

Guidance



CAPERCAILLIE SURVEY METHODS

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1 Background

Capercaillie use of woodland can change over time, with lek sites and brood areas changing location. It is necessary to have up-to-date information regarding any changes in order to ensure that planning decisions are as informed as possible.

The presence of capercaillie is often best proven by the presence of signs like droppings and feathers. The methods presented here are intended for survey for capercaillie presence and lek distribution and size within a survey area.

The capercaillie is specially protected under the Wildlife and Countryside Act 1981 (as amended) Schedule 1. A licence is required from SNH to visit the nests or disturb these species during the breeding season or whilst lekking. Where the presence of lekking or breeding Schedule 1 species is known or suspected, **all** surveyors carrying out breeding bird surveys should be suitably licensed prior to fieldwork commencing.

2 Survey for capercaillie presence

2.1 Identification

When flushed, male capercaillie, which are as large as turkeys, will appear black and burst from vegetation. They will often crash through branches creating a lot of noise. Female capercaillie are half the size of males and are easily confused with female black grouse. If you flush a bird, the tail will tell you whether it is a black grouse or a capercaillie: female black grouse have forked tails whilst the tail is rounded on female capercaillie. Female capercaillie also have a chestnut-coloured breast.

2.2 Area of survey

Liaise closely with key staff on the ground e.g. keepers, to acquire as much knowledge of the site as possible. However, even if you are told that capercaillie are restricted to certain areas, it is still necessary to survey the whole study area.

Capercaillie can utilise almost any type of forest at certain times of the year. More intensive searching should be carried out in key areas:

- a. Wooded knolls and ridges, particularly where tree growth has been stunted;
- b. Wooded hill tops;
- c. Rocky outcrops which are surrounded by trees;
- d. Mature plantations (especially pine and larch with heather and blaeberry ground cover);
- e. Areas with granny (mature old growth) pine trees;
- f. Bogs and open rides in forests;
- g. Exposed root plates from fallen trees;
- h. Tracks where capercaillie have been gritting.

The aim should be to get within approximately 200m of all potential habitat using tracks and rides or compass bearings. It should be possible to cover 2 to 4 km² per day. Aiming to average about 2.5 km² per day should allow some leeway for bad weather.

2.3 Timing

Surveying for capercaillie presence can be done at any time of year. The most appropriate time, however, is during late winter and early spring prior to peak lekking activity. Capercaillie are most active at this time of year and there will be a higher chance of detecting their presence. Avoid surveying for capercaillie on fresh snow which may obscure the signs.

2.4 Surveying for signs

2.4.1 Droppings

Capercaillie signs should be located by walking through the forest, wherever possible on forest tracks and rides. Look under branches that overhang tracks and rides. Males and females use tracks and rides for gritting - so there may be more evidence of their presence on gravel/sandy tracks. In dense plantation habitat capercaillie are restricted to the rides and droppings are usually obvious.

Capercaillie are herbivorous and leave lots of droppings that can last for many months. Droppings are long and cylindrical, and usually comprise a matrix of pine needles. In spring, female droppings often contain other plant species such as cotton grass flowering heads.

Female capercaillie and black grouse droppings are difficult to tell apart - black grouse tend to occur on the edge of a wood, but are unlikely deep in the wood. Capercaillie droppings are also more likely to have large numbers of pine needles within them. If necessary contact the Capercaillie Project Officer for assistance with identification.

When surveying for capercaillie, droppings should be aged and allocated to the following categories:

- a. **Fresh** – bright green and moist, sometimes with white uric acid smear at one end;
- b. **Old** – duller in colour and often dried out and breaking up.

Droppings should also be sexed using the following criteria:

- a. **Male** – up to 8cm long and 1cm in diameter, i.e. wider than your little finger;
- b. **Female** – generally shorter, and narrower than your little finger.

Hens sitting on nests, between May and June, produce droppings that are much larger than normal droppings and are called 'clocker' droppings. They are often yellowish green in colour with a white end, due to the female's diet of Scots pine pollen cones at that time of year. Clocker droppings are often found on tracks and roads within and around areas where capercaillie are nesting.

