

---

# Farmland

ACTION PLAN

---





# Farmland Landscape

## INTRODUCTION

### A Landscape Perspective...

Farming has been taking place in the UK for thousands of years, changing the natural landscape and creating a predominately man made environment. Farmland dominates our landscape, with agricultural land accounting for approximately 75% of UK land use cover. Many species of birds, mammals and invertebrates have taken advantage of this change in landscape and certain types of farming can be particularly beneficial to biodiversity, especially traditional low intensity farming and is known as 'High Nature Value' farmland.

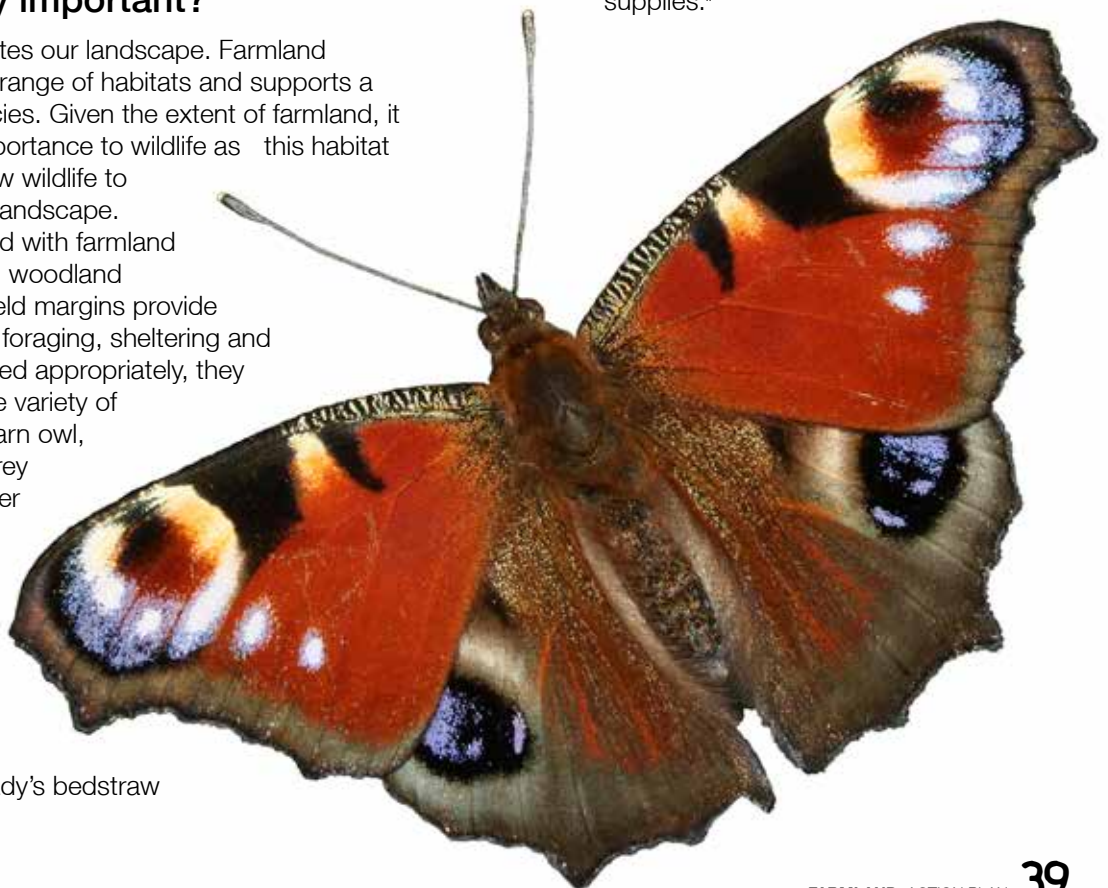
Whilst farmland is not a habitat in itself within the UK Biodiversity Action Plan, it supports a mosaic of habitats which can be of high biodiversity value. The importance of farmland to biodiversity is recognised at a national level. The 2020 Challenge for Scotland's Biodiversity identifies key steps to improve farmland for biodiversity.<sup>i</sup> The growing concept of 'High Nature Value' recognises that the conservation of biodiversity in Europe depends on the continuation of low intensity farming systems

### Why are they important?

Agriculture dominates our landscape. Farmland provides a diverse range of habitats and supports a wide range of species. Given the extent of farmland, it can be of huge importance to wildlife as this habitat can potentially allow wildlife to move through the landscape. Features associated with farmland such as hedgerow, woodland shelter belts and field margins provide suitable habitat for foraging, sheltering and breeding. If managed appropriately, they can support a large variety of species such as Barn owl, Brown hare and Grey partridge. Wildflower rich hay meadows can be particularly important for wildlife. By supporting grass and flower species such as Meadow foxtail, Lady's bedstraw

and Meadow buttercup, meadows can support a rich invertebrate assemblage and be an important food source for a variety of bird species. Once such hay meadow is found at Brownsburn Local Nature Reserve, and is managed to optimise wildflower diversity. Annual, late summer cutting produces wildflower meadows that attract a variety of butterfly species such as Peacock butterfly and Orange-tip butterfly.

Farmland is not only beneficial to wildlife. As well as producing food, they have rich cultural value and play an integral role in rural economies. Agricultural landscapes provide public benefits for recreation, improving health and well being and have an important aesthetic value. Scottish farming plays a major part in sustaining rural community networks, as employers, consumers and producers. Farmland provides us with many ecosystem services. Ecosystem services can be described as the benefits society receives from the natural environment. From a farmland perspective, these ecosystem services include soil, water and air quality. For example, farmland can help with water regulation through increased filtration which can reduce the risk of runoff and flooding and help recharge groundwater supplies.<sup>ii</sup>



## Farmlands Habitats Under Threat...

Since the latter part of the 20th Century, modern, intensive farming methods have led to a decline in farmland biodiversity. With a growing human population, there will be an ever increasing demand for food production. This will lead to further pressures on farmland habitat and the ecosystem services that they provide.

Biodiversity is heavily influenced by land use and land management techniques. As traditional methods of farming have declined and agricultural intensification has taken hold, there has been a rapid decline in the wildlife that is associated with our farmed environment. Hedge laying, rotational and diverse cropping, seasonal grazing, and leaving winter stubble and field margins are just some of the farming methods that have become less common in recent years, despite having many benefits for wildlife, the environment and food production.

Between the period 1970 – 2013, species highly dependant on farmland habitat in the UK (including Tree sparrow, Corn bunting and Grey partridge) have declined by 70% . Changes in farming practices, such as the loss of mixed farming systems, the move from spring to autumn sowing of arable crops, and increased pesticide use, have been demonstrated to have had adverse impacts on farmland birds such as Skylark and Grey partridge, although other species such as Wood pigeon have benefitted. Skylark, once synonymous with many farms throughout the country, has suffered many decades of breeding population decline. It has declined 58% from the period 1970 –

2010 and it is believed that this decline is due to changes in farming practice, in particular the intensification of grassland management and the switch from spring to autumn sowing of cereals.<sup>iv</sup> Curlew, Lapwing, Oystercatcher and Redshank, all of which breed on farmland habitat, have showed significant breeding declines in Scotland from 1994 to 2011.<sup>v</sup> This declining trend is not only seen in farmland bird species, but also in other groups such as butterflies. Structural variety in sward length, summer nectar sources and areas of scrub are all features which can be incorporated into farmland management that would greatly benefit butterflies.

## Farmland In North Lanarkshire

There are over 300 farms in North Lanarkshire which support a diverse range of habitats and wildlife. Biodiversity is not only under threat from intensification, but also the loss of farmland to development such as housing, landfill and wind farms. National trends in the decline of key farmland species groups such as waders are mirrored in North Lanarkshire.

The Farmland Habitat Action Plan aims to protect and safeguard habitats associated with farmland such as lowland flood plain grazing marsh and hedgerow. The plan also includes objectives and targets for key farmland species within North Lanarkshire such as Barn owl and Bean goose, with aim to not only improve fortunes for these species under threat but to improve habitat quality.

