

# Illustrated guide to grassland condition

Neutral grassland for lapwing





## Using the guides

### What are the guides for?

These illustrated guides are to help show you what wildlife needs in terms of grassland structure and condition. The illustrations build on the more formal written prescriptions of agri-environment agreements, to help describe the results expected from these schemes, that will benefit wildlife.

The guides are based on the belief that **you**, the land managers, farmers and graziers, are crucial in achieving wildlife conservation. We recognise that successful conservation relies on harnessing your detailed knowledge of your land and livestock, together with your observations of the subtle effects of seasonal variations of the climate from year to year. We believe that these new guides will help combine your skills as land managers with our increasingly detailed understanding of the ecological requirements of our wild plants and animals.

### What's in the guides?

The guides concentrate largely on describing the **structural features** of a grassland sward (eg variation in height, amount of tussock, open short sward or bare ground). This structure is crucial at key times of year, in

determining the wildlife (both fauna and, to some extent, flora) that can live there.

For each wildlife interest, we provide illustrations and descriptions of the grassland at three key times of year:

- spring - just as you are about to put stock on the land as the grass begins to grow,
- early summer - when many wild animals will be breeding and the majority of plants will be in full flower; and
- autumn or early winter - when you may be seeking to take your stock off for the winter.

We have steered clear of giving detailed advice on stocking rates, as you are likely to be the best judge of the management needed to achieve these results. The only exception to this is where research has clearly shown that stocking rates over a certain critical level lead to high losses of the eggs and chicks of ground nesting birds through damage by trampling.

### How to use the guides

The guides should be used in conjunction with a visit from a Conservation adviser. The adviser will help you identify which particular fields the guides are relevant to,

and discuss with you how to get the best for wildlife from your grassland. They are intended for use on grasslands that already have some conservation value.

**We ask you to manage your stock so as to try to ensure that the sward in your field(s) looks as close as possible to that illustrated in the guide at each of these three key times.** A copy of the guides should be kept as a reference so that over time they will help you to check on the improving wildlife value of your grassland.

### Your help needed

These illustrated guides are a trial approach, and we would greatly appreciate feedback about the usefulness, technical content, style and format of the guides. Please send any comments you have to Christine Reid, English Nature, Northminster House, Peterborough, PE1 1UA, or feedback through your Conservation Adviser.

We hope that you benefit from using the guides and that they will help you enjoy more of the wildlife that occurs on your land.

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*These guides have been written and produced by TellTale (peter@telltale.co.uk) on behalf of English Nature. Illustrations: Dan Powell. Design: cda.*

**DEFRA**  
Department for  
**Environment,  
Food & Rural Affairs**

helping deliver your  
agri-environment scheme agreement

# Neutral grassland for lapwing – March

Lapwing breed in predominantly short grassland and open tilled ground (especially spring/summer fallow, see Countryside Stewardship option OS 3). Damp grassland areas nearby are important for feeding.

## March: Key Points

### What will lapwing be doing in March?

Lapwing will start prospecting for breeding sites in March. They will be displaying for mates from this time onwards and may start laying their eggs from mid March. Parents incubate the eggs for 25-32 days.

### Sward structure

Aim to maintain a predominantly short yet diverse sward with a scattering of small clumps or tussocks. Incubating birds need this short sward to give an all round view of approaching predators.

### Wetness

Shallow muddy margins to water or damp areas of grassland are particularly important as feeding areas for lapwing, and later their chicks.

### Stock

It is best to produce the short Spring sward required by lapwing in the previous autumn. Alternatively if conditions permit, graze in early spring before mid March. Ideally stock should be removed from mid March to the beginning of May. See notes on trampling damage.

### Watch out for...

The beautiful tumbling display flights of lapwings and listen for their evocative calls (especially on clear moonlit nights) in March. This will alert you to lapwings looking to breed on your fields.

