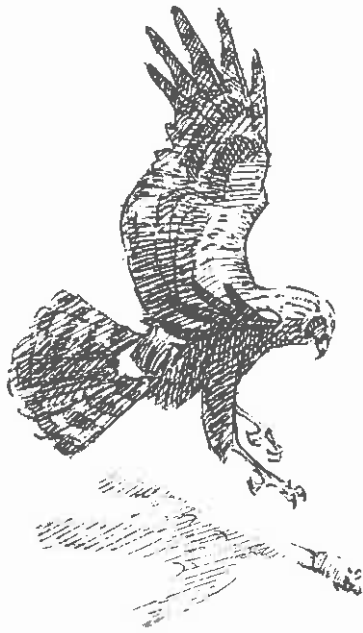


Hen harrier

Circus cyaneus



Status

Red listed: HD, SPEC 3 (V)
Schedule 1 of WCA 1981
Annex I of EC Wild Birds Directive

National monitoring

National breeding surveys: 1988–89, 1998 (RSPB/SNH/EN/CCW/DETR/Raptor Study Groups).

National Winter Roost Survey: annual (recording forms and details available from Roger Clarke and Donald Watson, c/o New Hythe House, Reach, Cambridge CB5 0JQ).

Population and distribution

Hen harriers mainly breed in the north and west of Britain, the Isle of Man and Ireland, with strongholds in Orkney, the east Highlands and Strathclyde north and west of the Clyde (88–91 *Atlas*). Between the 1968–72 and the 1988–91 breeding atlases the Scottish population remained relatively stable, although those in England and Wales declined. The lack of expansion of the breeding population to former levels is thought to be the result of human persecution (88–91 *Atlas*). There are an estimated 630 breeding pairs of hen harriers in Britain and 180 in Ireland (Bibby and Etheridge 1993, 88–91 *Atlas*). In winter, birds disperse southwards, and are much more widely distributed throughout the UK. Breeding birds are resident and most young winter in Britain. The winter population is estimated at 1,500–2,000 birds (B Etheridge pers comm).

Ecology

Hen harriers breed on moorland, especially where there is old, deep heather and also in heather within young conifer plantations. Eggs are laid between May and June, there is a single brood, and the young fledge from the end of June (*Red Data Birds*). In winter, hen harriers roost on platforms of trampled vegetation. These can be small gaps in the vegetation just wide enough to take a harrier, or wider gaps up to 1 m or more across, surrounded by standing vegetation. They can be scattered over 1–2 ha, but are often grouped 1–2 m apart within a small favoured area. The birds will move around locally during the winter and between winters, but tend to return to the same favoured spots.

Breeding season survey – population

These methods are based on those used in the survey of breeding hen harriers in 1988–89 (Bibby and Etheridge 1993).

Information required

- minimum number of breeding pairs
- maximum number of breeding pairs
- a map showing the boundary of the survey area and summarised registrations.

Number and timing of visits

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

Time of day

0700–1900 BST.

Weather constraints

Avoid poor weather.

Sites/areas to visit

Heather-dominated moors from sea level (in west Scotland) to 550 m (in central Highlands), usually on well-drained slopes where heather grows longer. Young plantations in upland areas (particularly north and west Britain).

Equipment

- 1:25,000 map (1:50,000 will do)
- A4 photocopied map of the survey area for use in the field
- Schedule 1 licence.



Safety reminders

Ensure someone knows where you are going and when you expect to return. Take a compass and always carry a survival bag, waterproofs, whistle, extra clothing, food and a first-aid kit in remote areas.

Disturbance

Keep disturbance to a minimum. Try to confirm breeding without a visit to the nest. Do not disturb any bird during the laying period in late April/first half of May. If survey visits are made during this time, observe the nest-site from a distance. Do not cold search for hen harrier nests. Human persecution is a serious threat to this species. Keep site information confidential.

Methods

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

During the first visit to the site, walk to within 250 m of each spot. Mark on your visit map all the areas that are unsuitable for hunting and breeding (see above). These can be excluded from further searching. Search for hen harrier activity and signs of hen harrier presence.

During the second visit (until the end of May) search all suitable areas, recording all hen harrier observations, and attempt to confirm breeding by watching all potential nesting sites from a distance. Continue searching even if a pair was confirmed as breeding on the first visit, as there may be other birds breeding in fairly close proximity (800–1,000 m) or more than one female with the same male.

If breeding is not confirmed, make a third visit between late June and the end of July to watch birds and to try to locate a nest-site and confirm breeding behaviour. Again, try to achieve this from a discreet distance, without a visit to the nest itself.

During each visit, record on the map the presence or absence of hen harriers, their activity, sex and details of any nests encountered, and cross-refer to any more-detailed comments. By the end of the survey the observer should know the number of confirmed, probable and possible breeding pairs in the survey area.

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 seen
- agitated behaviour or anxiety calls are given by the adults.

Breeding is probable if:

- a pair of hen harriers is seen in suitable nesting habitat in the breeding season
- a permanent territory is presumed through the registration of territorial behaviour on at least two different days, separated by more than one week
- courtship and display behaviour is witnessed
- birds are seen visiting a probable nest-site.