*"Farming is of huge importance for wildlife. It provides breeding and feeding habitats for a wide variety of wildlife, of which some species are fundamentally tied to agricultural systems. Effort needs to be made to ensure that current and future farming takes account of wildlife and our fields and hedgerows continue to be home to soaring Skylarks, the hum of bees and the squeak of field voles."*

**Toby Wilson - RSPB Scotland Conservation Officer**

i The Scottish Government, 2013, 2020 Scottish Biodiversity Challenge

ii Natural England, 2012, Ecosystem services from Environmental Stewardship that benefit agricultural production (NERC102)

iii DEFRA, 2014, Wild Bird Population in the UK, 1970 to 2013

iv Gibbons, D.W., Reid, J. and Chapman, R.A. (1993) The New Atlas of Breeding Birds in Britain and Ireland; 1988 -1991. T.&A.D. Poyser, London

v Foster, S., Harrison, P., Buckland, S., Elston, D., Brewer, M., Johnston, A., Pearce-Higgins, J., Marrs, S. (2013) Trends of Breeding Farmland Birds in Scotland

# Floodplain and Grazing Marsh

## ACTION PLAN

SCOTTISH BIODIVERSITY LIST HABITAT:

YES

UK BIODIVERSITY LIST OF PRIORITY HABITATS:

YES

### Summary

It is estimated that there is 300,000 ha of grazing marsh in the UK. However, only a small proportion of this grassland is semi-natural, supporting a high diversity of native plant species (Estimated 10,000ha in the UK).

The largest area of this habitat in North Lanarkshire is in the Kelvin Valley, with the greatest continuous extent found to the south of Kilsyth between Banknock and Dumbreck Local Nature Reserve. Over the last 2 centuries much of this area has been drained or built on. The remaining extent tends to be in poor condition due to the lack of, or inappropriate, management.

### Habitat Profile

Floodplain and grazing marsh can be defined as periodically inundated pasture or meadow with ditches containing standing fresh water, which regulate or maintain the water levels. These ditches are especially rich in plants and invertebrates. Almost all areas are grazed and some are cut for hay and silage. Sites may contain seasonal water filled pools, or less often, permanent ponds such as old ox-bow lakes containing emergent swamp communities.

This is a diverse habitat definition, covering drained and improved grassland and marshy habitats, with a high proportion of rushes, sedges or Meadowsweet. All of these habitats are regularly liable to periodic flooding, mainly from October to April. The grasslands are found on alluvial nutrient rich-soil created by the periodic flooding of rivers and streams.

The main grassland groups are:

- Improved grassland, often re-seeded with Ryegrass, Timothy or Clover mixes.
- Fen or marshy grassland with a high proportion of rushes, sedges or Meadowsweet.
- Wet pasture with a predominance of tall herbs such as Valerian or Wild angelica.

Floodplain and grazing marsh supports a wide variety of animals; the species present often dependent upon the type of grassland present. It is particularly important for breeding waders such as Redshank, Snipe, Lapwing and Curlew. Improved grassland that floods on a regular basis supports winter flocks of grazing Greylag geese and Whooper swans.

Grassland comprising of mostly rushes or sedges supports wintering and breeding Reed buntings, whilst wet, herb rich pasture provides habitat for Grasshopper warblers. Emergent plants such as Branched bur-reed provide winter food for a variety of ducks.



## Current Status

Floodplain and grazing marsh was common along the larger watercourses in North Lanarkshire prior to the industrial revolution. However, industrial development led to many drainage and water flow control schemes that reduced the flooding of these rivers and the size of their floodplains. The greatest loss of habitat was likely to have been on the Clyde Haughs where Strathclyde Loch now stands and the floodplain of the River Kelvin. The Kelvin Valley, around the Forth and Clyde Canal at Kilsyth, is the largest and most intact area of floodplain grazing marsh in the county. A small area of grazed floodplain grassland with shallow ponds occurs by the River Clyde, south east of RSPB Baron's Haugh Nature Reserve.

The draining of the Kelvin is well documented in the Old Statistical Account of Kilsyth in 1795, "The Kelvin takes its rise near the centre of this parish... in slow, oozing serpentine course... overgrown with fags, rushes and water lilies; so that it frequently overflowed the adjacent valley, giving it the appearance of a great lake, or considerable arm of the sea". A new channel was cut in the early 1790's; it was almost straight and much deeper than the original river. This drainage turned 300 acres of meadow into arable land and 60 acres of moss into meadow. The river channel is now largely artificial and the predominant grassland type present in the River Kelvin floodplain is drained, improved grassland used for pasture and silage.

The Water Framework Directive (WFD) is a wide-ranging piece of European legislation which became law in Scotland through the Water Environment and Water Services (Scotland) Act (WEWS) 2003. The Act was supplemented by the Water Environment (River Basin Management planning: Further Provision) (Scotland) Regulations 2013 and the Cross-Border River Basins Districts (Scotland) Directions 2014. The Act created a new River Basin management Planning (RBMP) process to achieve environmental improvements to protect and enhance our water environment in a sustainable way; The Water Environment (Controlled Activities) (Scotland) Regulations 2011 are in place to manage activities which may impact on the water environment.

The Water Framework Directive (WFD) aims to improve and protect the water environment on a catchment scale. Its aims are to:

- Prevent deterioration and enhance status of aquatic ecosystems, including groundwater
- Promote sustainable water use
- Reduce pollution
- Contribute to the mitigation of floods and droughts

Scottish Ministers have powers to introduce controls over a range of activities which can have an adverse impact upon the water environment. These regulations are more commonly known as the Controlled Activity Regulations (CAR). If you intend to carry out any activity which may affect Scotland's water environment, you must be authorised to do so. Discharges, disposal to land, abstractions, impoundments and engineering works in inland waters are all regulated by SEPA.

The reform of the Common Agricultural Policy (CAP) has seen a significant change to the structure that delivers payments to farmers. The Pillar I payment (direct payment) now requires farmers to take forward a mandatory "greening" component that is set at 30% of the direct payment. These three greening practices are (i) Maintaining existing permanent grassland (ii) Crop diversification and (iii) Having ecological focus areas on agricultural land. By including a compulsory greening component in Pillar I, it is hoped that public goods such as biodiversity and climate mitigation can be delivered through farming.

The Scottish Rural Development Programme (SRDP) 2014-2020 delivers Pillar II of the EU Common Agricultural Policy (CAP). It funds economic, environmental and social measures for the benefit of rural Scotland. The main priorities are:

- Enhancing the rural economy
- Supporting agricultural businesses
- Protecting and improving the natural environment
- Addressing the impact of climate change
- Supporting rural communities



## Current Factors Affecting This Habitat

- Physical habitat destruction through agricultural improvements such as drainage, ploughing and re-seeding. Dredging, bank reinforcement and bunding of rivers and streams can often lead to drying out of marshy grassland areas. These actions are now regulated by SEPA through CAR.
- Poor water quality of adjacent burns and rivers can have a knock on effect to floodplain and grazing habitat. Pollutants can enter the system via floodwater, which then lodge in the sediment and ultimately within the plants themselves. There is an added danger to waders and other animal life through the introduction of petrochemicals to food-chains via discharge into the river system.
- Neglect in the form of a decline in traditional management. Winter grazing and high-density summer stocking rates can cause severe poaching. This can damage established plants and disturb wildlife.
- Use of inorganic fertilisers on improved grassland adjacent to unimproved tall herb marshy grassland communities, resulting in wetland eutrophication.
- Afforestation of floodplain grazings, leading to loss of habitat, disruptions of flight paths and providing convenient lookout post for bird predators.
- Agricultural improvements of marshy grassland to drier pastures, through drainage and/or re-seeding. Introduction of insensitively designed cycle ways, walkways and possible golfing facilities on or bordering floodplain grazing habitat could damage plant communities/and or disturb feeding or nesting wetland birds.
- In-filling of low lying floodplain grazing or wetland areas.



## Current Action

- There are three sites where conservation measures have been undertaken by North Lanarkshire, at Dumbreck Marsh Local Nature Reserve (LNR), owned by North Lanarkshire Council (NLC), Dullatur Marsh Site of Special Scientific Interest (SSSI), which is mostly a Scottish Wildlife Trust (SWT) Reserve, and Baron's Haugh Royal Society for the Protection of Birds (RSPB) reserve. Various projects were undertaken during the period of the previous LBAP; however sites such as Dumbreck are currently in sub optimal condition for key species such as breeding waders associated with this habitat type.



