Each habitat or species plan gives a brief introductory statement of the habitat/species, factors affecting it and where action may be taken to conserve or enhance it locally. These actions were highly aspirational; identifying what could be done for each habitat or species. While this ambitious approach helped to push forward local conservation action, in some cases the plans did not fully recognise or predict the constraints to implementation or detail a realistic, achievable work programme.

That said, since the FABAP was launched in 2002, a considerable amount has been achieved in the area to benefit biodiversity. Partners have been involved in a wide range of projects delivering biodiversity actions across the locality including for example:

- Production of an Integrated Habitat Network study for the Falkirk area
- Great-crested newt surveys at several important pond sites and enhancement work at three great crested newt pond clusters
- An updated and digitised Phase I Habitat Survey for the whole Council area
- Designation and management by the local community of the area's first Local Nature Reserve at Bonnyfield
- A Barn owl nest box project, with 11 young barn owls hatched in 2010
- Projects to erect tree sparrow boxes and other nest boxes
- Production of a Supplementary Planning Guidance Note on Biodiversity and Development
- Habitat management for invertebrates guidance leaflets
- A Care home bird feeding scheme - providing bird feeders, bird tables and bird food to a number of Council care homes
- Clearance of an obstruction to fish movement in the Castlerankine burn
- Production of 'Falkirk's Wildlife' identification leaflets, a butterfly and moth leaflet, and a Nature Trails leaflet.
- Production of the Green Schools Guide and support of the Green Schools Grant programme
- Promotion of '10 steps for garden biodiversity' through postcards and other publicity
- Retention of areas of long grass to benefit wildlife in a number of Council parks
- Incorporation of biodiversity protection and enhancement measures into built development through the planning process
- A 'Web of Life' exhibition at Callendar House
- Managed realignment at Skinflats
- A Helleborine orchid management, monitoring and seed propagation programme
- A Biodiversity and diversification farm walk at Wellsfield Farm near Denny and ongoing advice to farmers about biodiversity issues
- Surveys for large heath butterfly, water vole, mud snail and other priority aquatic invertebrates
- Encouraging management of agricultural areas to benefit biodiversity through agri-environment schemes
- Identification of a number of additional Wildlife Sites for protection
- Biodiversity management and enhancement works at Carron Dams SSSI
- Bean goose monitoring and protection measures including securing payments for landowners benefitting the geese through appropriate agricultural land management
- Management of woodlands to benefit biodiversity
- A bat box scheme at High Limerigg
- Tufted loosestrife planting on the Millennium Canal extension near west mains pond
- Support for the Wildlife Counts Project, providing biological recording workshops on topics such as mammals, butterflies and aquatic invertebrates, and provision of courses on wildflower and aquatic invertebrate identification.

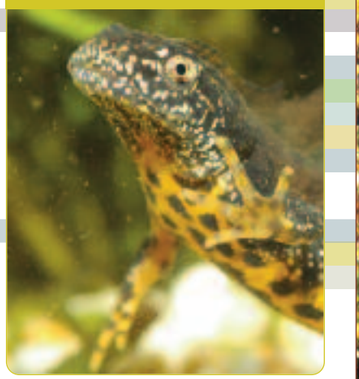
In total almost 400 different FABAP actions (many of which have required ongoing or annual implementation) have been completed or completed in part since the launch of the FABAP in 2002.

This activity has involved over 50 groups and many individuals. The level of involvement of different organisations varies considerably but all have played a part in delivering action for local biodiversity. Since the production of the FABAP, new organisations have emerged. There are organisations, community groups, river management groups, individuals, and others that, while not mentioned in the original FABAP, are now undertaking vital work to help protect and enhance local biodiversity.

The Falkirk Area Biodiversity Action Plan (2002) and associated audit (2000) are a core part of the policies and aspirations of Falkirk Council and the Falkirk Area Biodiversity Partnership and should be retained as a reference and used as the baseline description of the area's biodiversity.

3

Responding to the Changing Environment



Since publication of the first Falkirk Area Biodiversity Action Plan in 2002 much has changed. Some of the key ideas, approaches and issues which have developed over the last decade and have implications for today's FABAP are summarised below.

How our biodiversity is doing

Over the last decade conservation action has improved the status of some species and habitats. Meanwhile other species and habitats have become threatened or in need of conservation. In some cases improved recording of specific species has resulted in a change in their conservation status. We are learning more about biodiversity all the time and the FABAP reflects that.

For more information: 'Scotland's Wildlife: An assessment of biodiversity in 2010'. www.snh.gov.uk

Climate change

Climate change is already having an impact on our biodiversity and future impacts are likely to be severe with species potentially becoming extinct in Scotland as a result of their inability to adapt to a rapidly changing environment. Physical effects on habitats such as loss of saltmarsh to coastal erosion or peat erosion from drying out of wetlands are also likely. The key challenge is to manage the natural environment, and the human activities that affect it, so that, as far as possible, biodiversity can adapt to a changing climate and ecosystems can continue to supply the ecosystem services that are so important to us. Habitats such as woodland and peat bogs can play a valuable role as carbon sinks, reducing the amount of this greenhouse gas in the atmosphere.

For more information:'Scotland's Climate Change Adaptation Framework - Biodiversity and Ecosystem Resilience' at www.scotland.gov.uk/ Publications

Ecosystem services

There is growing recognition of the environmental services which ecosystems can provide, and equally the problems that damage to these ecosystems can cause. For example wetlands and undeveloped floodplains have the capacity to store and slow down the movement of water during periods of high flow, thus reducing the severity of flooding downstream. Loss of these natural features can significantly increase flood risk. On the other hand reinstatement or creation of such natural features can be an effective flood management tool.

For more information: www.greenfacts.org/glossary/def/ecosystem-services.htm or www.ecosystemservices.org.uk/ecoserv.htm

The Ecosystem Approach

New approaches to conservation and biodiversity management have recently gained prominence, including the Ecosystem Approach. The Ecosystem Approach is about integrating conservation of natural resources with social and economic needs and objectives, in a way that sustains the health of the ecosystems on which we depend. The approach is therefore a way of delivering sustainable development.

For more information: Ecosystem Approach Sourcebook at www.cbd.int/ecosystem/sourcebook

Landscape scale conservation

While it remains critical to protect specific important sites for biodiversity, there is a growing recognition that conservation at a landscape scale is necessary if we are to halt the loss of biodiversity. The landscape scale approach aims to restore ecological function across whole landscape units, rather than just protecting limited nature reserves or sites. Landscape scale projects within this area are in development, e.g. the Inner Forth Futurescapes project.

For more information: www.rspb.org.uk/futurescapes

Integrated Habitat Networks

The Integrated Habitat Network (IHN) approach provides a tool to help combat habitat fragmentation and isolation. Application of this approach aims to achieve a robust network of natural habitat through which species can move and in which they can thrive. The habitat areas do not have to be physically joined up but do need to be located so that species are able to travel from one area of good quality habitat to the next. This approach has informed the FABAP and will help to focus projects where they can be most effective.

For more information: www.forestresearch.gov.uk/habitatnetworks

Central Scotland Green Network

The Central Scotland Green Network (CSGN) will change the face of Central Scotland, by restoring and transforming the landscape of an area stretching from Ayrshire and Inverclyde in the west, to Fife and the Lothians in the east. The Scottish Government's second National Planning Framework identifies the Central Scotland Green Network as a national priority, which will deliver: "...a step change in environmental quality, woodland cover and recreational opportunities... [and] make Central Scotland a more attractive place to live in, do business and visit; help to absorb CO^2; enhance biodiversity; and promote active travel and healthier life styles". It is important that the FABAP works with the CSGN to achieve shared goals.

For more information: www.centralscotlandgreen network.org/

Non-native invasive species

Non-native, invasive species have become an increasingly serious issue for biodiversity conservation. Species such as Japanese Knotweed, Rhododendron ponticum and Mink, to name but a few, can rapidly out-compete or prey on native species, threatening their existence and degrading natural habitats. Many of these species can also have negative impacts on ecosystem services and our use of natural resources. Control of invasive non-native species has become a critical issue for biodiversity conservation across Scotland.

For more information: https://secure.fera.defra.gov.uk/nonnativespecies/home or www.snh.gov.uk/

Legislation

Since 2002 new legislation, in particular the Nature Conservation (Scotland) Act 2004, has been adopted to promote biodiversity conservation within Scotland. The Wildlife and Natural Environment (Scotland) Act 2011 will also strengthen legislation in relation to certain areas of biodiversity conservation and require public bodies to report on how they have met their duty to conserve biodiversity.

For more information: www.legislation.gov.uk/

National, regional and local policy

Biodiversity conservation and the aims of the FABAP overlap with a vast range of national and local policy agendas, including: education, health, planning, openspace provision, agricultural policy (particularly the SRDP), and community planning. Engaging with these and other agendas will help to deliver biodiversity conservation and enhancement as well as ensuring others recognise the role they can play in protecting Scotland's biodiversity.

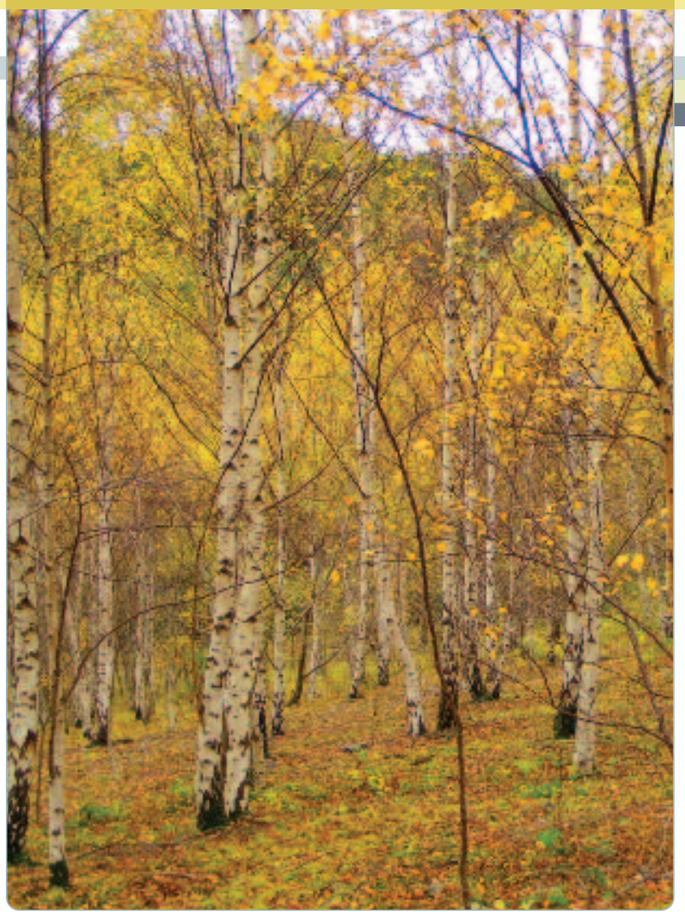
Each local authority now has a Single Outcome Agreement (SOA), agreed with the Scottish Government, setting out local priorities and outcomes and how these will contribute to agreed national outcomes. The FABAP can particularly contribute to the following National Outcomes within Falkirk Council's SOA: National Outcome 12: We value and enjoy our built and natural environment and protect and enhance it for future generations; National Outcome 14: We will reduce the local and global environmental impact of our consumption and production.

Organisational change and resources

Organisations and individuals involved in biodiversity conservation, both national, regional and local, have changed or are undergoing change. In addition the availability of resources fluctuates and has a significant impact on the delivery of local action for biodiversity. In particular delivery is constrained by the capacity of organisations to participate and undertake new biodiversity projects locally and the funding available. The FABAP must be able to adapt to these inevitable changes and challenges.

4

The Way Forward



This reviewed plan takes account of and responds to the changing ideas, approaches and issues detailed previously. It aims to:

- Embrace new ideas and approaches;
- Respond to new and growing challenges;
- Engage with current policy strands and initiatives,
- Contribute to national and regional biodiversity conservation priorities; and
- Have the flexibility to adapt to future challenges.

