

Twite

The South Pennines contains possibly the only breeding population in England, with less than 100 pairs - marking a 90% decline in the past 14 years.



Ecology

Twite (*Carduelis flavirostris*) is a small dark brown finch. In breeding plumage the male has a bright pink rump, warm buff face, and white wing panel. The female is similar but lacks the pink rump and the face and wing panel are usually less bright.

Open moorland is favoured for nesting, and birds in the South Pennines show a strong selection for nesting in old growth Bracken beds, often in old quarries or steep cloughs close to the moorland edge, and often near reservoirs. Mature Heather is also frequently used and birds will also nest amongst Bilberry, Cotton Grass, rush tussocks and beneath stones and boulders. The predominant factor that prevents Twite from selecting an area as a potential nest site is

the prevalence of upland grasses, such as *Nardus* and *Molinia*.

For foraging they need hay meadows, lightly grazed pasture, roadside verges and weedy seed rich areas. Twite feed on a variety of plants that seed at different times: Dandelion and grass seeds (particularly Annual Meadow Grass) are an important food source early on in the breeding season, Sorrel is favoured later, and Autumn Hawkbit and Thistles are the main source of seeds at the end of the season, although other plants are also used.

Twite is one of only two British passerines (the other is the closely related Linnet) that feed their young on a regurgitated seed mix, and subsequently require a continuous supply of seed-rich food throughout the

spring and summer to nest successfully. Equally important is the distance of feeding areas from the nest site. If these are not within a 2.5 km radius of the nest parental foraging flights can be too long, and chicks do not receive enough food to fledge successfully. This is particularly important, as the seed only diet is less nutritious than an invertebrate diet.

Nesting takes place between mid May and July, with up to two broods in a season. 4 – 7 eggs are laid in each clutch, with an average of 5.2. Twite breed in loose colonies, although this may simply reflect their ability to nest in relative close proximity in highly fragmented patches of suitable habitat, rather than represent colonial nesting in the strictest sense.



Breeding habitat, Light Hazzles, Rochdale

Ringling studies have recently established that the majority of South Pennines birds spend the winter on east coast salt marshes, principally between the Humber and the Thames Estuary, and some individuals have

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also been found along the North Sea coasts of the Netherlands and Belgium. A few do remain in the South Pennines throughout, and a very small number of Pennine birds also choose to winter on the west coast, although the vast majority of Twite that winter on west coast estuaries are Scottish birds.

Current status and distribution

International

Within Europe the population is considered to be of international importance, and is centred on the Atlantic coastlines and mountains of Norway, Britain and Ireland, with small populations in Finland and Sweden. The Norwegian population of more than 17,000 pairs is considered stable. Twite has a disjunctive world distribution and the North West European population is some 2,500km from the other main population, which extends from the Caucasus to the Himalayas. Twite is the only European bird to be derived from the Tibetan fauna type.

National

Twite is a Red Listed Species of Conservation Concern and UK Biodiversity Action Plan Priority Species, due to a rapid and large-scale decline in both numbers and range over the last 4 decades. Nationally, the main population is found in the Highlands and Islands of Scotland and is estimated at 6000 – 10,000 pairs but is considered to be

declining. Only a few pairs of Twite breed in Wales and Northern Ireland.