## Proposed Objective, Targets and Actions 2015 - 2020

### Objectives

1. Maintain and enhance existing floodplain grazing habitats.

Action	Meets Objective Number	Action by	Target
<b>Site Safeguard and Management</b>			
1.1 Take forward action to ensure that Dumbreck Marsh is managed appropriately for breeding waders.	1	NLC	Dumbreck Marsh management plan to be completed by 2015.
1.2 Develop a landscape scale initiative focusing on floodplain and grazing marsh	1	NLC	Take forward landscape scale conservation project in the Kelvin Valley with neighbouring Local Authority. Meet by 2017 to discuss project.
1.3 Restore and sympathetically manage floodplain grazing habitat through management agreements with the owners of local SSSI's, SINCs and other targeted sites.	1	NLC	Three management agreements in place by the end of 2017.
<b>Monitoring and research</b>			
2.1 Identify factors contributing to scrub establishment at Dumbreck Marsh LNR and actions required to improve its current condition.	1	NLC	Undertake a hydrology study and review grazing lease by 2016. Take forward actions to improve site from 2016
2.2 Identify key areas of grazing marsh in the Kelvin Valley.	1	NLC	Develop a list of key sites by 2016.
<b>Communication and publicity</b>			
3.1 Develop and promote awareness and training event on floodplain and grazing marsh with respect to agri-environment schemes for private landowners and farmers.	1	NLC	Deliver three workshops by end of 2020.

#### Authors:

Jackie Gillespie (Kelvin Valley Countryside Project). Updated by Jonathan Willet (Biodiversity Officer), Laura Whyte, Biodiversity Officer, 2008. Updated by Pardeep Chand, Biodiversity Projects Officer, 2014.

#### Further reference

[www.floodplains.org](http://www.floodplains.org) – Technical guidance on management of floodplains.

[www.sepa.org.uk](http://www.sepa.org.uk) - Scottish Environmental Protection Agency (SEPA).

[www.jncc.defra.gov.uk/ukbap](http://www.jncc.defra.gov.uk/ukbap)



# Hedgerow

## ACTION PLAN

SCOTTISH BIODIVERSITY LIST HABITAT:

YES

UK BIODIVERSITY LIST OF PRIORITY HABITATS:

YES

### Summary

Hedgerows are vital to the countryside, playing an important role for biodiversity due to the species and structural diversity they provide. Furthermore, due to their linear nature, they provide a unique opportunity for habitat connectivity. Major threats to hedgerow habitat in North Lanarkshire include poor management practices, as well as a lack of knowledge of the overall extent and condition of the existing hedgerow habitat.

### Habitat Profile

Hedgerows play an important role in the countryside in terms of biodiversity. Traditionally used to create field boundaries and control livestock, they provide a means to connect habitats, as well as providing a wide range of species shelter and foraging habitat. Bats, hedgehogs and birds are amongst the species that benefit from hedgerows. As well as being important for wildlife, they have other benefits such as helping to reduce soil erosion.

Hedgerows require a certain degree of management to ensure that they remain a good source of food and shelter for wildlife. Coppicing or layering ensures fresh vigorous growth and results in a dense hedge. This is an effective method of renewing old and neglected hedgerows. Typically a cutting cycle of two to three years is most beneficial for wildlife. Lack of management may result in overgrown hedges and gaps forming.

Older hedgerows contain a large amount of dead wood and leaf litter and form important habitat for invertebrates which in turn provides an ample food source for predators such as bats and shrews.

A hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide. Any bank, wall, ditch or tree within 2m of the centre of the hedgerow is considered to be part of the

hedgerow habitat, as is the herbaceous vegetation within 2m of the centre of the hedgerow. All hedgerows consisting predominantly (i.e. 80% or more cover) of at least one woody UK native species are covered by this priority habitat designation, where each UK country can define the list of woody species native to their respective country. Climbers such as Honeysuckle and Bramble are recognised as integral to many hedgerows, however they require other woody plants to be present to form a distinct woody boundary feature and are not included in the definition of woody species.

As well as hedgerows being rich in species, the associated banks, ditches and un-mown margins are also important for wildlife.



The 'High Hedges (Scotland) Act 2013' came into force on April 1st 2014. A high hedge is defined by the Act as a hedge that is formed wholly or mainly by a row of two or more trees or shrubs, is over two metres in height and forms a barrier to light. The Act aims to provide a solution to the problem that high hedges may cause, where neighbours have not been able to resolve issues amicably, by providing an effective means of resolving disputes over the effects of high hedges which interfere with the reasonable enjoyment of domestic property. The inclusion of hedgerow as a priority habitat will ensure the biodiversity value will be fully considered in planning decisions associated with the 'High Hedges (Scotland) Act 2013'.

Although typically associated with farmland landscapes, hedgerows can also play an important role in contributing to green corridors within urban landscapes, linking green spaces with protected sites within the wider landscape. Hedgerows can play an important part in the delivery of green infrastructure. They provide a quick and effective way of connecting isolated ecological features within a landscape and can allow wildlife to move either through or around large developments. The incorporation of hedgerows within strategic planning can help to restore ecological networks.

## Current Status

In Scotland, it is estimated that there is 46,000km of hedgerow. The length of hedgerow habitat decreased by 7% between 1998 and 2007 and a third of actively managed hedges were judged to be in good structural condition in 2007. According to the Countryside Survey (2007), species richness in hedgerow margins decreased by 22%, which included declines in food plants of birds (22%) and butterflies (21%). There is currently no information about the total length of hedgerow in North Lanarkshire or condition, but it is likely to reflect national trends in regards to reduction of habitat and quality.

## Current Factors Affecting This Habitat

- Neglect (no cutting or laying) leading to hedgerows changing into lines of trees and the development of gaps. This reflects modern high labour costs and loss of traditional skills.
- Too frequent and badly timed cutting leading to poor habitat conditions, the development of gaps and probable species assemblage changes.
- Loss of hedgerow trees through senescence and felling, without encouraging replacements.
- Use of herbicides, pesticides and fertilisers in close proximity to the base of hedgerows, leading to nutrient enrichment and a decline in species diversity.
- Removal of hedges for agricultural and development purposes.



## Proposed Objectives, targets and actions

### Objectives

1. Maintain and enhance hedgerow habitat
2. Identify new opportunities for hedgerow creation

Action	Meets Objective Number	Action by	Target
<b>Site safeguard and management</b>			
1.1 Identify hedgerow extent and condition in Local Nature Reserves (LNR).	1	NLC	Review hedgerow habitat in LNRs in 2015.
1.2 Maintain and enhance hedgerow habitat on all LNRs.	1	NLC	Manage hedgerows to improve species diversity and connectivity where appropriate by 2020.
1.3 Organise hedge laying training courses for local volunteer groups.	1	NLC, Volunteer groups	Target key sites with established volunteer groups. Deliver three training sessions by 2020.
<b>Monitoring and research</b>			
2.1 Identify key areas which will improve habitat connectivity between protected sites e.g. Sites of Importance for Nature Conservation (SINCs).	2	NLC	Maps produced by 2017 showing hedgerow extent and key opportunities for connectivity.
<b>Communication and publicity</b>			
3.1 Recommend hedgerow management and planting along new and upgraded roads.	2	NLC	Produce guidance note by 2017.

### References

Countryside Survey, 2007. Scotland Results from 2007  
[www.hedgeline.org.uk](http://www.hedgeline.org.uk)  
[www.jncc.defra.gov.uk/ukbap](http://www.jncc.defra.gov.uk/ukbap)

### Author:

Pardeep Chand, Biodiversity Projects Officer (2014)





# Barn owl

## ACTION PLAN *Tyto alba*

UK LIST OF PRIORITY SPECIES:	NO
SCOTTISH BIODIVERSITY LIST:	YES
BIRDS OF CONSERVATION CONCERN (2009):	AMBER

### Summary

There are regular sightings of Barn owls in North Lanarkshire, however the number of breeding Barn owls is not known. The limiting factor for breeding would seem to be lack of suitable nest sites as there is a great deal of suitable hunting habitat available. We aim to work in partnership with landowners and farmers to put up nest boxes in areas of good Barn owl habitat.

A steady decline over most of Europe in Barn owl numbers during the 20th century has accelerated to such a degree that the current UK population is estimated to be only 4000 breeding pairs, a substantial decrease from a 1950 estimate of 7000. Scotland's Barn owl numbers have reflected this decline. Even so the UK population is probably the third largest in Europe. The Barn owl is found in the Americas, Africa, India, South East Asia and Australia, none of the populations here have suffered the marked declines of the European population.

The UK Biodiversity Group recognises the Barn owl as a "Species of Conservation Concern". The Red Data Book for birds lists them at the "amber" level, meaning that they are of medium conservation concern. The criteria for amber listing of the Barn owl are: moderate (25-49%) decline in UK breeding population or range over the previous 25 years; species with an unfavorable conservation status in Europe.

### Species Profile

Barn owls in Scotland live almost entirely within grasslands and open forests, particularly in the forest edge. Their diet consists predominately of small mammals associated with these habitats, such as mice, shrews and voles, with 90% of prey taken within a 1km radius of the nest site. Areas of moist, moderately long grassland are especially important for foraging, as is the provision of woodland belts for shelter and hunting perches.