### Trampling damage

Although lapwing breed in short swards, many eggs and chicks are destroyed by stock trampling. You can minimise this problem by not grazing from mid March to the end of April, or stocking at low densities (less than 0.75 cows/ha.) until mid May. Cattle are less damaging than equivalent rates of sheep.

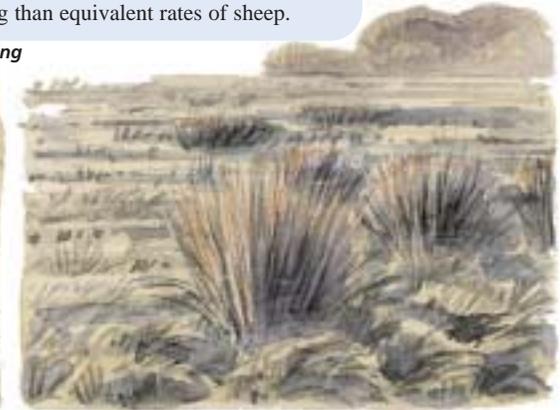
### Distraction display



### Brooding



If you need to roll or harrow grassland, do so before 20th March to avoid damaging nests.



Landscape view

To provide attractive ground for prospecting lapwings and avoid subsequent damage to nests, fallow should be cultivated, in as short a time as possible, between 1st and 20th of March.

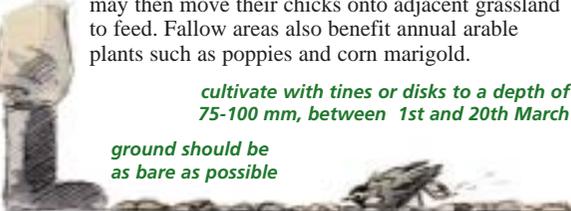
## Ideal spring fallow

### How much fallow is needed?

As large an area as you can afford. Areas less than 2 hectares are likely to be less successful.

### Value of spring/summer fallow for lapwing and other wildlife?

Lapwing will use the bare open ground for nesting. They may then move their chicks onto adjacent grassland to feed. Fallow areas also benefit annual arable plants such as poppies and corn marigold.



cultivate with tines or disks to a depth of 75-100 mm, between 1st and 20th March

ground should be as bare as possible

more than 90% bare ground

## Ideal grassland structure

### How much of the field should look like this?

As much as possible (aim for more than 80%).

### Effect of this sward on lapwing?

Provides short sward for feeding, bare patches for nesting, and enough tussocks or clumps for chicks to hide from predators.



little dead plant litter

short sward, less than 5 cm

scattered clumps 10-15 cm or occasional higher tussocks are important for chicks to hide in

more than 70% short sward

up to 20% bare ground in old hoof prints scattered through site

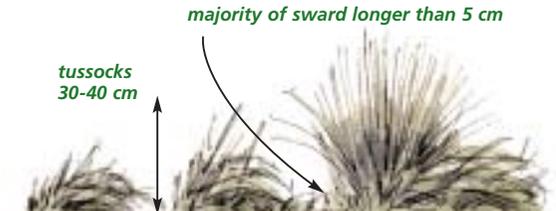
## Too rank for lapwing

### How much of the field should look like this?

Less than 20%.

### Effect of this sward on lapwing?

Too long for lapwing to be able to see either approaching predators or their own prey.



majority of sward longer than 5 cm

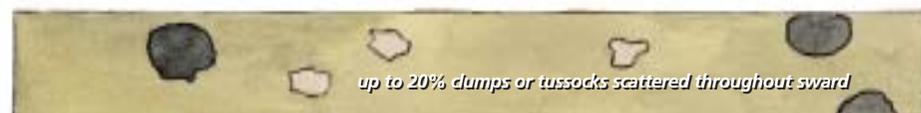
tussocks 30-40 cm

more than 30% tussocks

more than 60% of sward longer than 5 cm

Cross section

Above



up to 20% clumps or tussocks scattered throughout sward



less than 5% bare ground

# Neutral grassland for lapwing – May and June

Lapwing breed in predominantly short grassland and open tilled ground (especially spring/summer fallow, see Countryside Stewardship option OS 3). Damp grassland areas nearby are important for feeding.

