

Information note:

Hay and silage meadows

Wildlife use

The taller vegetation that develops in meadows can attract ground nesting birds that require cover and can allow broad-leaved plants in the sward to flower and seed, providing summer food for seedeaters like the linnet and twite, and nectar and pollen for insects. Hay meadows that are the product of many years of low intensity farming can support a rich variety of grasses and flowers. Such meadows are now an extremely rare habitat.

The switch from hay to silage as a means of conserving grass for winter feeding has been one of the major changes in livestock farming over the last century. While helping to ensure the availability of better quality winter forage for livestock, it has allowed changes in grassland management that have impacted on wildlife. Despite this general shift, management intensity varies greatly, and many meadows can still provide much value to wildlife.

Practical management

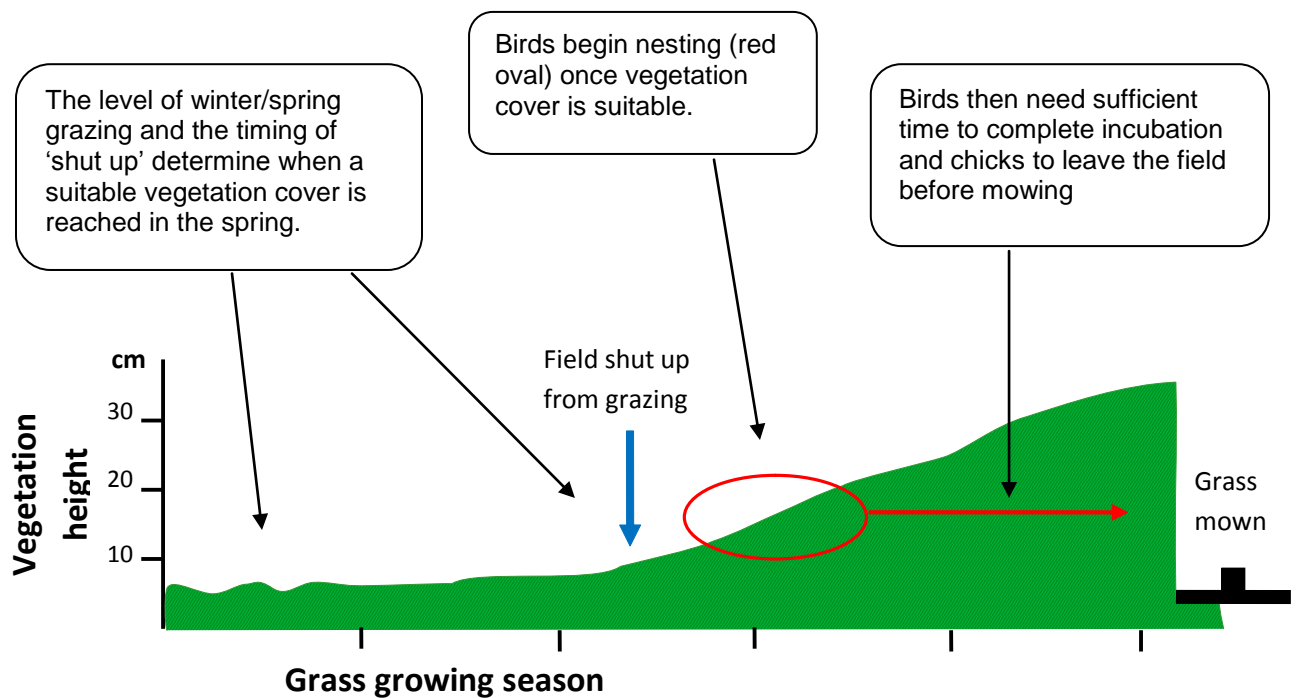
Nesting habitat

Ground nesting birds that require some taller vegetation cover are often attracted to fields shut up for hay or silage. Skylarks are the most widespread species that nest in meadows, while more localised species include the curlew, whinchat, meadow pipit, yellow wagtail, corn bunting and corncrake. All these species also use, and sometimes favour, alternative farmland habitats that provide suitable vegetation cover e.g. extensively grazed pasture and some arable crops.

For ground nesting birds to breed successfully in meadows, they need taller vegetation to be available long enough to allow them to complete incubation and chicks to leave the field before mowing.