Their feathers are specially structured for silent flight, and by using their extremely sensitive hearing, Barn owls can pick out and swoop noiselessly on prey. Although they can see perfectly well in daylight, they tend to hunt at night.

Suitable roosting and natural nesting sites can be holes in trees and rock faces as well as derelict buildings such as church towers, old chimneys and farm buildings. Sites such as these with appropriate space for Barn owls are becoming rare. Artificial nest sites have an important role to play in the conservation and enhancement of breeding populations of Barn owls. Artificial nest sites should



be placed in areas of good quality habitat. Barn owls are not selective when choosing a nest box, and will occupy boxes in areas where there is poor foraging habitat; this could lead to the barn owl being unable to feed its young (owlets), and ultimately failure of the brood. Therefore, it is very important that nest boxes are placed in areas of good foraging habitat.

Barn owl hunting ground includes a mixture of the following habitats:

- rough grassland, supporting a high field vole population
- damp, tussocky grassland in fallow or lightly grazed pasture
- weedy field margins
- hedgerows with rough margins
- woodland edge
- stubble fields
- drainage ditches
- farm grounds

Research funded by the Barn Owl Trust (BOT) has produced estimates of the quantity of rough grass habitat required by British Barn owls in different landscape types.

In arable landscapes, it is estimated that Barn owls require about 35 km of rough grass field margin within 2 km of a suitable nest site.

In pastoral landscapes, it is estimated that Barn owls require about 78 km of rough grass field margin or 31 to 47ha of rough grassland within 2 km of a suitable nest site.

In mixed landscapes, it is estimate that Barn owls require about 43 km of grassy margin within 2 km of a suitable nest site.

Research has also shown that on all landscapes, Field voles, a main prey item of Barn owls, require margins greater than 4 m wide, and ideally around 6m wide.

Nest sites must be dry and warm to prevent the fatal chilling of owlets in wet weather. Competitors for nest sites are Grey squirrel, Jackdaw, Tawny owl, Pine marten, Goosander and Kestrel in natural sites. A major factor influencing Barn owl population levels is the number of voles in any particular year, as vole population levels are cyclical, peaking approximately every 3 years.

Barn owls usually produce between 4-8 eggs, laid at intervals of 2 days. This gives a staggered hatch, with the first hatchling being as much as 2 weeks older than the last. In poor prey years, the youngest chicks are unlikely to fledge.



## Legal Protection

The Barn owl is protected under Schedule 1 and Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). It is therefore an offence to injure, kill or capture the bird, disturb nesting birds, take eggs, and release captive owls into the wild without a license.



## Current Status

Barn owls are breeding in the area between Coatbridge and Cumbernauld, the Kelvin Valley and around Shotts. In the last 6 years several dead birds have been seen on the M73 and A73 close to Cumbernauld, and more recently on the Shawhead Flyover, Coatbridge. The Clyde Bird Reports for the last 20 years have recorded few sightings but mainly from an area between the Kelvin Valley and Coatbridge.

The previous Barn owl species action plan was a success with all targets being met.

As part of the previous 2008 – 2013 North Lanarkshire Biodiversity Action Plan, 24 boxes were made and erected in areas of suitable habitat. These are monitored annually by the Countryside Ranger Service and Central Scotland Raptor Study Group. The monitoring results were collated and managed by the Biodiversity Team. From these boxes we have records of 6-7 breeding pairs over the last 3 years, these records are from Glenboig, Kilsyth Hills, Corrie, Overton, Luggiebank, Morningside and Chryston.

There are also records of Barn owl breeding in North Lanarkshire that are not using Barn owl boxes but are still a valuable part of our project.

As it seems that the availability of nest sites is the factor limiting the Barn owl population locally, increasing the number of suitable nest sites should lead to an increase in the population. A nest box scheme in Stirlingshire raised the population of Barn owls from 4 pairs in 1991 to 33 pairs in 2004.

Continued expansion of urban areas into surrounding farmland will reduce potential feeding areas but this can be mitigated to an extent by the creation and suitable management of Greenspace within these urban areas, and the maintenance of habitat corridors. The population of Barn owl is so low at the moment that this will only become an issue when all available habitats are occupied and expansion of the population is limited by the lack of suitable habitat.

Pine Martin are now in North Lanarkshire in the Cumbernauld area. The location of Pine Martin ranges should be taken in to account when locating Barn owl Boxes.

## Current Factors Affecting This Species

- Lack of suitable nest sites caused by the demolition or refurbishment of farm steadings, and old trees either blowing down or being felled for safety reasons.
- Vermin proof grain storage has lessened the availability of prey around farmyards.
- Land take for new roads, factories and housing schemes has reduced and fragmented suitable grassland habitats around urban areas.
- Secondary poisoning due to the use of toxic rodenticides.
- Barn owls hunting along road verges and railway lines can be killed.



## Current Action

- The construction and distribution of 24 boxes taken forward by the North Lanarkshire Biodiversity Partnership 2008 – 2014.
- Landowners with boxes have agreed to record use of the boxes by species.
- A qualified ringer has been checking boxes and ringing any Barn owl chicks.
- Pest control firms are currently advised to take into account the risk to fauna when carrying out their work. Increasingly, rodenticides less toxic to birds are used and dead rodents are quickly removed.
- Barn owl requirements incorporated within the North Lanarkshire Local Plan design guidance notes provide information to encourage the construction of artificial Barn owl nest boxes in proposed developments or conversions of rural or agricultural buildings. More detailed guidance and training for Planners would help reinforce this.
- CSGNT Barn owl leaflet and information produced to increase records.
- The North Lanarkshire Biodiversity Partnership has taken forward projects on 5 sites through the Barn owl project. Barons Haugh (2007-2008) Bellshill Golf Course, Cumbernauld Community Park, Antonine Wall and Mount Ellen Golf Course.
- Planted 4 km hedgerow and hedgerow margin plants 2010-2011.





## Proposed Objectives, Targets and Actions

### Objectives

1. Increase the number of breeding Barn owls in North Lanarkshire.
2. Improve and increase Barn owl habitat.

Actions	Meets objective number	Action by	Target
<b>Policy and legislation</b>			
1.1 Incorporate within the Local Plan design guidance notes information to encourage the construction of artificial Barn owl nest boxes in proposed developments or conversions of rural or agricultural buildings.	1	NLC	Advice and information included in design guidance 2017.
<b>Site safeguard and management</b>			
2.1 Work with farmers and land managers to manage and enhance Barn owl habitat, through increasing the extent of grass margins and conservation headlands.	1, 2	NLC, SWT, FCS, RSPB, CSGNT	6 management schemes, which include habitat improvement for Barn owls, implemented by end of 2020.
2.2 Assess current distribution of Barn owl boxes and determine if more are needed.	1	NLC, RSPB, CSGNT	Develop a Barn owl box strategy (BOBS) 2016.
2.3 Replace boxes	1	NLC, RSPB, CSGNT	Annually as determined by the BOBS.
<b>Monitoring and research</b>			
3.1 Monitor Barn owl boxes	1, 2	NLC	Boxes monitored annually by Countryside Ranger Service and Central Scotland Raptor Study Group.
<b>Communications and publicity</b>			
4.1 Appeal for sightings of Barn owls.	1, 2	NLC, SOC, RSPB, CSGNT	Social Media campaign launched by 2017.

#### Authors:

Plan written by Rosemary Booth (Scottish Coal), updated by Jonathan Willet (Biodiversity Officer), and Laura Whyte (Biodiversity Officer) 2008, updated by Laura McCrorie 2014.





# Farmland Waders

## ACTION PLAN *Tringa totanus, Vanellus vanellus, Gallinago gallinago, Numenius arquata*

<b>SCOTTISH BIODIVERSITY LIST:</b>	REDSHANK	NO
	LAPWING	YES
	SNIPE	NO
	CURLEW	YES
<b>UK BIODIVERSITY LIST OF PRIORITY SPECIES:</b>	REDSHANK	NO
	LAPWING	YES
	SNIPE	NO
	CURLEW	YES
<b>BIRDS OF CONSERVATION CONCERN (2002-2009):</b>	REDSHANK	AMBER
	LAPWING	RED
	SNIPE	AMBER
	CURLEW	AMBER

### Summary

In the UK, farmland waders have declined dramatically over the last century. This is mirrored in North Lanarkshire, due to habitat loss through drainage, changes in land use and development. Much of their remaining populations are now restricted to fragmented habitat and are of particular concern in North Lanarkshire due to dwindling numbers.

Historically, there are two strongholds for these species locally but outside of these locations breeding pairs are scarce and scattered.