South Pennines and Greater Manchester

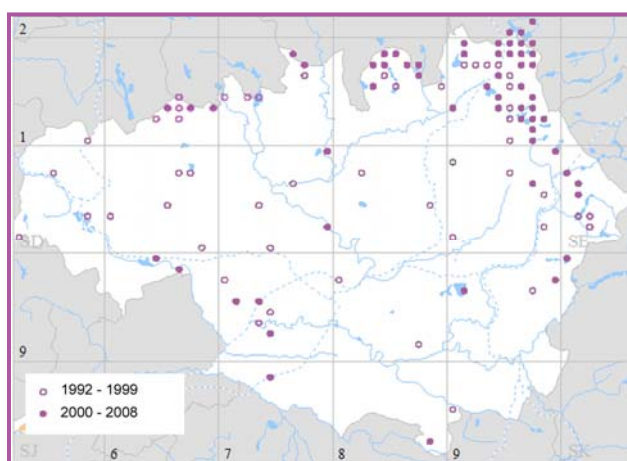
In the early 1900's, Twite bred in 11 counties in northern England, with an outlying population in north Devon. However, by 2000, Twite were only recorded breeding in 6 English counties. It is now likely that almost the entire English breeding population is confined to the species traditional core range, located around the South Pennines Special Protection Area (SPA). A dramatic drop in numbers at traditional east coast wintering areas has mirrored declines on the breeding grounds.

In the South Pennines SPA, the breeding population has declined by 90% over the last 14 years. 45 sites, which held Twite colonies in the 1960s, were resurveyed during 2004 – 2005, and Twite no longer bred at 34 of the 45 sites. The South Pennines population was estimated at 126 - 203 pairs.

During May – July 2008 a further extensive survey was undertaken, coordinated by the RSPB. Over 40 sites were surveyed throughout the South Pennines and although results are still yet to be published (July 08), less than 100 breeding pairs were recorded.

During this survey 20 - 30 pairs were recorded in an area between Chelburn, Blackstone and Light Hazzles Reservoirs in Rochdale, which was the largest breeding

population recorded during the survey and now represents the most important area for breeding Twite in England (Roy Taylor, RSPB, pers.com).



Distribution of Twite in Greater Manchester

As part of the 2008 survey a further 5 sites were surveyed in Greater Manchester where Twite had bred in the past - 3 in Rochdale; Watergrove Reservoir, Hoar Edge and Birchen Holts, and 2 in Oldham; Saddleworth Moor and Castleshaw Reservoir / Bleak Hey Nook - but Twite was not found to be breeding at any of these sites. It is now likely that the Light Hazzles' birds represent the only breeding population in Greater Manchester.

Factors affecting the species

Loss of Feeding Sites

In recent years the uplands of England have undergone a period of agricultural intensification, with many traditional hay meadows converted to intensive silage production or permanent pasture. Silage production frequently involves ploughing and re-seeding with fast growing grass varieties, such as Italian Rye Grass, which out compete other flowering plants. Cutting dates are now much earlier and numerous cuts occur within each season.



Traditional hay meadow

Hay meadows are now often cut during the peak breeding period in June and the first silage cut can be as early as May. On many enclosed pastures high stocking densities reduce opportunities for grasses and other plants to set seed. All these intensive methods have resulted in a widespread reduction in the availability of wildflowers and their seeds, which Twite utilise throughout the breeding season.

The cutting of roadside verges by local authorities can also remove a rich source of seeds, especially late in the season after meadows have been cropped. Many upland meadows are now also frequently used as horse paddocks, which are often overgrazed.

Loss of Nesting Habitat

Overgrazing by sheep has greatly reduced the area of tall mature Heather and Bilberry at the moorland fringe. This in turn leads to the formation of grass dominated moorland that is unsuitable as a nesting habitat for Twite. Bracken control is widely practised and positively encouraged on farms in areas designated as ESAs. Uncontrolled landscape scale burning of grass moor for livestock grazing can also remove valuable nesting habitat, including the loss of bracken litter from mature beds, which is a crucial requirement for Twite nesting in Bracken.

Loss of Coastal Wintering Habitat

Twite wintering on the English coast predominantly utilise salt marshes, where they feed on *Salicornia* seeds. Saltmarsh habitat has undergone large-scale loss in recent years due to erosion, sea level rise, and the prevention of landward migration by hard sea defences. Twite may be particularly vulnerable to such losses as their preferred pioneer communities are amongst the first to be lost.

