

Environment & Heritage Service

# Northern Ireland Species Action Plan

## Twite

### *Carduelis flavirostris*

March 2006

**Northern Ireland Species Action Plan**  
**Twite**  
***Carduelis flavirostris***  
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**1. Current Status**

- 1.1** The twite *Carduelis flavirostris* is a small brown passerine bird in the finch family (Fringillidae) measuring around 14cm. Its heavily streaked plumage is much lighter on its underside, and darker above. Faint light coloured wing bars are visible, as is a pink rump that develops in males during the breeding season. Although similar to the linnet *Carduelis cannabina*, twite appear rounder with a longer tail. Like the linnet, it feeds entirely on seeds all year round and has a short stumpy beak.
- 1.2** In the breeding season, twite usually occur in treeless habitats particularly in the uplands, marginal uplands, sea coasts and cliffs. Upland habitats with heather, bracken and gorse are all popular breeding locations. Moorland edge habitat is often particularly attractive to them especially when in close proximity to farmland. Farming crofts on the Scottish islands attract large numbers of foraging twite. In Northern Ireland, breeding birds are thought to be limited to the North Coast where they occur around the cliff areas on coastal grassland and heath.
- 1.3** Across the UK, nests are generally located in heather, mounds of bracken litter, small trees, gorse, marram grass or stone ledges and walls. Northern Ireland twite most likely nest in tall vegetation. The finely built nest cup can be found low to the ground and may support between one and three broods of four to six eggs between mid-May and mid-July. Twite nest singly or in loose colonies. Birds may fly up to several kilometres away from the nest to forage for their young. They feed on a wide variety of seeds, exploiting each source as it becomes available. Dandelions, sorrel, thistle heads are common in the diet when they are available.
- 1.4** Large numbers of twite winter in Britain on saltmarsh, beaches, strand lines, dunes, machair, waste ground, winter stubbles and other farmland habitats. Here they feed often in large flocks on glasswort *Salicornia* spp., sea aster *Aster* spp., sea blite *Suaeda maritima*, sea lavender *Limonium* spp. seeds and other species of weed seeds. In Northern Ireland wintering flocks are concentrated around Belfast Lough and its surrounding industrial wasteland and Lough Foyle with smaller numbers along the rest of the Northern Ireland coastline. Occasionally birds are also recorded inland.
- 1.5** The twite has a disjunct breeding population in Europe. The central Asian population extends to parts of Turkey and Russia and accounts for around 40-200,000 pairs. There are no birds across mainland Europe except at the northwest fringes of Britain, Ireland, Norway and some of the other Scandinavian countries. A large stable population of between 100-500,000 pairs makes up the bulk of the European population in Norway. The overall estimate of European twite is over 170,000 pairs, representing just under half of the world population (Burfield & van Bommel, 2004).

- 1.6 The UK population of twite was surveyed in 1999. Previously the population was thought to be large at 65,000 (Gibbons *et al.*, 1993) but as a result of the 1999 survey it was re-evaluated a much lower level. The true population is still unknown but numbers were estimated to be between 7,600 and 16,700 (Langston *et al.*, in prep). Most of this British population is concentrated in Scotland, mainly on Shetland, Orkney, and Hebrides as well as in the Scottish Highlands. The South Pennines uplands hold the majority of England's small population. A small number of breeding pairs are in a single remaining colony in the Snowdonia region of Wales and there is thought to be a population of between 250 and 1,000 pairs in Ireland. In Northern Ireland, the population is likely to be limited to around ten pairs along the North Antrim Coast, also surveyed last in 1999.
- 1.7 The twite has witnessed large declines in its breeding range across the UK during the last century (Holloway, 1996). Although the trends are not accurately known, it is thought that the species has also undergone a serious depletion in numbers (RSPB, 1997).
- 1.8 The twite is specially protected in Northern Ireland under the *Wildlife (Northern Ireland) Order 1985*. It is listed in Appendix III of the Berne Convention. It is not listed as a Species of Conservation Concern in Europe as the population is considered stable.
- 1.9 The twite is red listed in UK Birds of Conservation Concern (Gregory *et al.*, 2002) due to its historical decline and is also red listed in the Birds of Conservation Concern in Ireland (Newton *et al.*, 1999) due to its historically declining population and declining breeding status. It is listed as a Northern Ireland Priority Species under the Northern Ireland Biodiversity Strategy.