The FABAP 2011-2014 provides an opportunity to build on the elements of the LBAP process which have worked well and change those which have been less successful.

In response to the above issues and constraints the Falkirk Area Biodiversity Partnership decided that this revised plan should be more project focused, setting a realistic programme of projects that can be delivered locally, take account of important trends in biodiversity conservation and significantly further the conservation of local biodiversity.

This revised Plan will not set out to encompass all of the many actions that are being carried out, or might be carried out, to support biodiversity conservation within Falkirk. Instead it identifies projects which will have considerable benefit for a range of local priority habitats and species and which might otherwise not be undertaken.

Implementation of the FABAP will require that for each individual project a process is undertaken to:

- Identify who will develop and implement the project
- Develop the fine detail of the project
- Set clear objectives and targets for the project
- Decide how the project will be monitored and evaluated
- Decide how the project outputs will be reported and to whom.

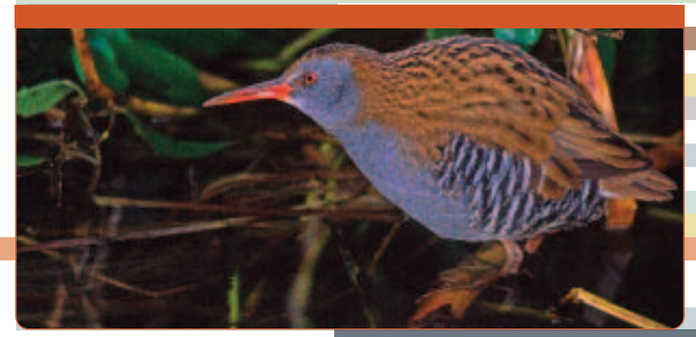
A conscious decision was made to not include this fine detail in the FABAP itself to ensure that as a working document it remains flexible and able to adapt to change and capitalise upon opportunities as they arise.

It is intended that implementation of the FABAP 2011-2014 will be taken forward through the following partnership and action group structure:

- An annual partnership event to inform, progress and report on development and implementation of the FABAP.
- Project specific groups and group meetings to progress specific projects identified in the FABAP.
- Ongoing communication with Biodiversity Partnership members and others via newsletter, e-mail, and an updated website.

5

Falkirk's Biodiversity 2010



The Falkirk Council area has a rich diversity of habitats considering the relatively small land area. Habitats include: rivers and streams, ponds, lochs, canals and other wetlands; estuarine habitats; woodlands; farmland; grassland and meadows; heaths and upland areas; rocky outcrops, quarries and spoil heaps; peat bogs; brownfield sites and urban greenspace.

The most extensive habitats within the Falkirk Council area are improved grasslands, arable and horticultural land, built up areas and gardens. This reflects the area's intensive human occupation. Despite this, Falkirk still holds 24 of the 65 UK BAP priority habitats.

Priority habitats that have a disproportionately high representation within the area are: neutral grasslands, lowland dry acidic grassland, lowland raised and intermediate bog, mudflats, upland oakwoods, upland mixed ash woods, wet woodlands, saltmarsh, canals, and open mosaic habitat on previously developed land (brownfield sites).

The Habitat Action Plans provide more detail about the important habitats and species of the area. However, the following is a snapshot of the area's biodiversity.

Estuary

Over 14km^2 of inter-tidal mud, sand and saltmarsh and several saline lagoons.

Forth Estuary designation as a Special Protection Area due to its wintering bird populations.

Farmland and grassland

Over 170km^2 of grassland or arable cultivation, much of it arable or improved pasture. Just over 8km^2 of this is semi-improved or unimproved neutral grassland and acidic grassland which is of greater biodiversity interest.

Heath and bog

Small pockets of heath and heath-grassland mosaics covering just 1.5km^2.

At least 45 raised and intermediate bog sites within the area, totalling around 3.7km^2.

Inland water and wetland

Over 583.8km of running water (rivers, burns, drainage ditches etc.).

Over 2km^2 of standing water habitat, including canals, ponds, lochs, reservoirs and pools. Wetland habitats such as fen, swamp, marsh and flushes covering just over 1km^2.

Urban

About 20% of the area is urban, consisting of built up areas, gardens, brownfield sites, bings and tips, roads verges etc.

A wide variety of habitats create important green corridors through the 'urban jungle'.

Woodland

Woodland covers about 33km^2 of the FABAP area.

Limited, but significant, areas of ancient or long-established woodland.

Parkland and scattered trees cover 2km^2 of the area and dense, continuous scrub covers about 3km^2.

Species

45 UK priority species occur within the Falkirk Council area.

19 further species which feature on the Scottish Biodiversity List only.

A further 38 locally important species.

Protected Sites

The FABAP area has a number of locally, nationally and internationally designated sites for nature conservation. Including: 4 International designations, 10 nationally designated SSSIs, and locally 62 Wildlife Sites, 24 SINCs and 1 Local Nature Reserve.

6

Targeted Conservation Action 2011-2014

Central Objectives and Key Issues

The Falkirk Area Biodiversity Action Plan's primary objective remains to: Safeguard the local variety of life

In working towards this primary objective, it aims to:

- Protect and enhance our rare and threatened plants, animals and habitats, responding to the local and national needs of biodiversity.
- Encourage, inspire and enable all local groups and individuals to take action to conserve their local biodiversity.
- Promote awareness and understanding of biodiversity, its importance for local and global communities, and our responsibility to conserve and use it wisely.

Other key issues which influence the FABAP include:

Partnership working

Effective local action for biodiversity relies on people and organisations working together. As well as promoting partnership working to implement the following action plans, the FABAP process also hopes to encourage, support, and focus the other work of individuals and partner organisations to benefit our local biodiversity priorities. It is recognised that considerable and varied work is already happening locally to benefit biodiversity and the FABAP process supports and encourages this.

Biodiversity is not confined to local authority boundaries. While the FABAP focuses on local projects, many of its priorities and aims are shared by neighbouring authorities and other organisations with a regional or national remit. Effective biodiversity conservation will sometimes be best achieved by cross boundary working. This is increasingly the case with the development of landscape scale conservation and habitat network approaches. The FABAP will actively embrace opportunities for cross-boundary working.

Flexibility and adaptability

The FABAP process must challenge individuals and organisations to do their bit for local biodiversity as well as focusing local action by identifying priorities and specific projects to take forward. However, it must also recognise the difficulties and constraints to taking action. A flexible approach is crucial. Therefore:

- Where appropriate, the projects identified within the FABAP can be altered to adapt to changing circumstances and maximise the benefits to local biodiversity.
- The action plans will include a number of aspirational projects - those which it would be beneficial to undertake should additional resources become available or a partner organisation wishes to take a lead on these.
- Organisations and individuals will be encouraged to help implement the FABAP action plans. However they will also be encouraged and supported to undertake other local action for biodiversity, allowing them to participate within the constraints of their aims and resources.

Monitoring and review

Monitoring is important to understand whether the FABAP process is achieving its aims and having a positive impact on local and national biodiversity. However, the level of monitoring and biological recording that is possible is constrained by financial and staff resources, expertise and time. In light of this the FABAP process will aim to:

- Monitor the implementation of projects identified within the action plans
- Identify measures of success for these projects and monitor and report on these
- Where possible, encourage local biological recording to assist in the monitoring of local priority species and habitats

In addition it will:

- Review and update the FABAP every three years
- Where possible the FABAP will endeavour to report its progress regionally and nationally, feeding into other relevant reporting processes. In particular, it will aim to report on its contribution towards achieving the biodiversity conservation targets set out within the Scottish Biodiversity Strategy and national targets for priority species and habitats.
- A monitoring and reporting strategy will be developed during 2011, outlining how the above commitments will be achieved.

Strategic Environmental Assessment

This first review of the Falkirk Area Biodiversity Action Plan has undergone a Strategic Environmental Assessment (SEA). The resulting Environmental Report is available.

Specific, individual projects identified by and implemented through the FABAP (including those identified in the Action Plans) will not undergo further SEA. Instead they will:

- Be selected using the criteria/process detailed below, which will have already been scrutinised through the SEA process.
- Be subject to an in-house environmental assessment process which will ensure that the project will as far as possible optimise positive benefits for local biodiversity and not have a significant negative environmental impact. An outline for this assessment is included in Appendix 5.

Priority species and habitats

In 2002 the original FABAP identified 112 priority species and 20 priority habitats. Since then various changes have taken place including:

- Publication of the revised UK BAP priorities list in 2004
- Publication of the Scottish List in 2007
- Changes in the conservation status of various habitats and species
- Improved national and local biological records for certain species and habitats.

In light of these changes and advice from experts the list of local priority habitats and species has been reviewed and amended. The amended list is shown in Appendices 1 & 2.

Action Planning

The 2002 Falkirk Area Biodiversity Action Plan identified twenty priority habitats for targeted action. In this revised Plan the same habitats are included, but those of a similar type have been grouped to reduce the number of Habitat Action Plans to a total of six. Within each of these broad habitat plans, all priority habitats for Falkirk are included.

New Habitat Action Plan	Falkirk Priority Habitats
Estuary	Mudflats Saline Lagoons Saltmarsh
Farmland and grassland	Arable Boundary features Lowland, acidic grassland Neutral grassland
Heath and Bog	Heath Lowland raised and intermediate Bogs
Inland water and wetland	Canals Fen, marsh and swamp Rivers and streams Standing open water
Urban	Open mosaic habitat on previously developed land (including Bings) Gardens Urban greenspace Urban wildlife corridors
Woodland	Broadleaved and mixed woodland Wood pasture and parkland

The first plan identified 112 priority species, which represented a range of taxonomic groups for targeted conservation action. This has been reviewed and there are now 100 local priority species. In updating the Plan, it has been recognised that to be most effective, action should be aimed at habitats since species conservation and enhancement will generally be best achieved as a consequence of managing and improving associated habitats.

The clear links between conservation action for species and habitats is highlighted in this updated FABAP for 2011-2014 which adopts a new approach. It incorporates specified projects within the six Habitat Action Plans that are directly beneficial to associated species. Species are also included as being indicators of, or broadly associated with, the different habitats.

The action plans will identify a number of projects to be undertaken over the three year timeframe of the plan. These projects have been selected to benefit at least some of the priority habitats and species which sit within the particular habitat action plan. The intention is to identify one or more projects from each of the range of broad habitat types/ themes below.

- Woodland
- Farmland & grassland
- Estuarine
- Heath & Bog
- Water and Wetland
- Urban habitats
- Education and Participation

The considerations influencing the selection of specific projects in each habitat action plan include:

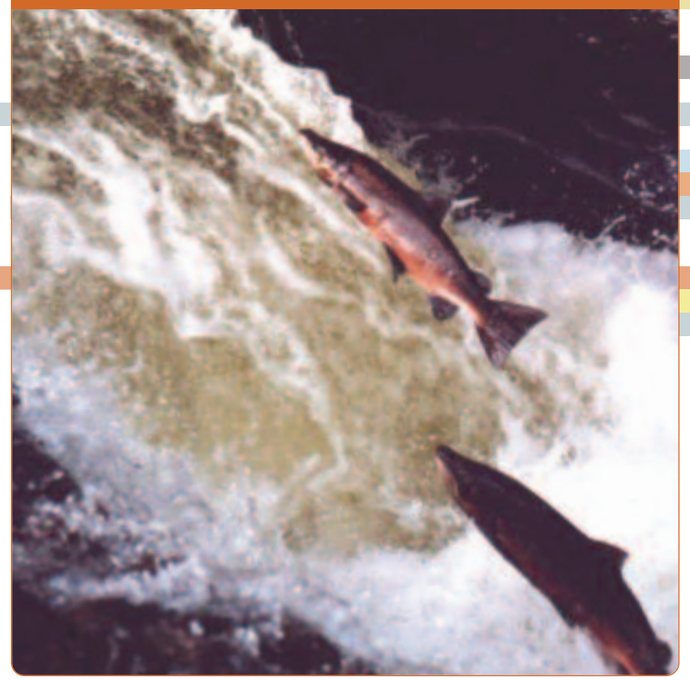
- The national and local status of the habitat or species to be benefitted
- The likely local and national impact of the project on the species/habitat
- The number of priority species/habitats likely to benefit from the project
- The capacity of the biodiversity officer or another officer to lead on the project
- The capacity of partner organisations to help implement the project
- Cost and available funding
- The potential for joint working with other organisations and LBAP areas
- The value of the project for awareness raising, engagement and education

While all of the above criteria will be applied, priority will be given to those relating to the likely benefit afforded to species and habitats with regard to both their local and national status.