Current actions

- ◆ A jointly lead project by RSPB and Natural England began in 2008/09. It is a 5-year project and will focus on extant colonies in and around the South Pennines SPA (and any new colonies discovered during this period). A Project Officer was appointed in 2009 to deliver targeted, proactive habitat intervention, with survey and monitoring to be undertaken by a Research Biologist.
- ◆ The RSPB carried out an intensive survey of the South and West Pennines in 2008, to establish breeding distribution and estimate population size. Twites were recorded at 20 of the 42 sites, with a decline of at least 50% since 2003.
- ◆ A Habitat Intervention Handbook is being developed for use by advisers for use when setting up Higher Level Stewardship agreements, and a landowner version should follow later.
- ◆ Habitat Management Calendars are being created for guidance for landowners and advisers.
- ◆ The surveying for 2009 will concentrate volunteer input around

foraging sites utilised by Twite, identifying potential foraging or donor sites, harvesting seeds and sowing them on receptor sites. RSPB staff, the Research Biologist and an MSc student will be carrying out thorough breeding site and nest monitoring, i.e. breeding performance, chick biometrics, brood size etc.

- ◆ Advisers from RSPB, NE, Peak District National Park Authority, Calderdale Seeds Project and others are in discussions with numerous landowners at various stages of potential HLS agreements.



Silage production in the South Pennines

- ◆ Local media publicists are running Twite articles that will increase awareness and how people can help.
- ◆ Supplementary feeding has been reassessed and is being factored into the Habitat Management Handbook.

Objectives and targets

Objective	Target	Quantity	Target Date
To maintain the existing population through protection of current nesting and feeding sites.	Ensure the population is the 2008 baseline	200% of 25 Breeding Pairs (2008 baseline)	2013
To increase both population size and range through creation of new nesting habitat and feeding sites.	Aim for an increase to current level	200% of 5 Occupied 1km squares (2008 baseline)	2013

Proposed actions

There is much that could be achieved through local and community action and a programme of interpretation that attempts to explain the importance of Twite within the cultural landscape of the South Pennines is also much needed. Possible actions could include:

- ◆ Work with community groups to establish hay meadows or flower rich pastures on land influenced by the community i.e. local authority landholdings, roadside verges, and footpaths. [ETRP](#), [NE](#), [RMBC](#), [OMBC](#), [FWAG](#), [UU](#). Ongoing
- ◆ Training for community groups on the management of land for Twite, create

a landowners handbook for guidance and promotion. [ETRP](#), [RSPB](#), [NE](#), [SPTG](#), [FWAG](#). Ongoing

- ◆ Volunteers trained in ecological monitoring and incorporated into core project survey work. [ETRP](#), [RSPB](#), [SPTG](#). Ongoing
- ◆ Information and interpretation events. Publicise Twite and proposed land management policy, through all available media channels. [ETRP](#), [SPTG](#), [GMBP](#), [RSPB](#), [NE](#). Ongoing

Species Recovery Programme

Habitat intervention and monitoring will target land within a 2.5km radius of all extant colonies and dependent upon success in stabilizing and increasing the size of those

colonies, will then target intervention measures beyond the 2.5km radius and around former colonies. Twite focussed management options will be included for areas outside of this, where advisers are working with landowners on Higher Level Stewardship agreements in areas relatively close by. [ETRP, NE. 2013](#)

- ◆ The aim is for all existing nesting and feeding habitat within a 2.5km radius of each colony will be secured through management agreements and/or agri-environment schemes. In addition intervention measures will be introduced to create new, tall vegetation in suitable nesting areas and restore seed-rich foraging habitat. This will be achieved through agri-environment scheme prescriptions and trialled intervention funded directly through the project. The Light Hazzles, Blackstone, Chelburn Reservoirs colony will be included within the scope of this project. [ETRP, NE, OMBC, RMBC, FWAG, UU. 2013](#)
- ◆ Supplementary feeding programmes to be re-examined using all available data. Findings from this to be used to update existing protocol and complement the proposed habitat restoration project. [ETRP, SPTG, UU, RSPB. 2009](#)