Heaps of droppings, often beneath a tree, usually indicate a roosting site. If they are male and fresh you may be in a lekking area. Roost piles often contain caecal droppings. These are shapeless and semi-liquid, with a brownish-yellow colour when fresh, eventually turning dark brown after weathering.

Where you have found droppings along rides and tracks it is worth exploring the compartment(s) more thoroughly. Areas with blaeberry and heather, even where trees are quite young, and open mature woodland may be worth a closer look. However, do not spend too long searching small areas at the expense of overall coverage.

An estimate of the number of droppings should be recorded.

2.4.2 Other signs

Details of any feathers, including the sex and type, should be recorded. If you are unsure whether a feather is from a capercaillie, please send them to the [Capercaillie Project Officer](#). Take care not to touch the base of the feather shaft with your hands as any feathers collected could be useful for research on capercaillie genetics.

Record the presence of any dustbaths. These are indentations on dusty ground where a capercaillie has been cleaning its feathers. The presence of body feathers and droppings are a good sign that a bird has been dust bathing.

3 Survey for capercaillie lek locations

Capercaillie lek in a wide range of forest habitats such as rides in dense Sitka spruce plantations and in open restocks.

3.1 Area of survey

Capercaillie recolonising areas of previously occupied woodlands sometimes select historic lek sites. These should, therefore, be checked. Before surveying, please check with the land manager and Capercaillie Project Officer for information on the locations of historical lek sites.

Leks tend to be in mature woodland or at the edge of mature stands. It is also possible that leks are located within forest rides, especially if they are boggy, with dense conifers either side. Capercaillie may also lek in open restocks.

Leks tend to be deep in woods and avoid outside edges. They also usually occur on knolls or raised areas or towards, but not on, the tops of hills.

Leks are usually located about 2km apart, but this should only be taken as a guideline.

Males at a lek may be spread over a large area. During periods of peak activity, territorial males will remain close to the centre of the lek, covering an area up to 0.02 km². Non-territorial cocks may be found at the edge of the main lek area. It is important to distinguish between a non-territorial cock at the edge of a lek area and territorial cocks. If cocks are

located during the survey, search the wider area later in the day for stances (see section 3.3).

3.2 Timing

Male birds usually roost on the lek site in April and the lekking season peaks in mid- to late-April. Stances can be identified on the ground from mid-April.

Liaise with the land manager before attempting to locate a lek. It may be that other land management is taking place on the morning that you have selected for surveying

Once areas of usage are identified, and suspected leks located, early morning visits should be made to attempt to locate leks. Lekking is most active between 04:00 and 08:00, although it may continue a little later. Hens are more susceptible to disturbance and most likely to be on the ground between 04:00 and 06:00. To avoid disturbing them, you should not start trying to locate leks until after 06:00 hours.

3.3 Survey for lek locations

Before starting the survey, it is important to familiarise yourself with the call of a cock capercaillie (a combination of clucks and popping). To listen to a recording of a calling capercaillie, see: <http://www.rspb.org.uk/wildlife/birdguide/name/c/capercaillie/index.aspx>. Capercaillie song has a limited range of up to 100m, so you should avoid windy mornings.

When entering a potential lekking area, walk slowly and make frequent stops to listen for displaying capercaillie. If you hear a calling capercaillie, take a grid reference of the area on a handheld GPS. Record the number of individual cocks that can be identified and vacate the area, taking care to move in the opposite direction to the lekking capercaillie. Revisit this area later in the day to search for stances. Survey the area subsequently using the guidance outlined under section 4.

When you see a cock displaying, you should check to see if he is on a regular stance. Stances are often on bare ground and are covered in trampled droppings. Feathers, especially body feathers, are often scattered around. You should look for stances on lek sites in the middle of the day to minimise disturbance. Late snow cover can be useful in providing clear signs of displaying birds. It may be possible to estimate the number of mature cocks at a lek by counting stances.

4 Counting capercaillie at leks

Before monitoring a lek, please check with the land manager and Capercaillie Project Officer to ensure that no one else is expected on the morning that you intend to survey.