The specific projects identified within this plan, once into the detailed design phase, will undergo an in-house environmental assessment to ensure that they will not have a significant negative environmental impact. Should a proposed project be shown to have a significant negative environmental impact that cannot be mitigated for, the project will not be implemented and an alternative project will be developed instead. A proforma for this in-house environmental assessment is provided in Appendix 5.

7

Estuary Action Plan



Scotland has a magnificently varied and beautiful coastal landscape with a diverse range of features from exposed cliffs to sea lochs, from long sandy beaches to nutrient-rich estuaries. This coastline measures about 4,350 miles / 11,800km in length and the Falkirk area shares just a small proportion of this along the Forth Estuary. The Forth Estuary is one of the major estuaries of the British coastline stretching for approximately 30 miles / 48km from its head at the tidal limit above Stirling to its mouth at the Forth Road Bridge.

The estuary supports a vast range of different plants and animals, many of which are specially adapted to survive in the unique habitats of the estuary which include saltmarsh, saltwater lagoons, and mudflats as well as the large expanse of estuarine water and constantly submerged sediment on the estuary bed.

The Estuary supports a wide range of waders and wildfowl including internationally and nationally important flocks of wintering birds such as pink-footed goose, knot, dunlin, and shelduck. These are given protection through the designation of the Forth as a Special Protection Area (SPA). The vast numbers of invertebrates found in the inter-tidal habitats are an attractive food source for these birds as well as for other aquatic species. Estuarine waters provide nursery grounds for a variety of fish. They also accommodate fish like the Atlantic salmon that migrate from sea to freshwater to spawn. The Forth Estuary is also used by various marine mammals, like seals and porpoises, as an area to feed and shelter.

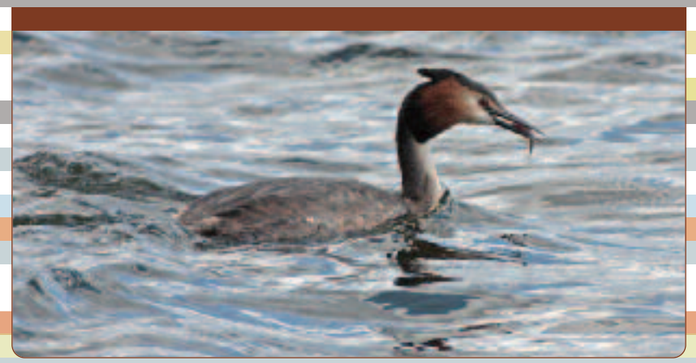
While the estuary supports various rare and important habitats and numerous plants and animals, it also accommodates a wide range of human activity. Areas along the Forth Estuary, such as Grangemouth, have developed as industrial centres because of the vital transport links that the estuary can provide. In addition to this concentrated industrial activity, the estuary is also the focus of considerable fishing and recreational activity. All of these human pressures can have a significant impact on the ecological value and health of the estuary.

The conservation of our estuaries is further complicated by the consequences of natural processes and changes in our climate and sea levels. These processes mean that the future of our estuaries is to a certain extent uncertain. It thus seems prudent to ensure that our management and use of them retains or reinstates their natural ability to absorb changes such as sea level rise. With careful management human uses can be integrated into an ecologically healthy estuary.

Projects initiated or supported by the FABAP since 2002

Over the last eight years, the following actions have been implemented by various partners, companies, voluntary groups, individuals and the local authority to enhance the biodiversity of the estuarine environment:

- The Forth Estuary Forum (FEF) continues to promote sustainable use of the Forth Estuary. Building on the success of their 'Coastal Litter Campaign', they have established the Friends of the Forth project. This project aims to enhance the quality of life of local communities and develop people's understanding of the diversity and value of their local environment.
- In 2009, RSPB Scotland (in partnership with Falkirk Council) initiated the 'STEP Forth' regulated tidal exchange project at the Skinflats Reserve, creating new saline lagoon and saltmarsh habitat and nesting sites for waders such as Oyster catcher and ringed plover.
- Falkirk Council received £60,000 to manage the woodland at the Bo'ness Foreshore Wildlife Site. This management included the removal of invasive Sea buckthorn and thinning of the woodland on the site. The footpaths across the site have also been improved and interpretative panels have been installed.
- A survey for the Bay barnacle *Balanus improvisus* was undertaken by Newcastle University at Skinflats SSSI. This barnacle was recorded from the site in 1994, and is only one of three records for this species in Scotland. This survey re-discovered the barnacle population but found them to be the Crenate barnacle *Balanus crenatus* rather than *B. improvisus*.
- Scottish Natural Heritage undertook a survey of ringed plovers *Charadrius hiaticula* in the Firth of Forth SSSI.

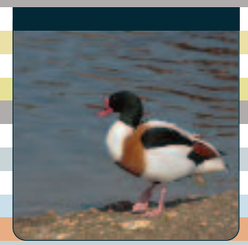


Projects to be implemented during 2011-2014

- Work with other local authorities and organisations with an interest in the Forth Estuary to identify and implement projects to benefit LBAP species and habitats across the Forth Estuary area, making the most of opportunities for joint working. Development and implementation of the Futurescapes Project will be a key element of this.
- Hold a litter clean-up in Bo'ness in conjunction with Friends of the Forth to raise awareness of the problems associated with marine litter.
- Undertake suitable estuarine habitat management at Bo'ness Foreshore, ideally instigated and led by a Bo'ness Foreshore management group.

Aspirational projects

- Secure positive, long term management of the brackish/saline lagoons at Bothkennar Pools, Skinflats.
- Investigate the current ecological status of Kinneil saline lagoon and undertake positive management and enhancement works.



Priority Species of Estuarine Habitats:

Birds

Black-tailed godwit
Common Tern
Dunlin
Great crested grebe
Greylag goose
Golden plover
Knot
Pink-footed goose
Pintail
Red-breasted meganser
Redshank
Shelduck
Teal

Fish

Atlantic salmon
European eel
River lamprey
Sea trout
Sparling
Twaite shad

Priority Estuarine Habitats:

Estuary
Intertidal Mudflats
Saline lagoons
Saltmarsh

Key sites in the Falkirk Area:

Skinflats
Kinneil Kerse
Blackness Bay

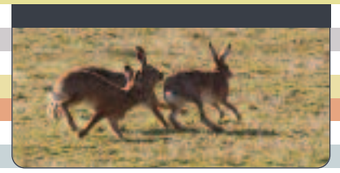
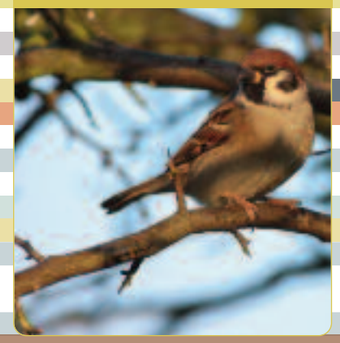
Potential Delivery Partners

Friends of Kinneil (Bo'ness Foreshore Management Group)
Ineos/Avecia
Buglife
Falkirk Council
Clackmannanshire Council
RSPB (Scotland)
CSFT
Scottish Natural Heritage
Forth Estuary Forum/Friends of the Forth

8

Farmland and Grassland Action Plan




The vast majority of the Scottish landscape is shaped by human activity, with farming being responsible for creating and maintaining much of our rural landscape. This area's countryside is dominated by agricultural land, which has a critical impact on both its landscape and biodiversity. Grassland and farm crops cover over 17,000 hectares, about 61% of the whole Falkirk Council area.

On the low carseland to the east and northeast of the area arable and mixed farming dominates. In contrast farmland to the west and south of the area is dominated by grassland. However, many important semi-natural habitats such as heathland, woodland and wetland are often under agricultural management and can therefore be affected positively or negatively by farming practices. Some of these habitats and associated species are covered by action plans outwith the farmland section, but reference to them is made where relevant.

Conversely, not all of the grassland in the Falkirk area is under agricultural management. There are 950 hectares of amenity grassland and further small pockets of unimproved or semi-improved grassland within urban areas.

Unimproved grassland is generally uncommon and exists as localised remnants of a formerly widespread habitat which has been gradually eroded by agriculture, afforestation and urban development. Protection of these sites from development is often a key issue.

Farmland habitats and features such as crops, set-aside, grassland, hedgerows, trees, dykes, ditches and field margins support a wide range of plants and animals, including many rare and threatened species. They provide food, shelter and breeding areas as well as corridors to allow wildlife to move around the countryside. This is important as semi-natural habitats become fragmented and intensive farming makes the cropped area of fields less hospitable.

National and European policies, such as the Common Agricultural Policy have, until relatively recently, driven agriculture towards production at the cost of farmland habitats and species. Persistent under-funding by government has ensured that demand by farmers for a well-funded agri-environment programme has not been met. This is one of the main constraints in enabling farmers to positively integrate management for biodiversity within their farm operations. The Scottish Rural Development Programme (SRDP) significantly influences how we deliver biodiversity conservation within the agricultural landscape.

Our agricultural landscape is, to a large extent, a man-made environment. Continued management is essential to maintain many of the features and habitats that are valuable to wildlife. Conservation of our farmland and grassland biodiversity should be an integral part of good farm management. There is considerable opportunity for work to be done at local, national and European policy level to allow this to happen.

Projects initiated or supported by the FABAP since 2002

Since the closure of Central Scotland Farming and Wildlife Advisory Group (FWAG) in 2006, and more recently FWAG Scotland in March 2009, there has been limited LBAP action on Farmland habitats in the Falkirk area. With the launch of Farm Environmental Ltd, with advisors covering the Forth area it is hoped that co-ordinated action will be considered in the LBAP forward work programme.

- A barn owl box project was initiated by the Falkirk Council Ranger Service in 2007, with a total of 17 boxes erected at fourteen farms across the Falkirk area. The project is proving successful with 11 barn owls hatching in three of the boxes during 2010.
- Falkirk Council commissioned an integrated habitat network analysis of the Falkirk area, which identifies linkages between a range of grassland habitats. This will help the FABAP to focus action in areas where these habitats can be enhanced or enlarged, to greatest benefit.
- Action to conserve the wintering bean goose flock continues to be coordinated by the Bean Goose Action Group.
- CSFT launched the "Save the Wee Bees" campaign in 2009 with targeted local and community action in response to our declining bumblebee populations. Identification guides, leaflets and seed packets for general give-aways at community and corporate events were produced, along with the creation of three small Bumblebee meadows in the Falkirk area.

The following works were implemented, as a matter of course by (formerly) FWAG Scotland in collaboration with other partners:

- FWAG Scotland provided workshops and training on the SRDP Rural Priorities to encourage take-up by farmers and land managers in the Falkirk area.
- In conjunction with SNH and local authorities, FWAG Scotland developed the Grazing Animal Scheme in the Lothian's with an extension to the wider Forth area.
- Management for acid grassland at California Wildlife Site was secured as part of a woodland planting contract.
- A leaflet describing 10 steps towards the conservation of invertebrates on farmland was published.

Projects to be implemented during 2011-2014

- Implement a targeted management scheme on one Falkirk Council owned grassland SINC or Wildlife Site to enhance its value for biodiversity.
- Undertake a review of mowing regimes on grassland sites (e.g. road verges, openspace, parks) owned by Falkirk Council and implement a project at one site to pilot new regimes that will enhance biodiversity.
- Alter mowing regimes at Bo'ness Foreshore to create an area of wildflower meadow.
- Develop a nest box and winter feeding project for tree sparrows at one or more specific sites across the Falkirk area.