### Species Profile

#### Lapwing

This wader has a distinctive green, white and black appearance. The adult bird gives a tumbling display flight over its breeding territories in spring. A distinctive 'pee-wit' call gives this bird one of its numerous alternative names. Lapwings are birds of open farmland requiring bare ground or short vegetation for nesting between mid-March and June. Consequently, they prefer spring-tilled arable land and short grassland, including moorland margins and in-bye when selecting nest sites. Those birds which nest on arable often relocate their young to nearby wet ground and appropriately short vegetation (such as grazed pasture) in order to find suitable feeding. Lapwings require a ready abundance of ground and soil invertebrates throughout the year, their preferences being for earthworms, leatherjackets, insects and their larva, which are most abundant on wet grassland and grazed pasture.



## Snipe

This is a secretive, mottled brown bird with an extremely long straight bill that can sometimes be as long as its body. They use their long bill to probe for invertebrates such as earthworms and leather jackets in soft soil whilst also taking insects from livestock dung. When flushed, it can be distinguished by an erratic zigzag flight pattern. During display flights, male birds make an unusual 'drumming' sound with their tail feathers. Their breeding period lasts from mid-march to early July. Ground nesters, they build their nest in mires, bogs, wet moorland, rough wet grassland with tussocks, sedges and rushes, and in the marshy marginal areas of wetlands. Winter months find Snipe more commonly on lowland and coastal areas, taking advantage of root crops, stubbles and wet pasture.



## Redshank

This noisy wading bird has long red legs and bill with a brown body. In flight it is easily distinguishable, being the only British wader with a broad white bar across the trailing edge of the wing. It has an extensive white rump and upper tail. Its body appears tapered. It breeds on damp fields with tussocky grass or sedge, especially those prone to flooding, or near open water or wet ditches, wet meadows and moorlands. They have also been known to breed on saltmarsh and gravel pits. They winter on mudflats and rocky shores. The adult food source on breeding grounds includes earthworms, beetles, spiders, aquatic insects, flies and their larvae. Out with nesting times they take worms, molluscs, shrimps and crabs. Breeding season lasts from April to late June, the nests are situated on the ground on tussocks or grassy hollows. The young eat mainly midges and flies with beetles and spiders also being taken. Evidence suggests that invertebrates associated with dung can also be an important dietary constituent.



## Curlew

Curlew is a widespread resident in Scotland, breeding on farmland and uplands. Also called the 'whaup' in Scotland, it is a large, brown wading bird, distinguished by its long, downward-curving bill. Like all of our waders, it nests on the ground, tending to use rushy pastures and moorland, where eggs and chicks can be camouflaged by the long vegetation. Birds often come down to lower pastures to feed. After breeding, large flocks of birds will gather in our uplands before moving to the coast in the winter. Some wintering Curlew will over winter inland such as the population using Merryton, Royal Society for the Protection of Birds (RSPB) Baron's Haugh and Carbans Pool in the Clyde Valley. Curlews have a haunting, plaintive call of 'cou-leeee', from which their name derives. Adult curlews feed on earthworms, leatherjackets, beetles, spiders and caterpillars. Their chicks feed mainly on surface invertebrates, with adult flies, crane-flies, beetles and spiders all featuring prominently in their diet.



### Legal Status

Redshank, Lapwing, Snipe and Curlew are fully protected under the Wildlife and Countryside Act 1981 as amended and are covered by Appendix II of the Bonn Convention; Appendix III of the Berne Convention and Article 4.2 of the EU Birds Directive.

## Current Status

Species	UK Breeding Population	Scotland	Long term population trend (1994 -2011)	Short term population trend (2006 – 2011)
Lapwing	140,000	71,500 – 105,600 pairs	decreasing	decreasing
Snipe	80,000	34,000 – 40,000 pairs	increasing	increasing
Redshank	25,000	11,700 – 17,500 pairs	decreasing	decreasing (slowing)
Curlew	68,000	58,800 pairs	decreasing	decreasing

The overall trend for breeding farmland waders in Scotland is one of steep decline. This decline is also evident within North Lanarkshire. Each species requires different land management techniques to produce habitats conducive to successful breeding. For example, Lapwings generally require freshly ploughed land whereas Redshank require wet areas and wet ditches. Factors such as land management changes, farming intensification and development have led to suitable breeding wader habitat to become unsuitable and fragmented. Sites that were once known for notable breeding wader numbers are now in sub-optimal condition, with breeding waders uncommon at these sites. During 1984 to 1991, the Scottish Ornithologists' Club (SOC) Clyde Branch

undertook surveys of breeding waders over extensive areas of North Lanarkshire, and the fieldwork for a tetrad based Breeding Bird Atlas of the Clyde Area. In 1992, the RSPB/BTO/SOC undertook a survey of Breeding Waders in Lowland Scotland. This survey was repeated in 1997/8.

In 2002 there was a survey of waders east of the A80 carried out by a student from the University of Edinburgh assisted by RSPB Scotland. However, updated surveys are required to establish numbers of breeding waders in North Lanarkshire.

All four species have the potential to benefit from restoration and habitat management works arising from development such as mining or windfarms.

## Known Key Areas in North Lanarkshire

- River Kelvin floodplain from Kilsyth to Kirkintilloch, including Dumbreck and Dullatur Marshes
- Fannyside Muir and Garbethill Muir
- Gartcosh industrial site
- Baron's Haugh, RSPB reserve, Motherwell
- Kingshill, Allanton.

With one exception, key wader areas in North Lanarkshire are not covered by any SSSI designations and therefore are not included in any SACs or SPAs. However, a number of small fragmented sites have been designated as Sites of Importance for Nature Conservation (SINCs). A few sites also have reserve status, although it is recognised that this will only assist a very small numbers of waders.

## Current Factors Affecting This Species

- Destruction of habitat due to drainage of wetland areas.
- Autumn sowing, leading to unsuitable breeding habitat in spring and early harvesting, this will severely restrict the birds opportunity to breed or nest successfully.
- High stocking rates, leading to short pasture and trampling of nests.
- The addition of fertiliser and early cutting, leading to nest and chick losses.
- Use of pesticides and herbicides, leading to loss of insects; their main food source.
- Late spring rolling and harrowing of grassland, this will destroy any nests on the site.
- Move from cattle to sheep grazing, this requires an increase in drainage of habitat, fertiliser use, and winter feeding outside (providing a food source for predators).
- Opencast mineral extraction, which is a threat to some key areas. Although, alternative areas of new wader habitat can be created in the restoration stage.
- Inappropriate woodland planting on agricultural land, this can fragment open habitats and can attract predators.
- Climate change



## Current Action

### Objectives

1. Maintain and increase the extent of suitable habitats.
2. Maintain and improve the populations of four key lowland waders breeding in North Lanarkshire.
3. Improve wader records database for North Lanarkshire.

Action	Meets Objective Number	Action by	Target
<b>Policy and legislation</b>			
1.1 Encourage developers to create wader- friendly habitat as part of the restoration of sites, such as mineral workings and windfarms.	1, 2	NLC	Ongoing through planning consultations. To be reported in BARs annually.
1.2 Ensure that proposed flood alleviation schemes do not damage key wader sites and where possible, are used as an opportunity to create breeding wader habitat.	1, 2	NLC	One project to be taken forward by 2020
<b>Site safeguard and management</b>			
2.1 Encourage land managers to enter agri-environment schemes such as SRDP, and to adopt wetland creation and management options.	1, 2	NLC, RSPB	Engage with 5 landowners by 2020.
<b>Future research and monitoring</b>			
3.1 Establish baseline for key farmland wader breeding sites in North Lanarkshire	3	NLC	Agree upon survey methodology by 2015 and complete baseline data by 2018.
3.2 Review established farmland wader sites, identify habitat condition, and identify new privately owned sites such as farms and quarries.	3	NLC	To be completed by 2018.
<b>Communications and publicity</b>			
4.1 Encourage public to send in records of breeding waders through social media and survey cards to be handed out at events.	3	NLC	Implement by 2016.





