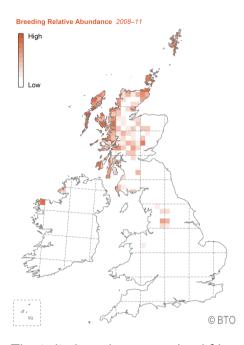


LAND MANAGEMENT FOR WILDLIFE

TWITE (Linaria flavirostris)



Breeding abundance map reproduced from Balmer et al 2013 Bird Atlas with permission from British Trust for Ornithology.



The twite breeds on moorland fringes and along rocky coasts close to extensive farmland in NW Scotland, Northern Ireland, South Pennines in England, and part of Snowdonia in North Wales. It typically breeds in open areas with little tree cover, nesting on or close to the ground in tall vegetation such as bracken, heather and other dwarf shrubs. Both adults and chicks feed on small seeds of herbs and grasses, and require an abundance of seeds throughout spring and summer, which they collect predominantly from flower-rich habitats on nearby farmland. In winter, most birds move to coastal areas where they feed on saltmarsh or low-lying farmland rich in weed seeds, while others remain on farmland near breeding areas where seed-supplies are available year-round. The UK population has undergone a long-term decline in both numbers and range, especially in northern England. The causes of their decline are not well understood, but are likely to include a decline in food supply through the loss of plant diversity in grasslands.

WHAT DO TWITE NEED?

Lots of seeds through spring and summer Both adults and chicks feed on the small seeds of plants that have flowered and gone to seed. Flower rich hay meadows are known to be particularly valuable, but grazed pastures and weedy areas around the farm can also provide valuable feeding areas at different times in the season. Grasses and broad-leaved herbs known to be valuable include annual meadow grass, purple moor grass, cotton grass, dandelion, common sorrel, blinks, mouse-ears, chickweed, thistles, cat's-ears, autumn hawkbit and knapweed.

Tall ground vegetation for nesting

Twite nest close to the moorland edge, usually in tall heather or in the plant litter under patches of bracken. In other areas they nest on the ledges of inland and sea cliffs, quarry sides and sometimes in trees.

ANNUAL LIFECYCLE

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Feeding on seed rich habitats on farmland or on coast, notably saltmarsh												
Return to breeding grounds. Feeding on seeds e.g. annual meadow grass, purple moor grass and coltsfoot.												
Nesting on the ground in tall vegetation such as bracken litter or tall heather/bilberry. Feeding on seeds found in meadows, pastures, road/track verges, eg dandelion, sorrel, cats-ear and thistle												
Thistles, autumn hawkbit and knapweed seeds particularly important in late summer. Form flocks that move to the coast (Oct-Nov), though some remain on farmland near breeding habitat if seed-rich habitats available.												

HOW CAN I ENCOURAGE TWITE?

Nesting habitat

- Like many upland species, twite benefit from upland management that maintains a diversity of vegetation types and structures, predominantly achieved through sensitive grazing and burning.
- Retaining patches of bracken as twite often nest under these. If managing bracken, carry out as late as possible (ideally in late August) and leave some patches unmanaged (birds often nest in the dead litter built up over several years).
- Maintain some areas of tall heather (30 cm+) close to the enclosed in-bye. Heather is particularly vulnerable to heavy winter grazing.
- Consider excluding stock from some areas, such as a steep slope to encourage taller vegetation for nest sites.
- Avoid planting trees close to areas with breeding twite.

Feeding habitat

- Traditional hay meadows that contain a wide variety of herbs are particularly valuable. Semiimproved meadows can also help where herbs such as dandelion and sorrel are present. In fertilised meadows, try to keep inputs away from field margins to encourage more broad-leaved plants on at least part of the field.
- Late-cut meadows in July and August are important sources of seed food in summer. In earlier cut meadows, leave a two-metre margin or field corner unfertilised and uncut to provide some seed food for chicks later into the summer. Graze or cut these later to prevent them becoming rank.
- Extensively grazed pastures that maintain some taller vegetation provide opportunities for broadleaved plants to go to seed. Rotational grazing

- can provide the break from grazing that can allow some herbs to flower and seed in the sward. The longer the rest period the better, but even a couple of weeks can provide benefits. However, pastures should be grazed tight in the autumn/ winter to reduce the build-up of rank vegetation which would reduce plant diversity.
- Minimising the amount of topping, or at least leaving some patches uncut and topping weeds as high as possible helps provide more opportunities for plants to seed in pastures.
- Avoid broad scale herbicide use that would remove broad-leaved herbs. Try to manage weeds by non-chemical means or targeted use of herbicides (eg spot spraying or weed wiping).
- Retain tall weedy areas along roadside verges, field edges and around farm buildings.
- Where suitable land is available for growing arable fodder crops, such as cereals or brassica/ root crops, annual weeds within the growing crop such as charlock, fat hen and redshank can provide a rich seed source for twite. If arable cropping does not fit in with the farming system, consider creating a plot of wild bird cover containing plants that produce small oily seeds, such as rape, fodder radish, and linseed.
- Twite feed on seed-rich hay or haylage fed outside to livestock in the winter/early spring. Twite will remain in upland areas for longer where seed remains available, such as from outdoor stock feeding or arable weeds.

KEY POINTS

- Providing feeding areas rich in seeding wildflowers, such as late-cut hay meadows and grazed pastures, within two km of moorland nesting areas.
- Manage heather moorland to ensure that there are areas of tall heather close to the enclosed in-bye, preferably on gulley sides.
- Maintain patches of bracken on steeper slopes to provide nesting habitat.
- Twite benefit from annual weeds in root crops, cereals and their stubbles, or seedrich hay/ haylage fed to out-wintered livestock.

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