Aspirational projects

- Develop a hedgerow project looking at increasing the length of native hedgerows in the Falkirk area and improving the quality of existing hedgerows.
- In conjunction with RSPB Scotland, identify key sites for breeding farmland waders, and where appropriate, seek to work with the land managers to ensure that they are appropriately managed.
- Develop contacts with agri-environment advisory bodies with a view to future joint working to undertake projects to benefit local biodiversity, provide guidance to local farmers about biodiversity and encourage action for biodiversity by local landowners.

Priority species of Farmland & Grassland Habitats:

Mammals
Brown hare

Birds
Barn owl
Bean goose
Curlew
Grasshopper warbler
Grey partridge
Kestrel
Lapwing
Linnet
Skylark
Snipe
Swallow
Tree sparrow
Yellowhammer

Invertebrates
Common blue butterfly
Swordgrass

Plants
Annual knawel
Field scabious
Greater butterfly orchid
Harebell
Lesser butterfly orchid
Moonwort
Ox-eye daisy
Smooth cats ear
Whorled caraway
Purple ramping-fumitory

Priority Farmland & Grassland Habitats

Arable
Neutral grassland
Lowland dry acidic grassland
Boundary Features

Key sites:

The low-lying carse-land in the northeast and east and the Avon valley are the main arable areas within the area. Farmland to the west and south of the area is dominated by grassland.

Potential Delivery Partners

Buglife
Bean Goose Action Group
CSFT
Callendar Estates
Falkirk Council
Game & Wildlife Conservation Trust
Individual farmers/landowners
RSPB
SAC
SWT

9

Heath and Bog Action Plan

Scotland's moorlands and peatlands are a crucial part of its characteristic natural landscape. Not only are they an important element of our cultural and natural heritage, they also play an important role in this country's economy and provide crucial ecological services such as carbon sequestration.

Heaths

In Scotland we most commonly associate heath with vast stretches of upland heather moorland. However other types of heath, supporting slightly different groups of plants, do occur particularly in lowland or coastal areas.

Heaths are dominated by heather. However, growing amongst this can be a whole range of other characteristic plants. Heaths and the complex of habitats found in them can support many different animals including mammals like the mountain hare and red deer, birds such as the meadow pipit, twite, grouse, and merlin, moorland invertebrates like the large heath butterfly and numerous other creatures.

Much of our heathland is man-made. Without human activity which removes trees growing over heath and then excludes them by grazing or muirburn, the vast majority of our heathland would disappear.

The heath in the Falkirk area now tends to occur in relatively small pockets. However, these areas are important remnants and may still support valuable heathland species. Changing landuse and poor management of heaths continues to be a threat to this habitat.

Bogs

Bogs can basically be divided into two types: blanket bogs which form a layer of peat over the land underneath and lowland raised bogs which form clear raised domes of peat in an otherwise peat-free landscape. However, intermediate bogs can show characteristics of both raised and blanket bog.

Although small areas of blanket bog occur in the Falkirk area, of far more importance are its many raised and intermediate bogs, which have suffered catastrophic losses throughout the country. These bogs form where climate and landform conspire to produce waterlogged soils, and increasing wetness develops them into characteristically nutrient-poor peatlands. Raised bogs are fed purely by rainwater.

Human activity has greatly modified these peatlands, cutting ditches to drain them, heavily grazing them or removing the peat entirely. Bogs are very vulnerable to such changes and intervention is required to keep them wet and encourage the peat-forming mosses to grow. Many of these peatlands could take hundreds of years to fully recover from damage, if at all.

Raised bogs, formed over thousands of years, do a remarkable ecological job in absorbing greenhouse gases, filtering water and supporting a distinctive range of plants and animals.

Projects initiated or supported by the FABAP since 2002

Over the last seven years, the following actions have been implemented by various partners, companies, voluntary groups, individuals and the local authority to enhance the biodiversity of the heath and bog environment:

- A survey for the large heath butterfly was undertaken by a Butterfly Conservation volunteer survey during 2005 and 2006 in the south of the Falkirk area. Whilst no large heaths were recorded during these surveys, a number of important colonies of Small pearl bordered fritillaries and Green hairstreaks were discovered. This survey highlighted areas where there is potential for improvement works to benefit large heaths and other invertebrates associated with bog habitats.
- Darnrig Moss SSSI and Howierig Muir SSSI were both included in Scottish Natural Heritage's Natural Care: South Scotland Bog Scheme.
- Some work has been done to reduce peat use within the council. In addition '10 steps to garden biodiversity' postcards and other materials have encouraged reduced peat use by gardeners.

Projects to be implemented during 2011-2014

- Extend the Large heath butterfly survey to the north of the area to include sites such as Torwood Mire and Dunmore Moss, whilst also revisiting sites thought suitable for large heath during previous surveys.
- An integrated habitat network study has been produced for the Falkirk area. This study identifies linkages between a range of habitats, including raised bogs. The study should be used to prioritise raised bogs where conservation action would be most beneficial.
- Provide guidance on raised bog management to landowners (particularly owners of wildlife sites and SINCs) and identify a suitable site for an enhancement project.
- Black Grouse have been recorded from the Falkirk area, however no targeted monitoring has been undertaken. Opportunities should be sought, in conjunction with the RSPB, to work with neighbouring Black Grouse monitoring schemes to provide coverage within the Falkirk area.
- Initial raised bog habitat restoration project in conjunction with a developer's contribution.
- Secure the cessation of peat use by Falkirk Council or contractors working for Falkirk Council.

Aspirational projects

- Investigate the development of a wider Central Scotland Raised Bog Project, possibly in conjunction with BTCV Natural Talent, North Lanarkshire Council and West Lothian Council to look at the conservation of lowland bogs across the area, with a focus on producing practical action to conserve these important habitats.
- Investigate the condition of Letham Moss and the potential for its restoration following the cessation of peat cutting.
- Investigate the current condition of all key heath sites and identify any management or enhancement needs.
- Provide guidance to landowners/managers on the priority species associated with heath and bog sites, their identification and habitat requirements.

Priority species of Heath & Bog Habitats:

Birds
Black grouse
Curlew
Grasshopper warbler
Hen harrier
Merlin
Short-eared owl
Snipe
Twite

Reptiles
Adder
Common Lizard
Slowworm

Invertebrates
Green hairstreak
Large heath

Plants
Round-leaved sundew
Liverwort (Lepidozia pearsonii).

Priority Heath & Bog Habitats:

Heath
Lowland raised and intermediate bog

Key sites:

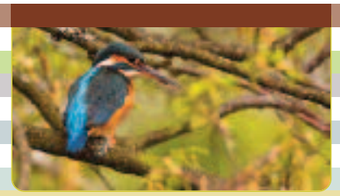
Black Loch Moss SSSI
Darnrig Moss SSSI
Howeirig Muir SSSI
Newcraig Moss
Easter Greenrig
Grangeneuk
Garbethill Muir
Shippytrouty

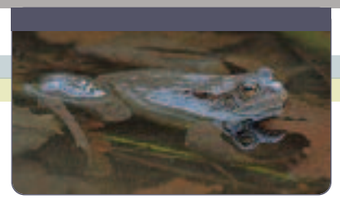
Potential Delivery Partners

British Trust for Conservation Volunteers (Scotland)
Buglife
Butterfly Conservation
CSFT
Froglife
Landowners
Royal Society for the Protection of Birds
Scottish Natural Heritage
Scottish Wildlife Trust

10

Inland Water and Wetland Action Plan





Water and wetland habitats are an extremely valuable part of our natural environment both for biodiversity and for human use. Such habitats include rivers and streams, natural and man-made pools and lochs, reservoirs, canals, ditches and drainage channels, fens, marshes, flushes and swamps. Each of these habitats has the potential to support a vast array of plants and animals.

The Falkirk area includes over 362 miles / 580km of running water. This can be home to a vast array of biodiversity and form valuable wildlife corridors that link fragmented habitats within intensively used agricultural or urban areas. Many areas of standing open freshwater such as ponds, pools, lochs, and reservoirs also occur across the Falkirk area. These can support numerous aquatic plants and animals as well as providing feeding and roosting sites for other species.

Two canals cross the Falkirk area, the Forth & Clyde Canal and the Union Canal. Canals can be valuable wildlife areas with many habitats, from slow flowing water, emergent fringe to towpath grasslands, hedgerow and woodland, represented in the canal corridor. Often they have the added advantage of bringing a little bit of countryside into the heart of built up and industrial areas. However, this man-made habitat can also throw up significant conflicts between biodiversity and other uses, which require careful management to resolve.

Equally important but often unnoticed wetland habitats are the fens, marshes, swamps and flushes. These features often occur within or adjacent to other habitats such as bogs, marshy grassland, wet heath, or even woodland. They can be of vital importance to species that are especially adapted to their wet conditions.

Water and wetland habitats are often particularly vulnerable to human activities because of their relatively small size. In addition, the dynamic nature of freshwater habitats frequently means that damage or pollution at one point in the habitat's system or catchment will affect the whole habitat.

These habitats receive most of their water from the land around them. That means they are sensitive to the use of that land as well as to any discharges made directly into them. Although pollution is now a major factor in the health of wetland habitats other factors also have an impact. For example, engineering of rivers and streams to constrict where and how they flow can have serious impacts, as can abstraction of water.

Careful management is required to ensure that these water and wetland habitats and their associated plants and animals remain and that people can continue to enjoy and use the freshwater on which we so heavily depend.

Projects initiated or supported by the FABAP since 2002

Over the last eight years, the following actions have been implemented by various partners, companies, voluntary groups, individuals and the local authority to enhance the biodiversity of the inland water and wetland environment:

- The Communities Along The Carron project in 2009/10 carried out a green mapping exercise along the River Carron. 'Community discussions' at venues along the river encouraged local community members to identify what they value about the river and adjacent environments and what they would like to see improved. The Communities Along The Carron Association is now progressing or investigating a range of implementation projects along the river.
- A survey for water voles was undertaken in 2003. This focused on previously identified populations and additional potential urban fringe sites.
- Surveys for aquatic invertebrates identified within the Falkirk LBAP were undertaken in 2005. Unfortunately these surveys did not find the target species.
- A leaflet describing 10 steps towards the conservation of aquatic invertebrates has been published and distributed.
- The mud snail Omphiscola glabra was recorded from near Bonnybridge in the early 1900s. A thorough search of the area in 2005 did not relocate these snails. A pond that was probably suitable for this snail at one time was discovered, but unfortunately no open water is present now.
- Reopening of the lowland canal network through Falkirk has generated increased activity around the canals. In particular, a project to reinforce the Tufted loosestrife population within Falkirk's canals was successfully completed.
- When the Falkirk Biodiversity Audit was undertaken in 2000 there was only one recent record of Great crested newts in the Falkirk area. Since then Great crested newts have been found in at least 5 other sites. A translocation project is currently underway at Avondale landfill to allow for the expansion of the landfill site. A project to enhance 3 pond clusters for great crested newts at Canada Wood, Avonglen and Muiravonside was completed during 2007-08. Mitigation and conservation measures for Great crested newts are being carried out as part of a large development in Banknock.
- Electrofishing surveys in the Denny area have shown that migratory fish such as Salmon and Sea trout are present immediately downstream of the paper mill weir at Stoneywood. Work is ongoing to secure fish passage past the weir as part of a development at the Papermill site.
- A weir on the Castlerankine Burn that impeded the passage of migratory fish was removed by Scottish Water in 2003.
- A footbridge over the Bonny Water near Bonnyfield Nature Park was replaced in 2007. During the replacement the opportunity was taken to install two dipper boxes on the underside of the bridge.
- Active management work by the Scottish Wildlife Trust supported by Falkirk Council has been undertaken and is ongoing at Carron Dams SSSI.
- Fisheries Management Groups have been set up for both the River Avon and the River Carron. Both groups have produced Fisheries Management Plans which highlight a range of improvement projects.
- In March 2009 a Riverfly Identification workshop was organised by the Slamannan Angling Club for anglers using the River Avon. A similar workshop took place on the River Carron in 2010, organised by the River Carron Fisheries Management Group.
- The Slamannan Angling Club has undertaken a range of enhancement works on the River Avon in recent years.
- The Falkirk Invasive Species Forum was established in 2010 to coordinate and progress local action relating to invasive non-native species in the Falkirk Council area.
- The Larbert and Stenhousemuir Environmental Response (LASER) Group is working to raise awareness of the industrial and natural heritage of the Furnace Lade in Larbert. The group has undertaken a clean-up and has further enhancement projects planned.

