



# Short-eared owl

## *Asio flammeus*

### Status

Amber listed: SPEC 3 (V)  
Annex I of EC Wild Birds Directive

### National monitoring

None.

### Population and distribution

The breeding distribution of short-eared owls in Britain is similar to the distribution of heather moorland, with most pairs in Scotland and the north of England. Population size varies greatly from year to year in relation to small mammal prey availability (88–91 *Atlas*). There are estimated to be 1,000–3,500 pairs of short-eared owl breeding in Britain (*Population Estimates*).

### Ecology

Short-eared owl sites change from year to year depending on the availability of small mammal prey. Because of this, short-eared owls may be absent from many areas of apparently suitable habitat. Favoured breeding sites are areas away from human disturbance with plenty of small mammal prey, for example moorland heath, newly afforested hillsides, extensive rough grazing, marshes, bogs, sand-dunes and inshore islands. The actual nest-site is usually in long grass, heather or rushes, often on sloping ground. Short-eared owls will not be found in dense woodland, built-up or heavily grazed areas. Woodland fringe is sometimes occupied by pairs adjacent to young forestry or on coastal wooded strips with rough grazing or marsh (Lockie 1955, Glue 1977). A clutch of 4–8 eggs is laid from mid- to late March through to July; a replacement clutch is laid after early egg loss. Incubation lasts about 25 days and the young fledge after 24–27 days, but leave the nest at 12–17 days. Young are to be found in or close to the nest from late April to July. The young are able to fly well after about 35 days.

## Breeding season survey – population

This is a difficult species to survey, given its unpredictable nature (particularly the between-year demographic fluctuations) and the difficulty in surveying wide expanses of open moorland. This method is based on information contained in Lawton Roberts and Bowman (1986), though it has not been tested in the field.

#### Information required

- number of confirmed, probable and possible breeding pairs
- a map of the survey area with the boundary and summarised registrations marked.

#### Number and timing of visits

At least two, between early April and the end of May. If breeding is not confirmed, a further visit should be made in June.

**Time of day**

0700–1900 BST.

**Weather constraints**

Avoid poor weather.

**Sites/areas to visit**

Any suitable habitat. Short-eared owls breed on heather moorland and a variety of grassland sites, notably young forestry and coastal/island rough grazing and areas of grass/scrub mix (see *Ecology*, above).

**Equipment**

- 1:25,000 OS map (1:50,000 will do).

**Safety reminders**

When working in more remote areas, ensure someone knows where you are and when you are due back. Always carry a compass. If possible, surveyors should not work alone in remote areas, and spare clothing, a survival bag, whistle, first-aid kit and food should be carried.

**Disturbance**

Disturbance should be minimal. No visits to nests are necessary to confirm breeding.

**Methods**

Take a new field map on each visit to the site, and mark clearly the boundary of the survey area on the map.

On the first visit, walk to within 250 m of each spot. Map all those areas that are unsuitable for hunting and breeding (see above) and exclude them from further searching. Search for short-eared owl activity and signs of short-eared owl presence elsewhere.

On the second visit (before the end of May), search all suitable areas. Record all short-eared owl observations and attempt to confirm breeding at all potential nesting sites. Even if breeding is confirmed at a site on the first visit, a second is still necessary, as other pairs may be breeding nearby.

If breeding is not confirmed at all potential nest-sites on the second visit, undertake a third in June. Watch birds, locate nest-sites and confirm breeding behaviour wherever possible (this can be done from a discreet distance, without a visit to the nest itself).

During each visit look for hunting males, which tend to be more active diurnally in the pre-egg-laying period and when feeding young than during incubation. Males will carry food to the nest, often landing close to the incubating female; they can also be found resting off-duty within 100 m of the nest. Females will often rise from the nest and land beside or close to an incoming male. Parents will also rise and mob observers, giving distinctive barking or quacking calls. The territorial display and call notes, accompanied invariably by wing-clapping, are sound confirmation of breeding. Beware of ranging young from late June/July onwards, as these can easily be recorded as adult birds by an inexperienced observer. During each visit, the presence (or absence) of short-eared owls, their activity, sex and details of any nests located should be recorded on the map using standard BTO codes (Appendix 1) and cross-referenced to any more-detailed comments.

At the end of the survey, determine the number of confirmed, probable and possible breeding pairs in the survey area using the following rules.

Breeding is confirmed if:

- A nest containing eggs or young is found.
- An adult is seen carrying food for the young.
- A used nest or eggshells are found (occupied or laid within the period of the survey).
- Recently fledged young are found.
- Territorial display and call notes accompanied by wing-clapping are seen.
- Agitated behaviour or anxiety calls are given by the adults (see above).

Breeding is probable if:

- A pair of short-eared owls is seen in suitable nesting habitat in the breeding season.
- Birds are seen visiting a probable nest-site.

Breeding is possible if:

- A short-eared owl is observed in the breeding season in possible nesting habitat.

Report the minimum number of breeding pairs of short-eared owls as the number of confirmed pairs; and the maximum number as the confirmed + probable + possible breeding pairs.

## **References**

- Glue, D E (1977) Feeding ecology of the short-eared owl in Britain and Ireland. *Bird Study* 24: 70–78.
- Lawton Roberts, J and Bowman, N (1986) Diet and ecology of short-eared owls *Asio flammeus* breeding on heather moor. *Bird Study* 33: 12–17.
- Lockie, J D (1955) The breeding habits and food of short-eared owls after a vole plague. *Bird Study* 2: 53–67.