The length of time that taller vegetation is available for breeding birds is determined by:

- a) When vegetation cover becomes tall enough for birds to begin nesting
- b) When the field is cut Ground nesting birds vary in how much cover they require to begin nesting, and how long they need to get chicks away before mowing. More information is provided in individual species information notes, but as an example, skylarks begin nesting once vegetation reaches around 10cm, with chicks able to leave the field around 5 weeks later. Curlews are attracted to nest in meadows that have some vegetation cover from mid-April to mid-May. They are likely to need vegetation cover to remain for at least six weeks from nesting: incubation takes around a month and chicks fledge a month later, but can be drawn away to cover relatively soon after hatching.



If the harvest of suitably managed meadows is spread out over the summer, different fields provide a succession of opportunities for early and later nesting attempts. Different species tend to nest at different times and multi-brooded species such as the skylarks need to rear several broods to maintain their populations.

Hay or Silage?

It is the grassland management leading up to mowing that most determines the suitability of a meadow for ground nesting birds. Whether the cut grass is then conserved as hay, silage or haylage has little influence. Meadows receiving low levels of nutrient inputs will generally be more favourable to ground nesting birds as it results in less-dense vegetation and a longer growing period. Employing low-inputs and a longer 'close-up' period to fields taken as haylage or silage could be an acceptable compromise between farming and wildlife requirements on some meadows. The early and repeated cutting of young vegetation for silage poses major challenges for ground nesting birds.



Mechanical operations

Mechanical operations such as spreading manure, harrowing and rolling are often associated with hay and silage management. Try to time mechanical operations that would be damaging to nesting birds before they start breeding or after cutting. Unless there is a definite need for rolling or harrowing e.g. levelling molehills or compacting loose stones in young leys, carrying out such operations only increases farm costs. Rolling can also cause a subsequent reduction in grass yield.

Method of mowing

The rapid decline of corncrakes in the UK during the last century was a consequence of changes in the way meadows were managed and harvested. Later cutting combined with a 'corncrake friendly' mowing pattern (right) have boosted the population of corncrakes in north-west Scotland.



Corncrake friendly mowing pattern

Where curlew or other waders such as snipe, lapwing, and redshank breed, it will be beneficial to leave damp areas of the field uncut as unfledged chicks are most likely to be using these areas.

Research on skylarks has shown that raising the mowing height to 9-12cm for any cuts taken up to the end of June greatly increases the number of skylarks that successfully fledge. A higher cut reduces the yield of silage, but it raises silage quality and re-growth is quicker.

Feeding habitat

Where broad-leaved plants flower and seed within a meadow, they provide summer food for seed-eating birds. Traditional species rich hay meadows are particularly beneficial, but herbs that remain in semi-improved grasslands such as dandelion and sorrel also provide a valuable source of seed-food through the summer. The resulting livestock fodder can also provide winter seed food for sparrows, finches and buntings when it is fed.

Mown grasslands generally have less insect value compared to extensively grazed pasture as larger, longer-lived insects cannot adapt to the wholesale removal of vegetation. However, much wildlife can make short-term use of meadows. For example, small mammals, grasshoppers and other insects move into the developing tall cover and mobile insects such as bees and butterflies are attracted to the pollen and nectar of flowering plants. To complete their lifecycles, these species also need habitats that offer more continuity. Leaving uncut margins and corners can provide valuable habitat for small mammals and over-wintering insects, and also extend the availability of seeds, pollen and nectar later into the year.



Uncut areas provide an important refuge for insects and mammals

Chemical weed control can drastically reduce a field's use by birds. If essential, try to prevent killing non-target broad-leaved plants though the targeted use (e.g. spot spraying or weed wiping) of herbicides that are selective against the problem weeds.

Traditional hay meadows

Meadows can become extremely diverse in plants. The regular cutting and removal of hay continually knocks back the more competitive grasses, helping a much wider diversity of plants to co-exist. Species rich hay meadows have developed as a consequence of their long-term management. For example, the sequence that meadows were usually cut in determined whether early or late-flowering plants thrived. Aftermath grazing is important in helping suppress more competitive plants in the sward and providing bare ground for some plants to re-establish. The application of small quantities of farmyard manure has sometimes been a feature of long-term management.



It can be very difficult to restore the flower-rich plant communities of traditional hay meadows on agriculturally improved grassland. Suitable sites and management need to be carefully chosen, and advice should be sought (see note on 'Restoring plant diversity in grassland').

Contact us

For further information e-mail farm-advice@rspb.org.uk



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