Projects to be implemented during 2011-2014

- Continue implementation of the management plan for Carron Dams SSSI. (Scottish Wildlife Trust with support from Falkirk Council), with a view to bringing the fen communities at this site back into favourable condition and increasing community involvement in the site.
- Undertake a survey of ponds within the Falkirk Council area (informed by the recently updated Phase I survey) with public involvement. Prioritise ponds where conservation action should be targeted to produce a functional network of good quality pond habitats and promote beneficial pond management and creation by others.
- Following the 2007-08 great crested newt project, continue periodic surveying and monitoring of great crested newt populations and undertake at least one enhancement project for great crested newts.
- Undertake invasive species (in particular Japanese Knotweed) monitoring and management along at least part of the River Carron.
- Support the River Avon Federation in their planned work to monitor invasive plant species and mink populations along the River Avon.

Aspirational projects

- Enhancement of the Carronshore (Dorrator) Wildlife Site and removal of engineering along the River Carron at this point to reinstate the site as a natural area of floodplain, reduce flooding downstream and enhance the site's biodiversity value. (Working with SEPA's Habitat Enhancement Initiative)
- Protection of the great crested newt population at Avonglen, through securing appropriate use, management and stewardship of the site.
- Carry out an assessment of opportunities for biodiversity enhancement along the Carron river corridor, informed by the Integrated Habitat Network Study and the results of the Communities Along the Carron Project. Prioritise the opportunities identified and commence implementation.
- Agree Council policy on invasive species monitoring and control and promote awareness of this within relevant sections of the Council.

Priority species of Water & Wetland Habitats:

Birds

Water rail
Dipper
Sand martin
Teal
Reed bunting
Kingfisher
Sedge warbler

Fish & Amphibians

Great crested newt
Smooth newt
Common toad
Sea/brown trout
Brook lamprey
Palmate newt
Common frog
Atlantic salmon
River lamprey
European eel

Invertebrates

Mud snail Omphiscola glabra

Plants

Bennett's pondweed
Grass of Parnassus
Ivy-leaved water crowfoot
Pillwort
Ragged robin
Tufted loosestrife

Priority Water & Wetland Habitats:

Fen, Marsh and Swamp
Standing open water
Canals
Rivers and Streams

Key sites:

Carron Dams SSSI
Black Loch
Loch Ellrig
St Helen's Loch
Forth & Clyde Canal
Union Canal
River Carron
River Avon
Castlerankine Burn
Avon Burn
Bonny Water
Little Denny Burn
Red Burn
Bonny Burn

Potential Delivery Partners

Angling Clubs
British Waterways
Buglife
Communities Along The Carron Association
CSFT
Falkirk Council
Forth Fisheries Trust
Froglife
LASER Group
River Avon Federation
River Carron Fisheries Management Group
Scottish Environment Protection Agency
Scottish Natural Heritage
Scottish Wildlife Trust

11

Urban Action Plan

The urban area is where people and nature meet most often. While this provides great opportunities for people to experience and appreciate our biodiversity it also creates conflict. However, despite the major impacts that people have on the urban environment, a surprising variety of plants and animals have adapted to urban life. A wide range of habitats can also survive within urban areas and some actually depend on the disturbed nature of urban or industrial sites.

About 16% of the Falkirk area consists of built up areas and gardens. However, most of the remaining rural area also contains 'urban' features such as buildings. As well as remnant semi-natural and pre-industrial habitats like long-established woodland, the local built landscape includes a wide range of uniquely urban habitats. These include man-made structures, parks, churchyards and cemeteries, the grounds of business premises and public buildings, private gardens and allotments, and waste or derelict ground. These urban habitats are especially valuable where they form part of a network of open areas or wildlife corridors along with features such as railway embankments, streams, canals, community woodlands, road verges, and hedges. Such networks allow animals and plant seeds to move from site to site within an otherwise inhospitable urban area.

Urban wildlife refuges can be particularly important for plants and animals whose natural countryside habitat is being lost or damaged. In addition some plants and animals actually rely on urban habitats. The unique helleborine population at Almond Bing depends on the old spoil heaps, a remnant of industrial activity.

As the habitat in which people spend most of their time, built up areas and the biodiversity they support are particularly important for the local population. Our urban biodiversity plays a key role in creating a pleasant and healthy environment for us to live in. For many of us urban biodiversity lives right on our doorsteps, so everyone can enjoy it and learn more about it.

Conserving and improving the biodiversity of our urban areas not only helps to safeguard our natural heritage it also helps to create a healthy and pleasant environment in which people can live and work. People have an enormous impact on our urban biodiversity. This impact does not have to be all negative; we are in an ideal position to improve our gardens, parks and other urban areas to benefit biodiversity.

Projects initiated or supported by the FABAP since 2002:

Over the last eight years, the following actions have been implemented by various partners, companies, voluntary groups, individuals and the local authority to enhance the biodiversity of the urban environment:

- A series of postcards and posters highlighting '10 steps to garden biodiversity' were published in 2003 and widely distributed.
- Falkirk Council has prepared an Open Space Strategy. This has involved a qualitative assessment of the biodiversity of selected parks and other open space.
- A 'biodiversity parks' pilot project was undertaken to encourage maintenance regimes in Council owned parks to benefit biodiversity. In particular areas of grass were taken out of the intensive cutting regimes and allowed to grow long.
- Several successful community woodland projects have been established in the Falkirk area. The community woodland projects at Abbotshaugh and Lionthorn have particularly active management groups.
- The Bats and the Millennium Link (BaTML) project was a five year project studying the bats using the lowland canal network. The project, which finished in 2006 was a great success and has led to a far better understanding of the needs of bats along and adjacent to the canals.
- Annual monitoring of the Helleborine orchid population at Almond Bing has been undertaken since 2004 by a partnership of Falkirk Council, Plantlife Scotland and SWT volunteers. Members of the Hardy Orchid Society are currently trying to grow specimens of 'Young's helleborine' from seeds collected at Almond Bing.
- A local management group has been established for Bonnyfield Nature Park. They are leading on the improvement and management of the site and have succeeded in securing designation of the park as the Falkirk area's first Local Nature Reserve.

- Biodiversity and Development Supplementary Planning Guidance was published by Falkirk Council in 2008, to help developers and planners achieve best practice in protecting and enhancing biodiversity through the planning and development process.
- During 2010-11 a BTCV Scotland Natural Talent apprentice, based with Buglife, has been undertaking assessments of brownfield sites within the Falkirk Council area, particularly focusing on brownfield invertebrate surveys. She will produce management plans for a number of these sites during 2011.

Projects to be implemented during 2011-2014

- Establish the ecological value of various brownfield sites within the area and undertake appropriate biodiversity protection and enhancement on at least one site.
- Continue annual monitoring of the helleborine orchid population at Almond Bing and undertake appropriate management.
- Investigate the management of Council owned openspaces such as cemeteries, golf courses, road verges etc. and develop one pilot project to demonstrate how altered maintenance regimes can benefit biodiversity.
- Use the ponds project (within the water and wetland action plan) to promote beneficial management of garden ponds and more general gardening for wildlife.

Aspirational projects

- The open space strategy has identified a considerable area of private gardens in the Falkirk area. A series of Biodiversity Gardening workshops should be run, possibly in conjunction with the Scottish Wildlife Trust/BTCV at Jupiter, to encourage gardening for wildlife.
- Through implementation of the openspace strategy and working with appropriate Council services, investigate opportunities to ensure that the management of parks takes account of biodiversity and works to benefit it.
- Agree Council policy on invasive species monitoring and control and promote awareness of this within relevant sections of the Council.
- Carry out a swift survey in Falkirk and install swift nesting sites on buildings close to any existing colonies.

Priority species of Urban Habitats:

Mammals
Brown long-eared bat
Soprano pipistrelle bat
Hedgehog
Water vole

Birds
Bullfinch
Green woodpecker
Kestrel
Sand martin
Spotted flycatcher
Swallow
House sparrow
Lesser redpoll
Song thrush
Starling
Swift

Amphibians
Common frog
Common toad

Invertebrates
Common blue butterfly

Plants
Bluebell
Dune helleborine
Field scabious
Harebell
Ox-eye daisy
Wych elm
Young's helleborine

Priority Urban Habitats:

Gardens
Urban Greenspace
Urban Wildlife Corridors
Open mosaic habitat on previously developed ground (including bings)

Key sites:

Jupiter Urban Wildlife Centre
Bonnyfield LNR
Carron & Forge Dams
Almond Bing

Potential Delivery Partners

BTCV Scotland

Buglife

CSFT

Falkirk Council

Jupiter Urban Wildlife Centre & Wildflower Nursery

Plantlife Scotland

Scottish Wildlife Trust (Falkirk Members Centre)

12

Woodland Action Plan

Scotland was once cloaked in woodland as trees dominated much of the landscape. Most of this original woodland has long since vanished, felled and cleared for its wood and to provide land for settlements and agriculture. However, some pockets of this ancient woodland still remain along with areas of newer planting.

Within the Falkirk area there are over 1100 hectares of broad-leaved woodland. Over 800 hectares of this is semi-natural, in other words the sort of woodland that naturally occurs within Scotland. Much of this semi-natural woodland is over 150 years old, some a lot more than that. Broadleaved woodland includes a whole range of different woodland types; many of them highlighted as of particular conservation importance in the UK. These important woodland habitats include wet woodland, upland oak woodland, upland mixed ash woodland, upland birch woodland, lowland broadleaved woods, hedgerows, and wood pasture and parkland, all of which occur to a greater or lesser extent within the Falkirk area.

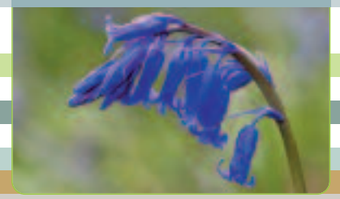
This area also supports around 1500 hectares of conifer plantation, planted primarily for commercial forestry. Other areas of woodland, often more recently planted, include farm woods, amenity woodlands, community woodlands, policy woodlands associated with large estates, and shelter belts or landscaping (e.g. areas of trees beside motorways or around new housing developments). In addition the Falkirk area has many areas of scrub, which provide valuable wildlife habitats especially where they occur next to other beneficial habitats such as long grassland or woodland.

Woodland is an important habitat for a wide range of plants and animals. The mature trees, dead wood and woodland floor can support hundreds of different invertebrates, as well as the more familiar woodland plants, birds and mammals, like bluebell, bullfinch, wood warbler, bats and hedgehog.

Although we tend to associate most woodland wildlife with broadleaved woods, conifer woods can also support many different species, particularly if they are sensitively managed with biodiversity in mind. In fact some species, like the red squirrel, may particularly favour conifer woods.

Woodlands are not only important for many of our local plants and animals; they also make an important contribution to the local landscape and provide us with opportunities for recreation as well as forestry products. There is a growing recognition that trees and woodland can bring considerable benefits to people's health, for example by reducing stress levels, fostering community involvement and encouraging outdoor recreation.

Over the last 50 years the area of both broadleaved and conifer woodland in the Falkirk area has not undergone a serious decline, in fact it may have increased as a result of new planting, such as that associated with the Central Scotland Forest Trust. However, there are still potentially significant threats to the quality and area of the habitat locally, including loss to alternative land uses, fragmentation, damage from recreational use, inappropriate management or a lack of management, air pollution, climate change, and Dutch elm disease. It is important that our valuable local woodlands are protected from these threats. Additionally, there are many opportunities to enhance our woodlands (even those not under direct threat) to improve their value for biodiversity. Considerable work is already being done to safeguard and enhance our local woodlands but there is scope to do a lot more.



Projects initiated or supported by the FABAP since 2002:

Since the publication of the FABAP in 2002 the Central Scotland Forest Trust has planted 202 hectares of new woodland and brought 101 hectares into management.