### References

- Balmer, D., Gillings, S., Caffrey, B., Swann, B., Downie, I., Fuller, R. (2014) Bird Atlas 2007 – 2011, BTO Books, Norfolk
- Foster, S., Harrison, P., Buckland, S., Elston, D., Brewer, M., Johnston, A., Pearce-Higgins, J., Marrs, S. (2013) Trends of Breeding Farmland Birds in Scotland.
- Gibbons, D.W., Reid, J. and Chapman, R.A. (1993) The New Atlas of Breeding Birds in Britain and Ireland; 1988 -1991. T.&A.D. Poyser, London.
- RSPB (ed.) (1996). Birds of Conservation Concern (illustrated brochure)
- RSPB/ SAC / SERAD. (1996) A Management Guide to Birds of Scottish Farmland

### Authors:

Plan written by Mike Trubridge (RSPB). Updated by Jonathan Willet (Biodiversity Officer), with thanks to Chris Waddell (Stirling Council), updated by Laura Whyte, Biodiversity Officer (2008), updated by Pardeep Chand, Biodiversity Projects Officer (2014)



# Bean Goose

## ACTION PLAN *Anser fabalis*

UK LIST OF PRIORITY SPECIES:	NO
SCOTTISH BIODIVERSITY LIST:	YES
BIRDS OF CONSERVATION CONCERN (2009):	AMBER

### Summary

North Lanarkshire supports a nationally important population of taiga Bean geese. Each October, a flock arrives from its breeding grounds in Sweden and spends the winter foraging on the Slammanan Plateau, and return to their breeding grounds in February. The Slammanan Plateau is only one of two sites in the UK where taiga Bean goose over winter and is designated as a European Special Protection Area and a Site of Special Scientific Interest to recognise the international and national importance of the Slammanan Bean goose flock.

### Species Profile

Bean geese (*Anser fabalis*) is a species found in the Palaearctic ecozone, the natural zoogeographic region which includes Eurasia.

The species breeds across northern Eurasia, from the highlands of Norway in the west to the Kamchatka Peninsula in the east, and at least five sub-species (or races) are recognised.

In the Western Palaearctic, (i.e., Europe, North Africa, northern and central parts of the Arabian Peninsula, and part of temperate Asia, roughly to the Ural Mountains) two sub-species are found.

These sub-species are referred to as the taiga Bean goose (*Anser f. fabalis*), which is (as its name indicates) associated with the boreal forests of Scandinavia and Russia, (i.e., the taiga) and the tundra Bean goose (*Anser f. rossicus*), which is associated with the more open - tundra - habitats further north.

In Western Europe, the taiga Bean goose is much less numerous than the tundra Bean goose.

Populations are not easily delimited and the sub-species can be intermingled in autumn and winter. However, there is a reasonable degree of both morphological and ecological separation, which allows the sub-species to be identified and differentiated in terms of, for example, breeding habitat requirements, as suggested. In particular, the size and shape of the two sub-species differs, with taiga Bean geese being larger with longer necks and subtly different head and bill shapes and bill colour patterns.

Numbers of tundra Bean geese appear stable at c. 600,000 birds. However, those of taiga Bean geese appear to be declining, c. 100,000 individuals were estimated in the late 1990s, but only c. 63,000 were estimated in the late 2000s.

The taiga Bean goose breeds in the Kola Peninsula and taiga areas west as far as Finland, with a breeding range extending south into Norway and Sweden. Non-breeders begin moulting in June, with sub-adults undertaking a moult migration north away from the breeding areas, probably to northern Lapland or the White Sea coasts. The Fennoscandia breeding population moves south through southern Sweden to winter there, in Denmark, northern Germany and The Netherlands.



Numbers decline in southern Sweden at times of hard weather, moving first to Denmark and then further south and west. Two flocks, totaling c.300-400 birds winter in the UK, originating from the southern Swedish population, occupy an important part of the traditional winter range of the species.

As such, one of these, the Slamannan Plateau wintering population, which currently amounts to some 240 birds, is particularly significant.

The taiga Bean goose is a winter visitor to Britain, which spends the summer months on breeding grounds in Sweden. The Slamannan Plateau flock normally starts to arrive in late September with numbers increasing during October. The flock generally leaves the area by the last week of February.

The taiga Bean goose is a large goose, with an average length of 72 – 90 cm. It is essentially dark in colour with a dark brown head and almost uniformly brown upper wing. The undertail is white and a white line extends along the top of the flanks. Its most striking feature is its legs, which are bright orange in the adult and duller orange in the juvenile. The taiga Bean goose is easily confused with its close relative the Pink-footed goose, which occurs in large numbers in central Scotland. However, its long bill with orange and black colouring distinguishes it from the Pink-footed goose, which has pink legs and pink on the bill. The taiga Bean goose has a cackling flight call, deeper than that of the Pink-footed goose and quite different from the honking call of the Greylag goose.

In the past there was evidence that many of the birds used to feed in cereal stubbles and occasionally on potato fields on the winter quarters in the UK. However, on the Slamannan Plateau birds typically use semi-improved fields, although in recent years the main feeding sites have often been intensively managed pastures; the birds now show preference for improved pastures, which contain a high proportion of Perennial ryegrass (*Lolium perenne*) and timothy (*Phleum pratense*).

They prefer feeding fields unused by grazing livestock during the winter months. The main feeding sites are scattered throughout the Slamannan Plateau, although there are certain areas which are strongly favoured.

The birds are intolerant of disturbance, and choose mostly open areas with unobstructed sight lines both for feeding and for roosting. Preferred feeding areas are often places where the birds cannot be easily viewed from places readily accessible by people; the birds utilise the topography of the plateau to minimise any risk of disturbance.

Roosting formerly occurred on Loch Ellrig but more recently was largely concentrated on Fannyside Loch and pools on Fannyside Muir. However, in the past few winters part of the flock has also used pools on Darnrig Moss. In some circumstances other sites are temporarily used, for instance areas of flooding adjacent to feeding areas. During periods of frost or snow the flock will often remain out in their feeding areas and may not return to the roost. Night feeding does occur during normal winter temperatures but has not been studied closely. In addition, areas of muir within the Plateau are occasionally used as refuges by loafing birds when disturbance is sufficient to cause them to desert nearby feeding areas.

The flock will normally fly at dawn to a selected feeding field where if undisturbed they will spend the day feeding, drinking and resting. If disturbed the birds will fly to another feeding site or, as described, if the disturbance is severe, to areas of muir where the birds feel safe loafing amongst the ericaceous vegetation in which they are best camouflaged). At dusk they return to their preferred roosting areas. It is at this time that they are most vocal.

Bean geese exhibit high natal philopatry, meaning they return to the site at which they were born. Therefore, sub-populations are unlikely to disperse to neighbouring sites and mixing is unlikely to occur. Local populations may become vulnerable if the habitat is lost and, due to the high natal philopatry of the Bean geese, it is unlikely they will be colonised by neighbouring populations, reducing the available habitat.



## Legal Status

Protected under the Wildlife and Countryside Act 1981. Included on Annex II/I of the EC Birds Directive and Appendix III of the Bern Convention. The Bean goose is not a quarry species in the UK.

## Current Status

The taiga Bean goose breeds in northern Eurasia from the highlands of Norway in the west to Kamchatka in the east. Bean geese were regarded as a common winter visitor to northern Britain and East Anglia during the first half of the 19th century, although the sub-species was not noted. A widespread decline in numbers began in the 1860's and 1870's until in the early part of the 20th century only a few flocks remained. Recently the only two regular wintering flocks in Britain have been those in the Yare Valley (Norfolk), and on the Slamannan Plateau – an area of around 3,600 ha divided between Falkirk and North Lanarkshire Council areas. This is now the only site in Scotland regularly visited by the birds.

The central Scotland flock numbered around 130 – 150 birds in the 1990s but more recently has increased to around 230 birds (in 2013/14) – (peak 300 birds in 2006/2007 whilst in recent winters the peak has been c.245). Numbers visiting the Yare Valley in the corresponding period have declined to under 100 birds, thus the Scottish flock is now the largest in the UK.

Ringling results have suggested that the Bean geese wintering in England and Scotland breed in different parts of Scandinavia. The majority of the individuals visiting central Scotland probably belong to a fully wild sub population, which is clearly distinct from the one wintering in Norfolk. A very small number central Scotland flock may have also derived from a re-introduction project, which started in 1974 in central Sweden. Despite being a small proportion of the total northwest European wintering population the British birds occupy an important part of the traditional range of the species.

Satellite tracking results from 2012 and 2013 show that the Scottish birds have a discreet staging area in northwest Denmark in the Blokhus/Pandrup area that they use from late February to March. For about two to three weeks they feed on rough wet grassland, improved pasture and some winter cereal crops, roosting on flooded wet grassland and sedge fields amongst reedbed areas before moving on in mid-March to agricultural areas north of Oslo, Norway mainly in the Akershus/Nikivegen areas. Here they make use of bogland areas when disturbed or for loafing during the day, with birds often roosting on sandbanks of the Glomma River nearby. Later they may stage briefly in late March at areas further north

as at Braskeiderfoss before heading northeast into Dalarna County, Sweden and the breeding and moulting areas in late March and early April. The autumn migration seems to be well underway by September and is largely a reverse of the spring route except that Denmark is largely bypassed with the birds heading straight to the UK from Norway. The flock counts made at the staging sites identified to date, suggest that there may still be as yet undiscovered sites used by a proportion of the birds wintering at Slamannan.