## May and June: Key Points

### What will lapwing be doing in May and June?

Most lapwing eggs will hatch by mid May. The chicks are led away from the nest to look for food, often to areas of damp short grassland. They can fly 35-40 days after hatching and become independent from their parents soon after. Lapwing will lay replacement eggs if initial clutches fail, although they will only have one brood of chicks.

### Sward structure

A short sward continues to be very important because lapwing chicks feed on small insects and other invertebrates which they find by eye. They also need a scattering of clumps and tussocks in which to hide from predators.

### Wetness

Damp grassland and shallow muddy margins to water are very valuable as feeding areas for lapwing chicks because of the high density of insect larvae in these areas.

### Stock

Continue to graze at less than 0.75 cows/ha. until mid May. Maintain the predominantly short sward until the end of June for the benefit of chicks. Most lapwing will have succeeded in producing fledged young by the end of June (although a few late nesting pairs may have chicks in mid July). Therefore as far as lapwing are concerned, it does not matter whether grazing is intensified or relaxed after this.

## Watch out for...

Lapwing flying around in a very agitated state calling almost continuously. This is a sure sign that there is either a nest or young chicks nearby; adults often try and distract or even drive intruders (including cattle and people) away from their nests and young.



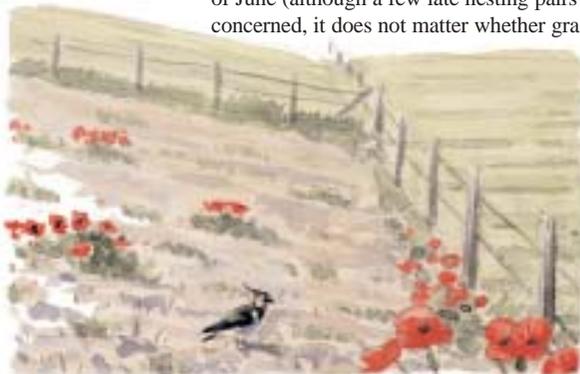
Lapwing driving an intruder away

## Trees

Breeding lapwing suffer heavy losses in fields surrounded by trees, as predators (eg crows) use the trees as look-out perches for locating eggs and chicks. They therefore prefer to use open landscapes with few trees.



Landscape view



Ideal summer fallow

### How much fallow is needed and for how long?

As large an area as possible. Areas less than 2 hectares are likely to be less successful. The fallow should be maintained until at least 31st July.

### Value of summer fallow for lapwing and other wildlife?

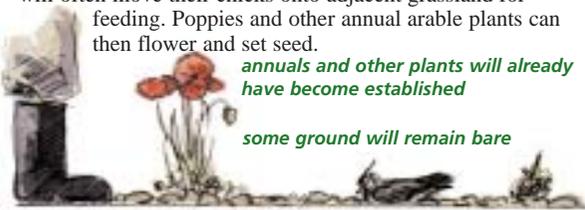
Late nesting lapwing will use these areas for nesting. They will often move their chicks onto adjacent grassland for feeding. Poppies and other annual arable plants can then flower and set seed.

annuals and other plants will already have become established

some ground will remain bare

amounts of bare ground and re-vegetated ground will vary from site to site

Cross section



Chick feeding

Ideal grassland structure

### How much of the field should look like this?

As much as possible (aim for more than 80%).

### Effect of this sward on lapwing

Provides short sward for feeding, bare patches for nesting, and enough tussocks or clumps for chicks to hide from predators.

scattered clumps 10-15 cm or occasional higher tussocks are important for chicks to hide in



more than 70% short sward

short sward, less than 5 cm high

up to 15% bare ground in old hoof prints scattered through site

little dead plant litter

up to 20% clumps or tussocks scattered throughout sward

Above



Too rank for lapwing

### How much of the field should look like this?

Less than 20%.