- The Scottish Wildlife Trust has undertaken NVC and invertebrates surveys at Carron Glen.
- The local SWT members centre has undertaken management work at their Wallacebank Wood reserve.
- A leaflet describing 10 steps towards the conservation of woodland invertebrates was published.
- The Tree Trunk Online was developed in partnership by the Central Scotland Forest Trust, Forestry Commission and Scottish Natural Heritage to support the delivery of specific areas of the Early Years, 5-14, Standard Grade and National Qualifications curricula.

- Woodland and access projects, including the South Falkirk Environmental Improvement project, have been undertaken across the Falkirk area to provide paths and off road links.
- An updated Phase I Habitat Survey was finalised in 2008 providing an updated picture of woodland habitats across the Falkirk area.
- An Integrated Habitat Network analysis of the Falkirk area was finalised in 2008. This analysis has identified linkages between woodland and other habitats.
- Phased removal of conifers and replacement with native broadleaved species in Polmont Woods.
- Woodland enhancement and management by the Forestry Commission (working with CSFT, NHS Forth Valley and Falkirk Council) at the new Forth Valley hospital site in Larbert.

Projects to be implemented during 2011-2014

- Undertake woodland management at at least one currently unmanaged Council owned woodland site.
- Identify and map all Council owned woodland sites and establish their current ecological condition and management status.
- Promote greater awareness and implementation of the Integrated Habitat Network study to appropriate audiences.
- Use the Integrated Habitat Network to identify the top 10 priority sites for woodland management, enhancement and expansion.

Aspirational projects

- Work to ensure that the Council's woodland estate is managed to encourage biodiversity.
- Inform landowners of woodland SINCs and Wildlife Sites of the ecological value of their site and provide appropriate guidance on management for biodiversity.
- Assess and, if appropriate, designate further woodland Wildlife sites and SINCs.

Priority species of Woodland Habitats:

Mammals
Badger
Brown long-eared bat
Soprano pipestrelle

Birds
Bullfinch
Cuckoo
Green woodpecker
Redpoll
Song thrush
Spotted flycatcher
Tree pipit
Wood warbler
Woodcock

Invertebrates
Small pearl-bordered fritillary

Plants
Wych elm
Hay-scented buckler fern
Bluebell
Plagiochilia spinulosa (liverwort)

Priority Woodland Habitats:

Broad-leaved & mixed woodland
Lowland wood pastures & parkland

Key sites:

Carron Glen SSSI
Avon Glen SSSI
18 wildlife sites
10 SINCs

Potential Delivery Partners

Callendar Estates
Central Scotland Green Network Steering Group
CSFT
Forestry Commission
Falkirk Council
Landowners
Scottish Natural Heritage
Scottish Wildlife Trust

13

Education, Awareness Raising and Participation Action Plan

The successful conservation and sustainable use of our plants, animals and habitats depends on everyone taking responsibility for biodiversity. This stewardship will only develop if people are aware of how their lives are linked to biodiversity and are encouraged to take action to conserve it. Whether making small scale changes to our individual lifestyles, making larger changes to the way we live and work, or taking direct action to help conserve our more threatened species and habitats, everyone has a contribution to make.

Education and awareness raising is fundamental to the success of the Falkirk area Biodiversity Action Plan process. Other action plans may include education and awareness raising elements. However this plan, focused on education, awareness raising and participation has a vital role to play in increasing general awareness and understanding of biodiversity. It also aims to encourage participation in biodiversity conservation and provide opportunities and support to enable all local groups and individuals to take part.

Projects initiated or supported by the FABAP since 2002:

- A booklet entitled "Wildlife Paths: Discover Nature Trails in the Falkirk Council Area" was published in 2006. The booklet describes paths in the area where you can enjoy wildlife.
- The Falkirk Biodiversity Newsletter has been published regularly since 2001.
- The BRISC 'Wildlife Counts!' project ran a number of public events aimed at recording wildlife in the Falkirk area. Several biodiversity identification courses have recently been provided by Falkirk Council.
- Leaflets for barn owls, tree sparrows, ladybirds and amphibians were published encouraging people to send in records of these species.
- The Falkirk Council Ranger Service has produced 'Outdoor Events Diaries' over the last three years which provide a guide to outdoor events and activities in and around towns, parks, woodlands and countryside of the Falkirk area.
- The Forestry Commission, in partnership with Central Scotland Forest Trust and Scottish Natural Heritage developed 'The Tree Trunk' project, which is an online directory of teaching and learning resources about forest and woods.
- The Central Scotland Forest Trust ran the 'Save our Native Bluebell' Campaign in 2008, with a series of activities and events in the Falkirk Council area.
- 'Carron in the Classroom' encouraged schools to take a role in conserving their local river by involving pupils in rearing eggs of brown trout in their classroom and then releasing them into a local watercourse.
- Over the last few years Jupiter Urban Wildlife Centre have continued to provide a wide range of formal (curriculum linked) and informal environmental education.
- The '10 steps to garden biodiversity' campaign encouraged people to garden for wildlife.
- The Green Schools Guide and Green Schools Grant were developed to help schools to undertake environmental projects.
- The 'Where have you Bean Geese?' project launched in October 2010, worked with Slamannan Primary School to raise awareness of the local Bean Goose flock and its importance.
- A lunchtime seminar was arranged for Development Services staff on bats, bat conservation and the law.

Projects to be implemented 2011-2014

- A Biodiversity Partnership Event will be held in 2011 to promote the work of the FABAP and encourage people to get involved.
- The Biodiversity Newsletter will continue to be produced twice a year
- Update and revamp the Falkirk Council biodiversity webpages
- Provide a series of lunch time seminars within Falkirk Council (and possibly open to a wider audience) to provide information and training on key biodiversity issues related to areas of work such as planning, architecture, grounds maintenance etc.

Aspirational projects

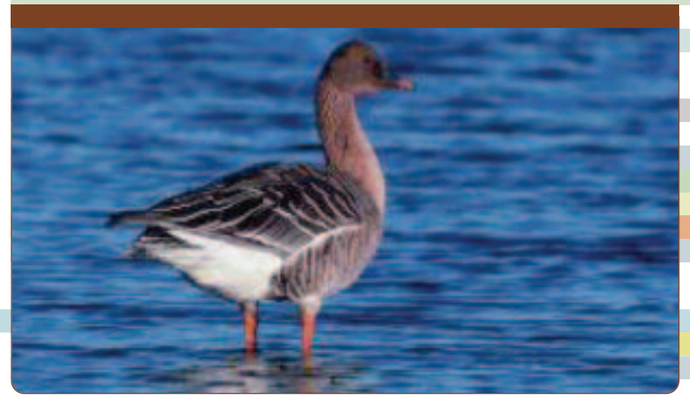
- Development a specific one year project to encourage biodiversity enhancement within a number of local schools.
- Develop a programme of workshops on birds, invertebrates and lower plants for both beginners and those with more experience (in conjunction with Buglife, BTCV and RSPB) encouraging people to get involved in exploring and recording wildlife on their doorstep.
- Develop a Community Biodiversity Action Initiative to encourage, enable and support community groups and individuals to undertake biodiversity action in their area.

Potential Delivery Partners

BTCV
Buglife
CSFT
Falkirk Council
Froglife
John Muir Award
RSPB
SWT

14

Bean Goose Action Plan



Conservation of the local bean goose flock is being actively progressed by a Bean Goose Action Group which spans both the Falkirk and the North Lanarkshire LBAP areas. This group has produced and is implementing a species action plan for bean geese. The full action plan is currently available to download at www.northlanarkshire.gov.uk. The following is a brief summary.

The Slamannan Plateau lies just east of Cumbernauld, in the headwaters of the River Avon. The area includes two small lochs and their surrounding peatlands and associated areas of rough and improved grassland. These habitats support over-wintering roosting and feeding Taiga bean geese (Anser fabalis fabalis).

Bean Geese over-winter on the Slamannan Plateau between late September and late February, with peak flock counts ranging between 255 and 300 birds over the last five years. The Slamannan Plateau bean goose flock now represents over half of the over-wintering bean goose population within Britain. It is therefore of national and international importance.

Actions and projects initiated or supported by the FABAP since 2002

The Bean Goose Action group has co-ordinated action to conserve the wintering flock of bean geese on the Slamannan Plateau, since the early 1990's.

Over the last eight years, the following actions have been implemented by various partners, companies, voluntary groups, individuals and the local authority to protect and conserve the wintering Bean Goose flock on the Slamannan Plateau:

- 557.5 hectares of the bean goose study area on the Slamannan Plateau was designated as a SSSI in 2006. The qualifying interest for this SSSI is the aggregations of non-breeding taiga bean geese.
- The Slamannan Plateau Special Protection Area (SPA), covering 591.32 hectares, was designated in 2008. The qualifying interest of the SPA is the non-breeding population of Taiga bean geese which over-winter within the area.
- The Bean Goose fieldworker(s), overseen by the Bean Goose Action Group, have monitored the wintering bean goose flock annually.
- SNH has developed a Natural Care Scheme to encourage management of parts of the bean goose study area to benefit the bean goose flock and have actively encouraged eligible landowners to participate in the scheme.

Projects to be implemented during 2011-2014

(Extracted from the bean goose species action plan 2009)

- Ensure that this habitat is afforded adequate consideration and, where possible, protected from damaging development through the planning process by: a) developing appropriate policies within local and structure plans and other strategies as they are written or reviewed and b) reviewing supplementary planning guidance.
- Influence the Scottish Rural Development Programme development to ensure that Rural Priorities contain suitable packages and options for the management of bean geese.
- Ensure that the development of countryside access does not cause disturbance to sites known to be favoured by bean geese.
- Manage Fannyside Reserve in a way that encourages use by bean geese.
- Make available woodland guidelines to applicants for forestry grants and to others involved in tree planting on the Slamannan Plateau.
- Distribute the information leaflet highlighting the bean goose, its habitat requirements and appropriate action to benefit the bean geese, to all landowners and occupiers.
- Monitor annually species numbers and fields used for feeding and roosting and produce an annual report.
- Produce an updated GIS map of key bean goose feeding and roosting fields based on above monitoring.
- Conduct further research into the local movements and behaviour of individual birds in the Central Scotland flock by fitting neck collars.
- Follow migration route back to Sweden by fitting a radio transmitter to one of the birds.
- Use night vision equipment to monitor roosting and night time movement of bean goose flock.
- Make contact with universities, research units and other organisations/individuals with an interest in bean geese.
- Maintain, develop and manage a bean goose section on the Falkirk Council website as a source of information on the bean goose flock in Central Scotland.
- Develop links with local groups and schools in the bean goose study area to raise awareness and understanding of the importance of bean geese in the area. Including a second 'Where have you Bean Geese?' schools project during 2011.

This plan has been developed by the Bean Goose Action Group. A specific species action plan is deemed most useful to the group. This plan may be updated separately to the rest of the FABAP. Details of any updates will be made available on the Falkirk Council website www.falkirk.gov.uk

Appendix 1

Falkirk Area Biodiversity Action Plan Priority Habitats List

Habitat	Habitat Plan associated with	UK BAP priority habitats included
Estuary	Estuary	
Mudflats	Estuary	Intertidal mudflats
Saline Lagoons	Estuary	Saline lagoons
Saltmarsh	Estuary	Coastal saltmarsh
Arable	Farmland and Grassland	Arable Field Margins
Boundary Features	Farmland and Grassland	Hedgerows
Lowland, dry, acidic grassland	Farmland and Grassland	Lowland Dry Acid Grassland
Neutral Grassland	Farmland and Grassland	Coastal and Floodplain Grazing Marsh
Heath	Heath and Bog	Lowland Heathland Upland Heathland
Lowland raised and intermediate bogs	Heath and Bog	Lowland Raised Bog
Canals	Inland water and wetland	
Fen, marsh and swamp	Inland water and wetland	Lowland Fens Reedbeds Upland Flushes, Fens and Swamps
Rivers and Streams	Inland water and wetland	Rivers
Standing open water	Inland water and wetland	Eutrophic Standing Waters Ponds
Open mosaic habitat on previously developed land (including Bings)	Urban	Open Mosaic Habitats on Previously Developed Land
Gardens	Urban	
Urban Greenspace	Urban	
Urban wildlife corridors	Urban	
Broadleaved and mixed woodland	Woodland	Lowland Mixed Deciduous Woodland Upland Mixed Ashwoods Upland Oakwood Wet Woodland
Wood pasture and parkland	Woodland	Wood-Pasture & Parkland

Appendix 2

Falkirk Area Biodiversity Action Plan Priority Species List

This list identifies the local priority species for the Falkirk area and the main Habitat Plan(s) they are associated with.