## **2. Current Factors Affecting the Population**

- 2.1 Little is known about the Northern Ireland population of twite. Breeding habitat on the North Antrim Coastline is considerably different from that used by twite in other areas of the UK. Limiting factors on the population may, therefore, be significantly different to populations elsewhere. The following factors are those which are thought to be most likely limiting the Northern Ireland population.
- 2.2 Switch from hay to silage – Northern Ireland has seen a dramatic switch from hay to silage production in the last 30 years. Instead of the traditional single annual cut of grass for hay, now, usually, at least two cuts are taken throughout the breeding season for silage. The gap between successive cuts is often too short to allow full development of the grasses and they go to seed for only a short period of time, if at all.
- 2.3 Loss of quality and extent of species-rich meadow – the dairy and beef industry are dependent on fast growing grass species for silage and grazing purposes. As a result, much of the Northern Ireland grassland is now dominated by rye grass at the expense of mixed species swards. Mixed species swards contain a various array of species that go to seed at different times, providing food for the twite throughout the season.

- 2.4 Increased grazing pressure reduces seed supply – modern management methods and improved grass yields allow increased stocking rates on farms. Stock removes grasses and weeds that would have previously gone to seed, providing food for the twite.
- 2.5 Overgrazing and loss of nest sites - cattle or sheep in particular can cause disturbance to the breeding habitat or the destruction of nesting locations in tall ground vegetation through trampling and feeding. Vegetation suitable for nesting can be lowered in height or removed completely.
- 2.6 Loss of summer farmland food supply - twite depend on access to an abundance of weed seeds in fields in relative proximity to a nesting site, to feed their chicks. Modern farms have a reduced number of weed species through the use of herbicides and modern cultivation methods.
- 2.7 Reduction in arable area – twite feed on weed seeds often associated with arable fields. Weedy fallow fields hold an abundance of weed species but are rare on the North Antrim Coast. Also, a reduction in the area of arable crops grown in Northern Ireland, through conversion to silage production or grazing means that there is even less of this habitat available to twite.
- 2.8 Road verge management – a potentially rich source of food is removed by road contractors before grass and weeds have a chance to set seed. This is unlikely to affect the Northern Ireland twite population due to their coastal location though could apply to some roads within a 3 kilometre range of the nest.
- 2.9 Moorland edge habitat of heather or bracken has been lost – conversion to grassland or poor heathland management practices have resulted in the fragmentation or complete loss of this excellent habitat for breeding twite.
- 2.10 Bracken removal and timing of bracken removal – where bracken is used as a nesting habitat by twite, extensive removal to stop encroachment could lead to a significant amount of breeding habitat being lost. If bracken removal is carried out in the summer months, there is a risk that a brood of young may still be in the nest. Burning bracken also removes the bracken litter which is often where twite build their nests. Suitable litter for nesting may take up to three years to return.

### **3. Current Action**

- 3.1 The Management of Sensitive Sites Scheme (MOSS), launched in 2002 by Environment and Heritage Service (EHS), is a voluntary scheme designed to ensure the positive management of ASSI features to maintain their extent and favourable condition. Under the scheme, landowners can receive payment for carrying out conservation work within the framework of a written agreement. MOSS covers issues such as dumping, grazing and control of invasive species.

- 3.2** In 2000, the Northern Ireland Biodiversity Group (NIBG) produced its recommendations to Government (NIBG, 2000). These recommendations were accepted by the Northern Ireland Executive in 2002, with the publication of the *Northern Ireland Biodiversity Strategy* (DOE, 2002). As part of this process, a revised list of Northern Ireland priority species was published in March 2004. This list includes twite.
- 3.3** Department of Agriculture and Rural Development (DARD), through its Countryside Management Branch (CMB), has developed a series of agri-environment schemes including the New Environmentally Sensitive Area (NESA) scheme (revised in 2003) and the Countryside Management Scheme (CMS). Their objective is to create habitats and protect and enhance semi-natural habitats and species by encouraging more sensitive management practices. Both these schemes have similar management provisions, are voluntary and apply to the whole farm. These schemes provide a mechanism for delivering some of the targets listed in action plans for many species and habitats, targeting areas of as little as 0.1 ha of semi-natural habitat e.g. species-rich meadows, in order to maintain or improve their present conservation value. Both contain a range of prescriptions which have potential to be of benefit to twite. Around 230,000 ha of farmland is currently in agri-environment schemes in Northern Ireland, approaching a quarter of the total agricultural land in the Province. A sample of habitats is under long-term monitoring by QUB's Agri-environment Monitoring Unit (QUB, 2004b).
- 3.4** Under agri-environment schemes species-rich grassland, hay meadows, heather moorland, rough moorland grazing and scrub must all be managed according to a series of prescriptions which should have direct benefits for twite as well as the habitats themselves. In addition there are a number of arable options available to farmers notably: retention of winter stubble, conservation cereal, undersown cereal, rough grass margins and wild bird cover which provide summer and winter feeding opportunities. Rough grass margins will also provide tall grassy vegetation suitable for nesting.
- 3.5** DARD and the Royal Society for the Protection of Birds (RSPB) jointly employ an Agri-Environment Officer, whose main role is to contribute to the effective delivery of agri-environment prescriptions for biodiversity priorities, including twite.
- 3.6** RSPB currently employ a Priority Bird Species Officer, whose main role is to contribute to the effective delivery of the conservation of priority species which includes twite. This is carried out through close working with council employed biodiversity officers and the implementation of conservation actions, carried out at a local scale through a Local Biodiversity Action Plan (LBAP).
- 3.7** Site protection policies are included in Development Plans. These include the identification of Sites of Local Nature Conservation Importance (SLNCIs). Planning Service is currently considering which SLNCIs will be formally identified in Development Plans. Where such sites are confirmed in adopted plans, specific planning policies will be applied to development proposals on those sites.
- 3.8** Council employed biodiversity officers across Northern Ireland are writing and implementing an LBAP within their council boundaries. Those areas in which the twite is