## Current Factors Affecting the Species

From the more recent knowledge built up of the preference for the habitats of Bean geese the most likely threats are:

- Reduction in the area of improved grassland shown to be preferred by the Bean geese;
- Visitor pressure, recreational activity and primary industry operations in the vicinity of the main feeding areas resulting in disturbance to both feeding and roosting areas;
- Other developments which may increase the potential for disturbance;
- Increase in wind turbine, and wind farm, developments;
- Livestock pressure;
- Climate change affecting migration routes; and
- Habitat fragmentation

## Current Action and Opportunities

Since the late 1980s individuals such as John Simpson and Angus Maciver have produced annual reports detailing the findings of ongoing Bean goose monitoring work. These annual reports continue to be produced. Funding in recent years has been from North Lanarkshire Council, Falkirk Council and CSFT/CSGNT. SNH have also funded monitoring work in relation to their obligation in terms of the Slamannan Plateau Site of Special Scientific Interest (SSSI) / Special Protection Area (SPA).

In recognition of the importance of the Slamannan Plateau for wintering Bean geese a group was established in 1994 representing conservation interests in the area. The broad aim of the Bean Goose Action Group (BGAG) is to help conserve the population of Bean geese wintering in Central Scotland. The group seeks to minimise potential land use conflicts in the Slamannan Plateau area. For example, the group meets regularly and discusses current planning issues (such as wind energy development proposals) in the context of potential impacts on the Bean geese. The group includes representatives from Scottish Natural Heritage (SNH), Royal Society for the Protection of Birds (RSPB), Central Scotland Green Network Trust (CSGNT), Forestry Commission (FC), Forest Enterprise (FE), and Falkirk and North Lanarkshire Councils. In addition, the group calls on the specialist input of bodies such as Wildfowl & Wetlands Trust (WWT) as necessary.

An Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) International Single Species Action Planning workshop for the taiga Bean goose was held in November 2013 in Tuusula, Finland to develop an AEWA International Single Species Action Plan. The outcomes of the workshop were that a) The population should be stabilised at its current level within the next ten years and b) The Bean goose population was agreed to be split into four sub-populations/management groups based on their distinct breeding areas. Therefore, the Slamannan Plateau population is within the Western population, within the management group of West Sweden, North-Western Denmark, Norway and the United Kingdom. The workshop prioritised key actions, such as analysing available data to determine delineation of stocks, survival rates and likely sustainable levels of off-take in comparison with current levels as well as ensuring adequate annual monitoring, including coordinated mid-winter counts to estimate population sizes, productivity and annual survival. The consultation of the draft International Single Species Action Plan is to take place in the second half of 2014, providing opportunities for the North Lanarkshire species action plan to be integrated into the ISSAP.



The RSPB acquired the land at Fannyside Mill adjacent to East Fannyside Loch in 1996 and now manages the land in ways aimed at maintaining suitable habitat for the geese. In March 2006, part of the Slamannan Plateau was notified as a SSSI for bean geese. In October 2008, this same area was also recognised as being of international importance and classified as a SPA for Bean geese. Unusually within the UK SPA network, this classification includes feeding areas which are improved pastures as well as the roost site. These designations ensure that the areas involved are protected from adverse development.

Further information on these designations is available at the SNH interactive Site Link website, <http://www.snh.org.uk/snhi/>.

In an attempt to understand the population dynamics of this small and vulnerable flock, an increased effort has been made since October 2011 to catch, mark and track the Bean geese, with 33 having been caught and individually marked since then. Eleven of these have been marked with telemetry devices attached to neck collars – most recently GPS-UHF or GPS-GSM devices. The tracking and ringing has provided a wealth of new data allowing the group to assess survival, individual reproductive success and the route of the international flyway as well as the previously unknown staging, breeding and moulting sites used by the birds. This work has also stimulated international cooperation and possible research and monitoring opportunities.

A Bean geese in Scotland website has been established to raise awareness of Bean geese and promote responsible watching of the geese on the Slamannan Plateau.

## Communication and Awareness

The special importance of the Central Scotland taiga Bean goose flock has created widespread interest both locally and nationally. This interest impacts locally and can create potential problems both in the management of the area for the Bean geese and for those living and working the area. A delicate balance exists to satisfy the needs of those with an interest in the Bean geese whilst being sympathetic to the requirement of the birds. It is recognised that the continuing success in maintaining the flock in the area is dependent on the help and co-operation of those involved in seeking to see that the requirements of the flock are met, and especially local farmers who make considerable efforts to manage grass on which the flock depends. Communication and liaison with local people is seen as a vital step in maintaining the continuous presence of the flock. It is also recognised that local people have a valuable contribution to make in developing a future strategy in relation to the management of the area for the birds, particularly in relation to communication and publicity.

The Bean Goose Action Group has initiated annual projects at Greengairs since 2010, and Slamannan Primary Schools to raise awareness of the bean geese while contributing to pupils' education through science, art and communications. This has been very successful, and is something the group and the schools both wish to continue.



## Proposed Objectives, Targets and Actions

### Objective 1

To protect and maintain the population of bean geese wintering in Central Scotland by the identification maintenance, enhancement and protection of habitats used by the Bean geese for feeding roosting and loafing purposes.

<b>Target 1.1</b>	Maintain and, where possible, increase the area and quality of habitat favoured by the geese for feeding, loafing and roosting. (Ongoing)
<b>Target 1.2</b>	Manage the Fannyside Reserve for Bean geese (ongoing).
<b>Target 1.3</b>	Minimise disturbance of the Bean goose flock caused by recreational use of the area (ongoing).
<b>Target 1.4</b>	Ensure wind-turbines and wind farms do not pose a threat to populations of Bean geese.

### Objective 2

Minimise potential conflicts between land use and Bean geese in the Slamannan Plateau area by ensuring that planners and other decision makers are fully aware of the importance of the site and the requirements of Bean geese.

<b>Target 2.1</b>	Review Supplementary Planning Guidance to be included in North Lanarkshire Local Development Plan (by 2016).
<b>Target 2.2</b>	BGAG to continue to liaise with planners and decision makers.

### Objective 3

Further the knowledge of Bean goose requirements and behaviour, in particular investigating local movements and behaviour of individual birds and the migration route to Scandinavia (ongoing) building on the successful use of GPS trackers to increase our knowledge on this subject.

<b>Target 3.1</b>	Continue annual monitoring of bird numbers and areas preferred for grazing loafing and roosting (ongoing).
<b>Target 3.2</b>	Assess the feasibility of catching birds on the Swedish breeding and moulting areas identified through the tracking work conducted to date then if possible tracking them to see if they all return to Scotland or other European wintering areas.
<b>Target 3.3</b>	Achieve a better understanding of roosting and nighttime movements of the flock by using night vision equipment to monitor known sites.
<b>Target 3.4</b>	Develop a strategy for the management of the data collected through this work, considering aspects such as data sharing, methods of recording, and provision of data to key groups.

### Objective 4

Raise awareness of the Bean goose flock to increase local awareness and appreciation of the value and needs of the Slamannan Plateau Bean geese.

<b>Target 4.1</b>	Work with local schools to inform and engage the local community in this special species.
<b>Target 4.2</b>	Invite selected individuals on a visit to see the Bean goose flock (annually).
<b>Target 4.3</b>	Maintain information on a dedicated Bean Goose website with links to Partners web sites.