Common name	Scientific name	Habitat Plan(s) associated with		Species status	
MAMMALS					
Badger	Meles meles	Woodland			S
Brown hare	**Lepus europaeus**	**Farmland & grassland**		**UK**	**S**
Brown long-eared bat	Plecotus auritus	Woodland / Urban		UK	S
European otter	**Lutra lutra**	**Inland water & wetland**		**UK**	**S**
Hedgehog	Erinaceus europaeus	Urban / Woodland		UK	
Soprano Pipistrelle bat	**Pipistrellus pygmaeus**	**Woodland / Urban**		**UK**	**S**
Water vole	Arvicola terrestris	Inland water & wetlands		UK	S
BIRDS					
Barn owl	Tyto alba	Farmland & grassland			S
Bean goose	**Anser fabilis**	**Farmland & grassland**			**S**
Black grouse	Tetrao tetrix	Heath & bog		UK	S
Black-tailed godwit	**Limosa limosa**	**Estuary**		**UK**	**S**
Bullfinch	Pyrrhula pyrrhula	Woodland		UK	S
Common tern	**Sterna hirundo**	**Estuary**			**S**
Cuckoo	Cuculus canorus	Woodland	+	UK	
Curlew	**Numenius arquata**	**Farmland & grassland**		**UK**	**S**
Dipper	Cinclus cinclus	Inland water & wetland			
Dunlin	**Calidris alpine**	**Estuary**			**S**
Golden Plover	Pluvialis apricaria	Estuary			S
Grasshopper warbler	**Locustella naevia**	**Farmland & grassland/Heath & bog**	+	**UK**	
Great crested grebe	Podiceps cristatus	Estuary			
Green woodpecker	**Picus viridus**	**Woodland**			
Grey partridge	Perdix perdix	Farmland & grassland		UK	S
Greylag goose	**Anser anser**	**Estuary**			
Hen harrier	Circus cyaneus	Heath & bog			S
House Sparrow	**Passer domesticus**	**Urban**	+	**UK**	
Kestrel	Falco tinnuculus	Urban / Farmland & grassland			S
Kingfisher	**Alcedo atthis**	**Inland water & wetland**			**S**
Knot	Calidris canutus	Estuary			
Lapwing	**Vanellus vanellus**	**Farmland & grassland**		**UK**	**S**
Lesser redpoll	Carduelis flammea	Woodland		UK	
Linnet	**Carduelis cannabina**	**Farmland & grassland**		**UK**	**S**
Merlin	Falco columbarius	Heath & bog			S
Pink-footed goose	**Anser brachyrhynchus**	**Estuary**			
Pintail	Anas acuta	Estuary			
Red-breasted merganser	**Mergus serrator**	**Estuary**			
Redshank	Tringa tetanus	Estuary			
Reed bunting	**Emberiza schoeniculus**	**Inland water & wetland**		**UK**	**S**
Sand martin	Riparia riparia	Urban			
Sedge warbler	**Acrocephalus schoenobaenus**	**Inland water & wetland**			
Shelduck	Tadorna tadorna	Estuary			
Short-eared owl	**Asio flammeus**	**Heath & bog**			**S**
Skylark	Alauda arvensis	Farmland & grassland		UK	S
Snipe	**Gallinago gallinago**	**Farmland & grassland / Heath & bog**			
Song thrush	Urdus philomelos	Urban / Woodland		UK	S
Spotted flycatcher	**Muscicapa striata**	**Woodland**		**UK**	**S**
Starling	Sturnus vulgaris	Urban / Woodland	+	UK	
Swallow	**Hirundo rustica**	**Farmland & grassland**			
Swift	Apus apus	Urban			S
Teal	**Anas cracca**	**Estuary**			
Tree pipit	Anthus trivialis	Woodland		UK	
Tree sparrow	**Passer montanus**	**Farmland & grassland**		**UK**	
Twite	Carduelis flavirostris	Heath & bog		UK	
Water rail	**Rallus aquaticus**	**Inland water & wetland**			
Wood warbler	Phylloscopus sibilatrix	Woodland		UK	S
Woodcock	**Scolopax rusticola**	**Woodland**			**S**
Yellowhammer	Emberiza citrinella	Farmland & grassland		UK	

Species status key

+ - species added to the list in 2011, UK – UKBAP priority species, S - Scottish Biodiversity List

Appendix 2

Falkirk Area Biodiversity Action Plan Priority Species List

Common name	Scientific name	Habitat Plan(s) associated with		Species status		
AMPHIBIANS, REPTILES and FISH						
Common frog	Rana temporaria	Inland water & wetland				
Common toad	**Bufo bufo**	**Inland water & wetland**		**UK**		
Great crested newt	Triturus cristalus	Inland water & wetland		UK	S	
Palmate newt	**Triturus helveticus**	**Inland water & wetland**				
Smooth newt	Triturus vulgaris	Inland water & wetland				
Adder	**Vipera berus**	**Heath & bog**		**UK**		
Common Lizard	Lacerta vivipara	Heath & bog	+	UK		
Slow worm	**Anguis fragilis**	**Heath & bog**	**+**	**UK**		
Atlantic salmon	Salmo salar	Inland water & wetland		UK	S	
Brook lamprey	**Lampetra planeri**	**Inland water & wetland**			**S**	
European Eel	Anguilla anguilla	Inland water & wetland	+	UK		
River lamprey	**Lampetra fluviatilis**	**Inland water & wetland**		**UK**	**S**	
Sea/Brown trout	Salmo trutta fario	Inland water & wetland		UK		
Sparling (smelt)	**Osmerus eperlanus**	**Estuary**		**UK**	**S**	
Twaite shad	Alosa fallax	Estuary		UK	S	
INVERTEBRATES						
Small pearl-bordered fritillary	Boloria selene	Woodland		UK		
Green hairstreak butterfly	**Callophrys rubi**	**Heath & bog**				
Large heath butterfly	Coenonympha tullia	Heath & bog		UK		
A Mud snail	**Omphiscola glabra**	**Inland water & wetland**		**UK**	**S**	
Common blue butterfly	Polyommatus icarus	Farmland & grassland				
Swordgrass moth	**Xylena exsoleta**	**Farmland & grassland**		**UK**	**S**	
FLOWERING PLANTS						
Annual Knawel	Scleranthus annuus	Farmland & grassland	+	UK	S	
Bennett's pondweed	**Potamogeton x Bennetti**	**Inland water & wetland**				
Bluebell	Hyacinthoides non-scripta	Woodland			S	
Dune helleborine	**Epipactis leptochila dunensis**	**Urban**				
Field scabious	Knautica arvensis	Farmland & grassland				I
Grass of Parnassus	**Parnassia palustris**	**Inland water & wetland**				
Greater butterfly orchid	Platanthera Chlorantha	Farmland & grassland			S	
Harebell	**Campanula Rotundifolia**	**Farmland & grassland**			**S**	
Ivy-leaved water crowfoot	Ranunculus hederaceus	Inland water & wetland				
Lesser Butterfly Orchid	**Platanthera bifolia**	**Farmland & grassland**	**+**	**UK**	**S**	
Ox-eye daisy	Chrysanthemum leucanthemum	Urban / Farmland & grassland				I
Purple ramping fumitory	**Fumaria purpurea**	**Farmland & grassland**		**UK**	**S**	
Ragged robin	Lychnis flos-cuculi	Inland water & wetland				I
Round-leaved Sundew	**Drosera rotundifolia**	**Heath & bog**				**I**
Smooth cats-ear	Hypochaeris glabra	Farmland & grassland			S	
Tufted loosestrife	**Naumburgia thyrsiflora**	**Inland water & wetland**				
Whorled caraway	Carum verticullatum	Farmland & grassland				
Wych elm	**Ulmus glabra**	**Woodland**				
Young's helleborine	Epipactis youngiana	Urban				
FERNS and LOWER PLANTS						
Hay scented buckler fern	Dryopteris aemula	Woodland				
A liverwort	**Plagiochilia spinulosa**	**Woodland**				
Moonwort	Botrychium lunaria	Farmland & grassland				
Pillwort	**Pilularia globulifera**	**Inland water & wetland**			**S**	
A liverwort	Lepidozia pearsonii	Heath & bog				

Species status key
+ - species added to the list in 2011, UK – UKBAP priority species, S - Scottish Biodiversity List
I – Indicator species (indicating the presence and/or ecological health of a specific priority habitat)

Species removed from the priority species list

Common Name	Scientific Name	Reason for removal
Common pipestrelle	Pipistrellus pipistrellus	Removed from the UKBAP species list
A fly	Acanthocnema nigrimana	Not UK BAP species. Buglife UK recommend removal from the list but that appropriate habitat enhancement work should be undertaken to benefit invertebrates more generally.
A ground beetle	Aepus marinus	
A mayfly	Ameletus inopinatus	
A solider fly	Beris clavipes	
A beetle	Brachygluta helferi	
A fly	Brachyopa insensilis (Scottish list)	
A weevil	Brachysomus echinatus	
A beetle	Chrysolina oricalcia	
A beetle	Deleaster dichrous	
Grey scalloped bar moth	Dyscia fagaria	
A mould beetle	Enicmus fungicola	
A beetle	Enicocerus exsculptus	
A fly	Mycetobia pallipes	
A fly	Neolimnophilia carteri	
A hoverfly	Parhelophilus consimilis	
A beetle	Phyllodrepoidea crenata	
A beetle	Scaphisoma boleti	
A hoverfly	Sphaerophoria loewi (Scottish list)	
A fly	Symballophthalmus dissimilis	
A fly	Systenus pallipes	