### Effect of this sward on lapwing

Too long for lapwing to be able to easily see their predators or prey.

tussocks 30-40 cm

majority of short sward longer than 5 cm

less than 5% bare ground

more than 60% short sward longer than 5 cm

more than 30% tussocks



# Neutral grassland for lapwing – October onwards

Lapwing breed in predominantly short grassland and open tilled ground (especially spring/summer fallow, see Countryside Stewardship option OS 3). Damp grassland areas nearby are important for feeding.

## October onwards: Key Points

### What will lapwing be doing in winter?

Large flocks of lapwing will use open permanent grassland fields for feeding, often returning to the same fields year after year. Earthworms form a major part of their winter diet. They prefer to roost in large open cultivated fields.

### Sward structure

It is very important to produce the predominantly short swards, that lapwing will need next spring, in the previous autumn and winter. The sward should therefore look like the ideal (illustrated below) by the time you remove the stock for winter. It is helpful if some areas of arable can be over-wintered as stubble for the benefit of other bird species (e.g. grey partridge and skylark). These can then be converted into fallow to help attract breeding lapwing in the spring.

### Wetness

Areas of standing water and damp ground provide crucial feeding areas for lapwing in the next spring and summer and should not be drained.

### Bare ground

Scattered hoof marks created in autumn and winter will create small gaps in the sward. These are important in the following spring and summer as areas for lapwing to nest and feed in.

### Stock

Most types of stock can be used to create the desired sward structure, although cattle are preferable.

### Watch out for...

Tumbling flocks of lapwing flying overhead or settling to feed or roost. You may see golden plover feeding alongside the lapwing.



Landscape view



Yellowhammer and tree sparrow



### Ideal overwintered stubble

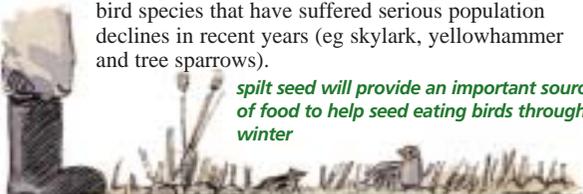
#### How much overwintered stubble is needed?

As large an area as possible. Areas less than 2 hectares are likely to be less successful. The stubble should be maintained until early March.

#### Value of overwintered stubble for birds?

Although lapwing are not necessarily attracted to stubble for feeding, it will provide important winter forage for a range of bird species that have suffered serious population declines in recent years (eg skylark, yellowhammer and tree sparrows).

spilt seed will provide an important source of food to help seed eating birds through winter



Cross section

### Ideal grassland structure

#### How much of the field should look like this?

As much as possible (aim for more than 80%).

#### Effect of this sward on lapwing

Provides short sward and bare patches for winter feeding and, crucially, for nesting and feeding the following spring. Similarly, some longer tussocks or clumps will be needed for chicks to hide in.



little dead plant litter  
 scattered clumps 10-15 cm or occasional higher tussocks as cover for the chicks next spring  
 short sward, less than 5 cm high  
 more than 70% short sward  
 up to 20% bare ground in old hoof prints scattered through site  
 up to 20% clumps or tussocks scattered throughout sward

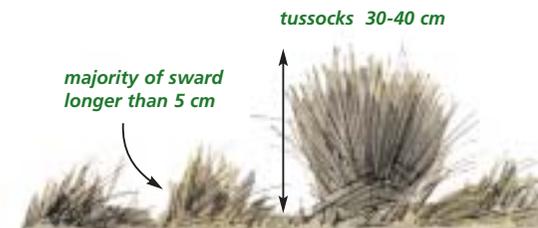
### Too rank for lapwing

#### How much of the field should look like this?

Less than 20%.

#### Effect of this sward on lapwing

Too long for lapwing to be able to easily see their prey.



tussocks 30-40 cm  
 majority of sward longer than 5 cm  
 more than 30% tussocks  
 more than 60% of sward longer than 5 cm

Above