Survey and Monitoring

- ◆ An RSPB Research Biologist will continue to monitor the Light Hazzles colony during the 2009 breeding period at least, as part of the recovery project. [RSPB. 2009](#)
- ◆ Annual surveys and monitoring of breeding Twite at both extant and extinct sites. [ETRP, SPTG, LBR, RSPB. Ongoing](#)
- ◆ The RSPB have established a database of Twite records for the South Pennines and will work with county recorders, birdwatchers and the South Pennines Twite Group to ensure that the database remains current. [RSPB, SPTG, LBR, GMEU. Ongoing](#)



- ◆ The Twite colour ringing study will continue to research Twite movements within the South Pennines. [UU. Ongoing](#)

- ◆ Promotion of upland agri-environment measures and support to facilitate entry into schemes, which bring about landscape change. **ETRP, NE, FWAG, OMBC, RMBC, UU. Ongoing**

Lead Partners

ETRP	England Twite Recovery Project
FWAG	Farming and Wildlife Advisory Group
GMBP	Greater Manchester Biodiversity Project
GMEU	Greater Manchester Ecology Unit
LBR	Local bird recorders
NE	Natural England
OMBC	Oldham MBC
RMBC	Rochdale Metropolitan Borough Council
RSPB	Royal Society for the Protection of Birds
SPTG	South Pennines Twite Group Calderdale Council Calderdale Seeds Project Kirklees Council Peak District National Park Authority
UU	United Utilities

Best practice guidelines

Small scale, targeted, habitat intervention can successfully create new breeding and feeding habitats as well as ensuring protection for those sites currently used by Twite. Small-scale intervention, perhaps on

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sites even as small as an acre, can provide high densities of seed or suitable habitat to support a new breeding colony. Indeed, Twite are one of the few species whose overall population can benefit from small-scale landscape change.

Within the South Pennines the majority of nesting areas are designated as SSSIs or SPAs, and there is much that could be done to benefit Twite.

Feeding Requirements

- ◆ Ensure an unbroken supply of food sources, within a 2.5km radius of nesting sites, throughout the breeding season (Dandelions, Sorrel, Autumn Hawkbit, Thistles).
- ◆ Restoration of improved species poor fields to traditionally managed meadows.
- ◆ Maintain hay meadows with seeding wildflowers throughout the breeding season (Retain meadows uncut until at least 15 July).
- ◆ Undertake hay harvesting as late in the season as possible.
- ◆ Where fields are cropped leave an uncut strip at the meadow edge.

- ◆ Liaison with local authorities to stagger roadside cuts every two years to maintain alternate feeding areas.
- ◆ Temporary fencing of field margins to prevent livestock grazing and allow late summer seed sources to develop.
- ◆ Establishment of flower and seed bearing mixes within the curtilage of reservoir operational areas.



Nesting Requirements

- ◆ Maintain, or create, a heterogenous mix of moorland vegetation, particularly of Heather, Bracken and Bilberry, particularly in steep sided cloughs.
- ◆ Prevent the development of moorland dominated by coarse grasses, particularly *Molinia* and *Nardus*.
- ◆ Reduce overgrazing by lowering stocking density to a density suitable

for maintaining a mixed moorland flora.

- ◆ Fencing out areas of clough or moorland on slopes to encourage tall mosaics of Heather and Bilberry to develop as nesting habitat.
- ◆ Avoid Bracken control on steep slopes at the moorland edge.
- ◆ Reduce over burning by lengthening burning rotations and protecting against uncontrolled wildfires.

Further information about managing land for Twite can be found here:

[Twite Land Management Advice - RSPB](#)

Links to relevant BAP's

Farmland birds
Grasslands
Uplands

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Author

Graham Jones

Reserves Manager for Lancashire, Manchester and North Merseyside Wildlife Trust.

gjones@lancswt.org.uk