Appendix 3

Project summary table 2011-2014

Project	Target habitat(s)	Target species	Potential key partners*
Work with other local authorities and organisations with an interest in the Forth Estuary to identify and implement projects to benefit LBAP species and habitats across the Forth Estuary area, making the most of opportunities for joint working. Development and implementation of the Futurescapes Project will be a key element of this.	All estuarine habitats	All estuarine species	RSPB Falkirk Council Clackmannanshire Council Stirling Council Forth Estuary Forum
Hold a litter clean-up in Bo'ness in conjunction with Friends of the Forth to raise awareness of the problems associated with marine litter.	Estuary	All estuarine species	Friends of the Forth Forth Estuary Forum
Undertake suitable estuarine habitat management at Bo'ness Foreshore, ideally instigated and led by a Bo'ness Foreshore management group.	Estuary	All estuarine species	Friends of Kinneil Falkirk Council RSPB CSFT
Implement a targeted management scheme on one Falkirk Council owned grassland SINC or Wildlife Site to enhance its value for biodiversity.	Neutral or lowland dry acidic grassland	All grassland species	Falkirk Council
Undertake a review of mowing regimes on grassland sites (e.g. road verges, openspace, parks) owned by Falkirk Council and implement a project at one site to pilot new regimes that will enhance biodiversity.	Neutral or lowland dry acidic grassland	All grassland species	Falkirk Council
Alter mowing regimes at Bo'ness Foreshore to create an area of wildflower meadow.	Neutral grassland	All grassland species	Friends of Kinneil Falkirk Council
Develop a nest box and winter feeding project for tree sparrows at one or more specific sites across the Falkirk area.		Tree sparrows	Falkirk Council RSPB
Extend the Large heath butterfly survey to the north of the area to include sites such as Torwood Mire and Dunmore Moss, whilst also revisiting sites thought suitable for large heath during previous surveys.		Large heath	Butterfly Conservation Buglife
An integrated habitat network study has been produced for the Falkirk area. This study identifies linkages between a range of habitats, including raised bogs. The study should be used to prioritise raised bogs where conservation action would be most beneficial.	Raised and intermediate bog	All bog species	CSFT / CSGN Butterfly Conservation
Provide appropriate guidance on raised bog management to raised bog site owners (particularly owners of wildlife sites and SINCs) and identify a suitable site for an enhancement project.	Raised and intermediate bog	All bog species	
Black Grouse have been recorded from the Falkirk area, however no targeted monitoring has been undertaken. Opportunities should be sought, in conjunction with the RSPB, to work with neighbouring Black Grouse monitoring schemes to provide coverage within the Falkirk area.		Black Grouse	RSPB
Initial raised bog habitat restoration project in conjunction with a developer's contribution.	Raised bog	All bog species	Falkirk Council Butterfly Conservation
Secure the cessation of peat use by Falkirk Council or contractors working for Falkirk Council.	Raised bog		Falkirk Council
Continue implementation of the management plan for Carron Dams SSSI. (Scottish Wildlife Trust with support from Falkirk Council), with a view to bringing the fen communities at this site back into favourable condition and increasing community involvement in the site.	Fen, marsh & swamp	All wetland species	SWT
Undertake a survey of ponds within the Falkirk Council area (informed by the recently updated Phase I survey) with public involvement. Prioritise ponds where conservation action should be targeted to produce a functional network of good quality pond habitats and promote beneficial pond management and creation by others.	Open water	All open water species	Falkirk Council Froglife Buglife
Following the 2007-08 great crested newt project, continue periodic surveying and monitoring of great crested newt populations and undertaking at least one enhancement project for great crested newts.		Great crested newt	Froglife Falkirk Council
Undertake invasive species (in particular Japanese Knotweed) monitoring and management along at least part of the River Carron.	Rivers		Falkirk Invasive Species Forum CATCA RCFMG Forth Fisheries Trust
Support the River Avon Federation in their planned work to monitor invasive plant species and mink populations along the River Avon.	Rivers		Falkirk Invasive Species Forum Forth Fisheries Trust
Undertake woodland management at at least one currently unmanaged Council owned woodland site.	Broadleaved woodland	All broadleaved woodland species	Falkirk Council CSFT
Identify and map all Council owned woodland sites and establish their current ecological condition and management status.	Broadleaved woodland	All broadleaved woodland species	Falkirk Council
Promote greater awareness and implementation of the Integrated Habitat Network study to appropriate audiences.	Woodland, grassland, bog and other habitats	Various	CSFT / CSGN Falkirk Council Forestry Commission
Use the Integrated Habitat Network to identify the top 10 priority sites for woodland management, enhancement and expansion.	Woodland	Woodland species	CSFT Falkirk Council
Establish the ecological value of various brownfield sites within the area and undertake appropriate biodiversity protection and enhancement on at least one site.	Open mosaic habitat	Urban species, particularly brownfield specialists	Buglife
Continue annual monitoring of the helleborine orchid population at Almond Bing and undertake appropriate management.		Helleborine orchids	Plantlife Scotland SWT members Falkirk Council
Investigate the management of Council owned openspaces such as cemeteries, golf courses, road verges etc. and develop one pilot project to demonstrate how altered maintenance regimes can benefit biodiversity.	Grassland	Grassland and urban species	Falkirk Council
Use the ponds project (within the water and wetland action plan) to promote beneficial management of garden ponds and more general gardening for wildlife.	Open water, gardens	Garden and open water species	Froglife Buglife Falkirk Council
A Biodiversity Partnership Event will be held in 2011 to promote the work of the FABAP and encourage people to get involved.			Biodiversity Partnership
The Biodiversity Newsletter will continue to be produced twice a year			Falkirk Council
Update and revamp the Falkirk Council biodiversity webpages			Falkirk Council
Provide a series of lunch time seminars within Falkirk Council (and possibly open to a wider audience) to provide information and training on key biodiversity issues related to areas of work such as planning, architecture, grounds maintenance etc.			Falkirk Council with Biodiversity Partnership members
A number of bean goose actions (see full plan at www.northlanarkshire.gov.uk)		Bean Goose	Bean Goose Action Group

** In some cases key partners will evolve and change as projects develop or other organisations come forward*

Appendix 4

Aspirational project summary table

Project	Target habitat(s)	Target species	Potential key partners*
Secure positive, long term management of the brackish/saline lagoons at Bothkennar Pools, Skinflats.	Saline lagoons		RSPB
Investigate the current ecological status of Kinneil saline lagoon and undertake positive management and enhancement works.	Saline lagoons		RSPB Friends of Kinneil Falkirk Council
Develop a hedgerow project looking at increasing the length of native hedgerows in the Falkirk area and improving the quality of existing hedgerows.	Hedgerows (boundary features)		CSFT
In conjunction with RSPB Scotland, identify key sites for breeding farmland waders, and where appropriate, seek to work with the land managers to ensure that they are appropriately managed.		Farmland waders	RSPB
Develop contacts with agri-environment advisory bodies with a view to future joint working to undertake projects to benefit local biodiversity, provide guidance to local farmers about biodiversity and encourage action for biodiversity by local landowners.	Farmland habitats	Farmland species	
Investigate the development of a wider Central Scotland Raised Bog Project, possibly in conjunction with BTCV Natural Talent, North Lanarkshire Council and West Lothian Council to look at the conservation of lowland bogs across the area, with a focus on producing practical action to conserve these important habitats.	Raised bog	All bog species	BTCV Scotland Butterfly Conservation Buglife Councils
Investigate the condition of Letham Moss and the potential for its restoration following the cessation of peat cutting.	Raised bog	Bog species	Buglife Butterfly Conservation
Investigate the current condition of all key heath sites and identify any management or enhancement needs.	Heath	Heath species	
Provide guidance to landowners/managers on the priority species associated with heath and bog sites, their identification and habitat requirements.		Heath and bog species	Froglife
Enhancement of the Carronshore (Dorrator) Wildlife Site and removal of engineering along the River Carron at this point to reinstate the site as a natural area of floodplain, reduce flooding downstream and enhance the site's biodiversity value. (Working with SEPA's Habitat Enhancement Initiative)	Woodland Rivers		CSFT CATCA
Protection of the great crested newt population at Avonglen, through securing appropriate use, management and stewardship of the site.		Great crested newt	Falkirk Council Froglife
Carry out an assessment of opportunities for biodiversity enhancement along the Carron river corridor, informed by the Integrated Habitat Network Study and the results of the Communities Along the Carron Project. Prioritise the opportunities identified and commence implementation.	Rivers	Aquatic species	CATCA RCFMG
Agree Council policy on invasive species monitoring and control and promote awareness of this within relevant sections of the Council.			Falkirk Invasive Species Forum Falkirk Council
Work to ensure that the Council's woodland estate is managed to encourage biodiversity.	Woodland	Woodland species	Falkirk Council CSFT
Inform landowners of woodland SINCs and Wildlife Sites of the ecological value of their site and provide appropriate guidance on management for biodiversity.	Woodland	Woodland species	
Assess and, if appropriate, designate further woodland Wildlife sites and SINCs.	Woodland	Woodland species	Falkirk Council
The open space strategy has identified a considerable area of private gardens in the Falkirk area. A series of Biodiversity Gardening workshops should be run, possibly in conjunction with the Scottish Wildlife Trust/BTCV at Jupiter, to encourage gardening for wildlife.	Gardens	Garden species	BTCV Scotland SWT
Through implementation of the openspace strategy and working with appropriate Council services, investigate opportunities to ensure that the management of parks takes account of biodiversity and works to benefit it.	Urban greenspace		Falkirk Council
Agree Council policy on invasive species monitoring and control and promote awareness of this within relevant sections of the Council.			Falkirk Council Falkirk Invasive - Species Forum
Carry out a swift survey in Falkirk and install swift nesting sites on buildings close to any existing colonies.		Swift	RSPB
Develop a specific one year project to encourage biodiversity enhancement within a number of local schools.			Falkirk Council Froglife
Develop a programme of workshops on birds, invertebrates and lower plants for both beginners and those with more experience (in conjunction with Buglife, BTCV and RSPB) encouraging people to get involved in exploring and recording wildlife on their doorstep.		Birds Invertebrates Lower plants	RSPB BTCV Scotland Buglife
Develop a Community Biodiversity Action Initiative to encourage, enable and support community groups and individuals to undertake biodiversity action in their area.			John Muir FET Falkirk Council BTCV Scotland

** In some cases key partners will evolve and change as projects develop or other organisations come forward.*

Appendix 5

Proforma for in-house environmental assessment of projects
This is a draft proforma for the assessment of FABAP projects once they have been more fully developed to ensure that, following appropriate mitigation, they will not have a significant negative environmental impact.

Environmental Factors	Potential impact					Possible Mitigation	Comments
	++	+	0	-	--		
Nationally or internationally designated sites							
Locally designated sites							
Legally protected species or habitats							
FABAP Priority Habitats							
FABAP Priority Species							
Impact on the IHN and functional habitat connectivity							
Opportunities for participation in practical conservation.							
Awareness and understanding of biodiversity issues							
Pollution							
Water quality							
Soil resource							
Impact on cultural heritage, particularly listed or scheduled features							
Pollution							
Noise / disturbance							

Potential Impact Key
++ Major positive impact
+ Minor positive impact
0 No significant impact
- Minor negative impact
-- Major negative impact

Projects which, even after mitigation, are shown to have a significant negative environmental impact should not be undertaken.

Appendix 6

Partner organisations
Organisations involved in developing and implementing the 2002 Falkirk Area Biodiversity Action Plan included:

Amateur Entomologist's Society	Farmers
Angling clubs	Forestry Commission
Avecia / Syngenta	Forth District Salmon Fisheries Board
Bat Conservation Trust	Forth Estuary Environmental Assessment Programme
Bats and the Millennium Link	Forth Estuary Forum
Bean Goose Action Group	Forth Fisheries Foundation
BP Grangemouth	Game Conservancy Trust
British Society for Biological Information	Jupiter Urban Wildlife Centre
British Trust for Conservation Volunteers	LEAF
British Trust for Ornithology	Managed Realignment Steering Group
British Waterways	National Trust for Scotland
Butterfly Conservation	North Lanarkshire Council
Callendar Estate	Royal Society for the Protection of Birds
CARSE Biological Records Centre	Scottish Agricultural College
Central Lowland Native Woodlands	Scottish Environment Protection Agency
Central Scotland Badger Group	Scottish Federation of Coarse Anglers
Central Scotland Bat Group	Scottish Natural Heritage
Central Scotland Forest Trust	Scottish Ornithologist's Club
Ephemoroptera recording scheme	Scottish Water
Falkirk Council	Scottish Wildlife Trust
Farming and Wildlife Advisory Group	Stirling University

In addition over the last eight years many individuals have played a role in developing and implementing the FABAP.

Since development of the first FABAP in 2002 new community groups, river management groups, community woodland groups and others have emerged and are taking action to conserve their local biodiversity. While not represented in the above list, they also play a vital role in local action for biodiversity and are critical contributors to the FABAP process.

Appendix 7

Abbreviations

BaTML	Bats and The Millennium Link
BRISC	Biological Recording Information Scotland
BTCV	British Trust for Conservation Volunteers
CSFT	Central Scotland Forest Trust
CSGN	Central Scotland Green Network
FEF	Forth Estuary Forum
FWAG	Farming and Wildlife Advisory Group
FABAP	Falkirk Area Biodiversity Action Plan
GIS	Geographical Information Systems
IHN	Integrated Habitat Network
LBAP	Local Biodiversity Action Plan
LNR	Local Nature Reserve
NGO	Non-Governmental Organisation
RCFMG	River Carron Fisheries Management Group
RSPB	Royal Society for the Protection of Birds
SAC	Special Area for Conservation
SEA	Strategic Environmental Assessment
SEPA	Scottish Environmental Protection Agency
SINC	Site of Interest for Nature Conservation
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SRDP	Scottish Rural Development Programme
SSSI	Site of Special Scientific Interest
SWT	Scottish Wildlife Trust
UKBAP	United Kingdom Biodiversity Action Plan

Index

Images clockwise from top left.
Unless otherwise stated images are courtesy of Falkirk Council.

Notes