a prominent bird, may select it as their flagship species and carry out some additional awareness raising, publicity or practical conservation work for it.

- 3.9** Other relevant information is gathered through specialist biological recording groups, Non-Governmental Organisations (NGOs), universities and other government bodies. Biological records are currently stored in the Museum and Galleries of Northern Ireland (MAGNI) at the Centre for Environmental Data and Recording (CEDaR). CEDaR was established in 1995 in partnership with EHS, MAGNI and the biological recording community. There are currently over 1.4 million records held by CEDaR and there are plans underway to make these records more accessible through the Internet. This will be achieved through the National Biodiversity Network, a union of organisations throughout the UK working together to create an information network of accessible biological data for biodiversity information.

#### **4. Action Plan Targets**

- 4.1** Maintain the twite as a breeding species in Northern Ireland.
- 4.2** By 2010, increase the Northern Ireland breeding twite population to 15 pairs.
- 4.3** By 2015, increase the Northern Ireland breeding twite population to 20 pairs.
- 4.4** By 2010, maintain the breeding range of the twite in Northern Ireland.
- 4.5** By 2015, increase the breeding range of the twite beyond the North Antrim Coastline of Northern Ireland.
- 4.6** Maintain the wintering number and range of twite in Northern Ireland at 23 x 10km squares (Lack, 1986).

#### **5. Proposed Actions with Lead Agencies**

##### **5.1 Policy and Legislation**

- 5.1.1** By 2008, target positive management through MOSS, agri-environment schemes, the LBAP process and grant aid for biodiversity to secure favourable management on suitable twite sites.  
(ACTION: EHS, DARD, District councils)
- 5.1.2** By 2006, ensure that important twite habitats and their conservation management requirements are recognised and site protection policies are included in statutory and non-statutory plans e.g. Development Plans, Local Biodiversity Action Plans (LBAP's) and appropriate management strategies.  
(ACTION: Planning Service, EHS, DARD, District Councils)

- 5.1.3 Ensure implementation of Good Agricultural and Environmental Condition (GAEC) to preserve the suitability and good condition of certain sites (particularly semi-natural habitats) for twite.  
(ACTION: DARD)
- 5.1.4 If there is to be a review of agri-environment schemes under the Rural Development programme (2007-13) consider a review of CMSESA to include additional measures to benefit twite, e.g. an option to revert unimproved grassland to species-rich grassland.  
(ACTION: DARD)
- 5.1.5 By 2010 increase the area of arable land in Northern Ireland through agri-environment schemes and a cereal national envelope to benefit twite and other farmland birds.  
(ACTION: DARD)

## **5.2 Site safeguard and management**

- 5.2.1 By 2006, produce ornithological selection criteria for ASSIs.  
(ACTION: EHS)
- 5.2.2 By 2006, produce conservation objectives for all statutory sites including cSACs, ASSIs and NNRs ensuring that the objectives do not conflict with, and where possible enhance, the requirements of twite.  
(ACTION: EHS)
- 5.2.3 By 2007, establish agreements with landowners for the positive management of areas important for breeding twite within ASSIs through the MOSS scheme.  
(ACTION: EHS)
- 5.2.4 By 2007, ensure that the agri-environment scheme measures relevant to twite are carefully targeted at breeding sites along the North County Antrim Coast.  
(ACTION: DARD)
- 5.2.5 By 2006, where appropriate, enhance management of relevant Nature Reserves/National Nature Reserves for breeding twite, ensuring that visitor access and dog walking is restricted, so as to reduce disturbance from the general public.  
(ACTION: EHS, District Councils)