Action	Potential Deliverers		Year to be completed or in place								Meets Objective
	Lead	Partners	2015	2016	2017	2018	2019	2020			
<b>A. Policy and legislation</b>											
1.1 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. (Ongoing)	Falk C (DS) NLC		*	*	*	*	*	*	*	*	1, 2
1.2 Ensure that this habitat is afforded adequate consideration and, where possible, protected from damaging development through the planning process by: b) Review of supplementary planning guidance. 2016 (NLC only).	Falk C (DS) NLC		*	*							1, 2
1.3 Influence Scottish Rural Development Programme development to ensure that Rural Priorities contains suitable packages and options for the management of Bean geese.	RPID	SNH, FCS	*	*	*	*	*	*	*	*	1
1.4 Ensure that the development of countryside access does not cause disturbance to sites known to be favoured by Bean geese.	BGAG	Falk (DS) N Lan (DS)	*	*	*	*	*	*	*	*	1, 2
<b>B. Site safeguard and management</b>											
2.1 Manage Fannyside Reserve in a way that encourages use by Bean geese.	RSPB	BGAG SAC	*	*	*	*	*	*	*	*	1
2.2 Identify areas in the Slamannan Plateau, which may be suitable for restoration and management to benefit the Bean goose flock.	BGAG	SNH RSPB Falkirk (DS) North Lan (DS)	*	*	*	*	*	*	*	*	
<b>C. Species Management and Protection</b>											
3.1 Promote the Scottish Rural Development Programme Rural Priorities packages and option which are beneficial to Bean geese.	SEAPS	NLC	*	*	*	*	*	*	*	*	2

Action	Potential Deliverers		Year to be completed or in place								Meets Objective
	Lead	Partners	2015	2016	2017	2018	2019	2020			
<b>D. Advisory</b>											
4.1 Make available woodland guidelines to applicants for forestry grants and to others involved in tree planting on the Slamannan Plateau.	FC	FCS	*	*	*	*	*	*	*	2	
4.2 Distribute the information leaflet highlighting the Bean goose, its habitat requirements and appropriate action to benefit the Bean geese, to all landowners and occupiers.	BGAG	BGAG	*	*	*	*	*	*	*	1, 4	
<b>E. Research and Monitoring</b>											
5.1 Monitor annually species numbers and fields used for feeding and roosting and produce an annual report. (see action 5.2)	AM JS	RSPB SNH Falk C NLC	*	*	*	*	*	*	*	1, 2, 3	
5.2 Continue to update GIS map of key Bean goose feeding and roosting fields based on data from action 5.1. To be maintained, and managed at one location and disseminated from there.	SNH		*	*	*	*	*	*	*	1, 2, 3	
5.3 Conduct further research into the local movements, behaviour, survival and reproductive success of individual birds in the central Scotland flock by fitting neck collars.	BGAG	SNH JS AM	*	*	*	*	*	*	*	3	
5.4 Use tracking to identify other staging areas locally and track birds from Dalarna, Sweden to see if they only come to Slamannan. Also tracking identifies new feeding and roosting areas in Slamannan more efficiently than observation alone. This will help inform Planning and conservation management decisions.	BGAG		*	*	*	*	*	*	*	3	
5.5 Use night vision equipment or tagging data to monitor roosting and night time movement of Bean goose flock.	RSPB	SNH BGAG	*	*	*	*	*	*	*		
5.6 Review existing research in the UK and elsewhere on Bean geese and identify the need for future research to be carried out.	BGAG		*	*	*	*	*	*	*	3	
5.7 Ensure that the work BGAG have carried out is made available and contributes to research in the UK, and Europe.	BGAG		*	*	*	*	*	*	*		
5.8 Develop contacts with universities, research units and other organisations/individuals with an interest in Bean geese.	BGAG		*	*	*	*	*	*	*	3	
5.9 Establish links with those involved in the management of the Norfolk flock to maximise opportunities for joint working.	BGAG		*	*	*	*	*	*	*	3	



Action	Potential Deliverers		Year to be completed or in place								Meets Objective
	Lead	Partners	2015	2016	2017	2018	2019	2020			
<b>F. Communication and Awareness Raising</b>											
6.1 Maintain, develop and manage the Bean geese website as a source of information on the Bean goose flock in central Scotland.	AM JS	BGAG	*	*	*	*	*	*	*	4	
6.2 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.	BGAG EARAG		*	*	*	*	*	*	*	4	
6.3 Ensure this species is included in the local biodiversity awareness raising and education strategy.	EARAG		*	*	*	*	*	*	*	4	
<b>G. Plan Monitoring and Review</b>											
7.1 Monitor the implementation of actions in this plan annually.	BGAG	All partners	*	*	*	*	*	*	*	All	
7.2 Monitor the completion and effectiveness of the actions in detail and review this plan every 5 years to ensure continued effectiveness, starting in 2015.	BGAG	All partners						*	*	All	

### Abbreviations

AM - Angus Maciver  
 JS - John Simpson  
 BGAG - Bean Goose Action Group  
 N Lan C - North Lanarkshire Council  
 RSPB - Royal Society for the Protection of Birds  
 EARAG - Education & Awareness Raising Action Group  
 SAC - Scottish Agricultural College  
 Falk C (DS) - Falkirk Council Development Services  
 RPID - Rural Payments and Inspections Division  
 FC - Forestry Commission  
 SNH - Scottish Natural Heritage  
 WWT - Wildfowl & Wetlands Trust

### Key Contacts

Caroline Crawford      Chair BGAG and SNH  
 John Simpson          Local Ornithologist  
 Angus Maciver         Local Ornithologist

## Bibliography

Brackenridge W.R., 1999, Bean Goose Species Action Plan, North Lanarkshire Biodiversity Action Plan.

Orr-Ewing D., Fraser I & Russell C., 1995, Bean Geese in Central Scotland, published by RSPB on behalf of The Bean Goose Working Group.

Robertson D., & Fraser I., 1995, Bean Goose Field Grazing Sward Species Composition Slamannan, unpublished report for SNH.

BCM Environmental Services Limited, (2011), Report on the delivery of a monitoring programme for bean goose on the Slamannan Plateau 2010/2011, Scottish Natural Heritage Commissioned Report No. 487.

BCM Environmental Services Limited, (2012), Report on the delivery of a monitoring programme for bean goose on the Slamannan Plateau 2011/2012, Scottish Natural Heritage Commissioned Report No. 607.

BCM Environmental Services Limited, (2013), Report on the delivery of a monitoring programme for bean goose on the Slamannan Plateau 2012/2013, Scottish Natural Heritage Commissioned Report No. 608.

BCM Environmental Services Limited, (2014), Report on the delivery of a monitoring programme for bean goose on the Slamannan Plateau 2013/2014, Scottish Natural Heritage Commissioned Report No. tbc, (in prep.).

Forrester, R.W., Andrews, I.J., McInerney, C.J., Murray, R.D., McGowan, R.Y., Zonfrillo, B., Betts, M.W., Jardine, D.C., and Grundy, D.S., (2007), *The Birds of Scotland*. Scottish Ornithologists' Club. Aberlady. ISBN 978-0-9512139-0-2.

Hearn, R.D., (2004), Bean Goose *Anser fabalis* in Britain and Ireland 1960/61 – 1999/2000. Waterbird Review Series, The Wildfowl and Wetlands Trust/Joint Nature Conservation Committee, Slimbridge.

Minshull, B. C., Mitchell, C., Maciver, A., and Griffin, L., (2013), Report on the collation of field use data relating to wintering bean geese on the Slamannan Plateau. Scottish Natural Heritage. Commissioned Report No. 711.

Smith, T., Bainbridge, I. and O'Brien, M., (1994), Distribution and Habitat Use by Bean Geese in the Slamannan Area. Report to SNH. RSPB. (Not entitled as such, but relates to the first year, i.e. 1993/1994).

Smith, T., Bainbridge, I. and O'Brien, M., (1995), Distribution and Habitat Use by Bean Geese in the Slamannan Area. Second Year 1994/95. Report to SNH. RSPB.

The Annual Reports produced by the Bean Goose Action Group as follows:

Maciver, A., (2006, 2007, 2008, 2009 and 2010), Population and Distribution of Bean Geese in the Slamannan Area 2005/2006, 2006/2007, 2007/2008, 2008/2009 and 2009/2010.

Maciver, A., and Wilson, T., (2011, 2012, 2013 and 2014), Population and Distribution of Bean Geese in the Slamannan Area 2010/2011, 2011/2012, 2012/2013 and 2013/2014.

Simpson, J., and Maciver, A., (1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004 and 2005), Population and Distribution of Bean Geese in the Slamannan Area 1995/1996, 1996/1997, 1997/1998, 1998/1998, 1999/2000, 2000/2001, 2001/2002, 2002/2003, 2003/2000 and 2004/2005.

In addition, unpublished reports detailing the early work on the taiga bean geese undertaken by John Simpson, (Simpson, 1993, 1992, 1991 and 1990) were prepared, and the Central Region or Forth Bird Reports published in the journal of the Forth Naturalist and Historian, which are available online at <http://www.fnh.natsci.stir.ac.uk>, include details of early records of taiga bean geese.

## Websites

<http://beangoose.blogspot.co.uk/> - the blog of Angus Maciver, the Bean Goose Monitoring Officer

<http://scotlandsbeangeese.wikispaces.com/> - a website dedicated to the Slamannan Plateau Bean Geese

<http://www.birdlife.org/datazone/speciesfactsheet.php?id=375> - the Bean Goose factsheet on the Birdlife International website

## Authors:

BGAG