4.1 Timing

Surveys of the total number of lekking capercaillie should occur during the peak period of lekking activity when hens are in attendance. Peak activity takes place from mid-April to early May but varies according to spring temperatures. Activity may commence early during warm weather.

Leks should ideally be counted from 04:00 to 06:00 hours and during dry and still weather. Using a previously erected hide is the preferred method; this should be erected between 12:00 and 18:00 hours the previous day at the latest.

Camp out in the hide or enter it quietly before 03:30 hours and do not leave until after 09:00 hours (unless it is pouring rain and capercaillie are not present, in which case the hide can be vacated from 06:00 hours). If camping out in the hide enter it before 18:00 hours to avoid disturbing any cocks that may lek at dusk.

If counting from a vehicle it should be in place by 03:30 hours at the latest. If birds are present, stay in the vehicle and do not move off until after 06:00 hours. If birds are still lekking within sight or can be heard from the vehicle at 06:00 hours, do not move off until there is no evidence of their presence, i.e. the birds have flown away or no birds have been seen or heard for at least 30 minutes. If birds are not present, the area can be vacated after 06:00 hours.

4.2 Counting capercaillie at leks

Wear clothing that is not colourful (i.e. it should be dull or camouflage) and does not create additional noise. Turn off mobile phones and any other sources of noise; keep quiet throughout the visit. Do not use torches or other light sources; if driving to the lek area turn off headlights a minimum of 200m from the lek.

Using a previously erected hide is the preferred method. The hide location should be far enough from a stance to avoid potential disturbance (minimum 10m) and provide a wide view of the lek area. Seek advice from someone with previous experience of counting the lek before positioning the hide.

If entering the hide before 03:30 hours on the day of the count a long length of strong string may be used to help locate the hide in the dark. This should lead from an easily found feature (e.g. large boulder) on the nearest track to the hide. If possible, speak with someone with prior knowledge of the lek site before entering a hide in the dark to discuss the ground as birds are likely to roost close to the lek site.

Seek advice from someone with previous experience of counting the lek before surveying with a car. When using a vehicle it is useful to have two counters to improve the chances of birds on both sides of the forest track being heard. It is necessary to wind down the windows, but do not lean out of the window or put arms, binoculars, cameras etc. out of the window. There are cases where a car may need to move to count all the birds. If the lek is one such case take advice, before surveying, from the Capercaillie Project Officer or someone with previous experience of counting this or a similar lek.

A lek may consist of only one bird, but the bird should be using his stance regularly and will have left clear signs of activity. The stance may be only 1m² in size and signs of use include piles of droppings, feathers, etc.

Individual displaying birds may be sub-alpha cocks on the edge of a lek – it is important to conduct a careful search around the area for stances later in the day. Within the wider forest, individual cocks, especially in marginal habitats, will display to hens away from the lek at any time of day. As it is likely that this individual cock may have been recorded on the main lek, record this information but do not assume it is a lek.

If the lek has been observed from a vehicle or a hide, it is useful to walk over the lek area in the afternoon to look for stances. By locating a stance it may be possible to confirm the presence of other birds that were merely suspected to have been lekking. In practice, a

combination of sight and sound is used to determine the location of the different cocks. This is normal practice and supporting evidence can be recorded from searches for stances in the afternoon. Although this is a time consuming exercise, it is particularly useful when some birds may have been distant from the hide or vehicle.

5 Recording data

Using a grid reference preferably from a handheld GPS, make notes of any sightings of capercaillie (birds, droppings and feathers), or lek locations.

When recording the capercaillie sightings, you should note the sex and, if surveying for presence, where the bird flushed from (ground, tree, etc.).

When counting birds at leks try to record, separately for each visit, all males and their position on a map of minimum scale 1:25000. The minimum (i.e. those actually seen) and possible maximum (i.e. this may include birds heard but not seen) number of males in attendance should be recorded. It is important to have accurate information and therefore a definite minimum number is important. Also, estimate the minimum number of females present.

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