## **5.3 Species management and protection**

- 5.3.1 By 2006, encourage landowners and site managers to avoid carrying out farming operations e.g. bracken control, during the breeding season, in the vicinity of identified twite territories.  
(ACTION: EHS, DARD)

5.3.2 Continue to increase the level of uptake of agri-environment schemes in areas where twite are likely to be present (most of the North Antrim coast area is currently managed under ESA).  
(ACTION: DARD)

5.3.3 By 2007, identify those road side verges which, if let to set seed, could significantly benefit twite.  
(ACTION: EHS, Roads Service)

#### **5.4 Advisory**

5.4.1 By 2008, ensure that those responsible for implementing and supporting agri-environment schemes and MOSS agreements continue to receive effective training and up-to-date advice on appropriate land management practices which benefit twite and other upland farmland bird species.  
(ACTION: EHS, DARD)

5.4.2 By 2008, ensure that farmers and landowners are aware of the presence of twite on their land and mechanisms available to instigate appropriate management.  
(ACTION: EHS, DARD)

5.4.3 By 2008, ensure that information on twite in Northern Ireland is available to all those who could play a role in their conservation and recovery.  
(ACTION: EHS, DARD)

#### **5.5 International**

5.5.1 Further develop links with the Republic of Ireland and other European and international organisations and programmes such as the European Environment Agency and the European Centre for Nature Conservation, to promote the exchange of information and experience in research, management techniques, education and conservation strategies.  
(ACTION: EHS)

#### **5.6 Future research and monitoring**

5.6.1 By 2008, carry out a survey to accurately establish the population of twite in Northern Ireland and investigate the habitat used by the birds for nesting and foraging during the breeding season.  
(ACTION: EHS)

5.6.2 Continue to carry out a monitoring programme of twite at regular intervals as part of the UK Statutory Conservation Agency/RSPB Annual Breeding Bird Scheme (SCARABBS) survey to assess changes in response to management.  
(ACTION: EHS)

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5.6.3 By 2007, monitor and review the effectiveness of agri-environment schemes, in maintaining and enhancing the twite population and its associated habitat in Northern Ireland.

(ACTION: DARD, EHS)

5.6.4 By 2008, design and commence a research project into the breeding and diet ecology of the twite to establish the limiting factor(s) of the Northern Ireland population.

(ACTION: EHS)

5.6.5 By 2008, design and commence a research project into the wintering ecology of the twite to establish, if any, limiting factor(s) of the Northern Ireland population.

(ACTION: EHS)

### **5.7 Communications and publicity**

5.7.1 By 2010, following the results of the research, raise awareness of twite ecology and the limiting factor(s) of the Northern Ireland population.

(ACTION: EHS, DARD)

5.7.2 By 2006, ensure the provision of high quality advisory materials to landowners and seek opportunities to promote and publicise mechanisms for delivering positive management.

(ACTION: EHS, DARD)

### **5.8 Links with other action plans**

5.8.1 It is likely that the implementation of this plan will also benefit the Northern Ireland populations of the following UK and Northern Ireland priority species:-

- Short-eared owl *Asio flammeus* (UK)
- Linnet *Carduelis cannabina* (UK & NI)
- Reed bunting *Emberiza schoeniclus* (UK & NI)
- Chough *Pyrrhocorax pyrrhocorax* (NI)

5.8.2 This plan should be considered in conjunction with the following UK and Northern Ireland Habitat Action Plans:-

- Maritime cliffs and slopes
- Coastal and floodplain grazing marsh
- Coastal saltmarsh
- Lowland meadows
- Upland heathland
- Lowland heathland

## 6 References

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**List of Useful Acronyms**

ASSI	Area of Special Scientific Interest
BAP	Biodiversity Action Plan
CEDaR	Centre for Environmental Data and Recording
CMB	Countryside Management Branch
CMS	Countryside Management Scheme
DARD	Department of Agricultural and Rural Development
DCAL	Department of Culture, Arts and Leisure
DETI	Department of Enterprise, Trade and Investment
DOE	Department of the Environment
DRD	Department for Rural Development
EHS	Environment and Heritage Service
ESA	Environmentally Sensitive Area
ESCRs	Earth Science Conservation Review Site
HAP	Habitat Action Plan
JNCC	Joint Nature Conservation Committee
MAGNI	The National Museums and Galleries of Northern Ireland
NESA	New Environmentally Sensitive Area
NIBG	Northern Ireland Biodiversity Action Group
NICS	Northern Ireland Countryside Survey
NNR	National Nature Reserves
PPS	Planning Policy Statement
RA	Rivers Agency
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SLNCI	Sites of Local Nature Conservation Importance
SoCC	Species of Conservation Concern
SPA	Special Protection Area
WFD	Water Framework Directive
WWT	Wildfowl and Wetlands Trust