Breeding is possible if:

- a hen harrier is observed in the breeding season in possible nesting habitat.

The minimum number of breeding pairs of hen harrier is the number of confirmed + probable pairs; the maximum number is the confirmed + probable + possible pairs.



Winter survey

This method is based on that used for the annual survey of wintering hen harriers in Britain (Clarke and Watson 1990).

Information required

- a map of the survey area, including its boundary and the location of hen harrier roost(s)
- numbers of hen harriers using the roost(s) on the survey dates
- the proportions of grey adult males to 'ringtails' (first-winter males and females).

Number and timing of visits

Make an initial visit to the site during the day to familiarise yourself with it. Recommended visit dates are Sundays in the periods 20–26 October, 24–30 November, 15–21 December, 12–18 January, 15–21 February and 15–21 March. The national organisers will inform you of any changes to these dates.

Time of day

From 1½ hours before sunset to half an hour after sunset (or until it becomes too dark to see). The morning after the watch date is acceptable, but you must be on station at first light and know the exact roosting area, if you are not to miss birds as they leave.

Weather constraints

Windy and dry weather conditions are best. Some wind will keep the birds up and active, making them easier to count.

Sites/areas to visit

All sites known or suspected to be winter roost sites or potential roost sites. Usually areas of rank ground vegetation, in a variety of open habitats, particularly saltmarsh, reedbeds and other marshes, rough grassland, heather moor, lowland heath and (more unusually) conifer plantations.

Equipment

- 1:25,000 map
- torch and compass
- Hen Harrier Winter Roost Survey recording forms.

Safety reminders

You will be finishing **in the dark** and may be working near water, so make sure **someone** knows where you are and when you expect to return. A torch, compass and map are essential.

Disturbance

Do not get too close to the (potential) roost, or birds will desert the site. Do not draw attention to the roost site.

Methods

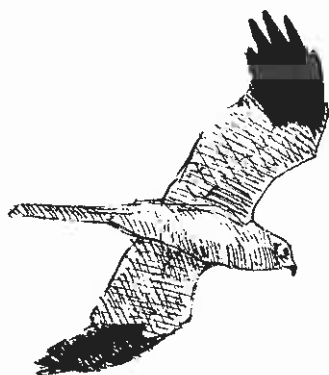
Mark the boundary of the survey area on the map. During a daytime visit, mark areas of suitable habitat within the survey area on the map. If possible, find a concealed vantage point overlooking the suitable habitat and watch for incoming birds from there.


It may be impossible to get an accurate count. Make the best estimate possible and beware of double-counting birds flying in and out of view, settling and then rising again. Figure 1 is a sample of the recording form used in the National Survey. The recording form columns are open-ended, please rule off after each watch.

On each visit record the following:

- Date.
- Time of start and finish.
- Weather conditions.
- Times of the first and last hen harriers arriving/settling and, if possible, of any birds in between (in the 'others' column). 'Arrival' is defined as when a hen harrier first arrives in the vicinity of the site. 'Settling' is defined as a hen harrier landing at a presumed roosting place and not immediately rising again.
- Number of hen harriers.
- Number of ringtails and grey males. First-winter brown males can sometimes be distinguished by their small size, but only if other harriers are present for comparison. They must, however, be recorded as 'brown' in the relevant columns. Record all older males as 'grey', even if their plumage has substantial amounts of brown.

Further notes in the comments column should include the direction of arrival and departure and the presence of wing tags. Wing tags, if present, will be on both wings. It is important to note on the recording form the colour of the wing tag and which colour on which wing. If possible note the letters/number on the tags as well.






**HEN HARRIER WINTER ROOST SURVEY
OBSERVATION SHEET
SIDE ONE**

Complete across both front and back of sheet and rule-off after each watch. Please read the 'Notes for Observers' sheet provided.

SITE NAME		OBSERVER'S NAME & ADDRESS		LEAVE BLANK							
DATE	TIMES (24 hr clock)		WEATHER				COUNT			NOTES (Observation marks, probable first roost, etc.)	
	BEGINNING AND END OF WATCH	ENDSET (same as if a.m. watch)	WIND DIRECTION & FORCE (Beaufort)	SITE SHELTERED FROM WIND?	CLOUD COVER (1/10ths)	TEMP. (wind, cold or freezing?)	PRECIPITATION/ VISIBILITY	BAROMETRIC PRESSURE – if available (rising or falling?)	DAY CONDITIONS (previous day if a.m. watch)		TOTAL



**HEN HARRIER WINTER ROOST SURVEY
OBSERVATION SHEET
SIDE TWO**

COMPLETED SHEET TO:
ROGER CLARKE,
NEW HYTHE HOUSE,
REACH,
CAMBRIDGE CB5 0JQ

OBSERVER, please estimate distance (metres) between observation point and nearest settling birds:

LEAVE BLANK

DATE	ARRIVALS (p.m. watch) or DEPARTURES (a.m. watch)		SETTLING (p.m. watch) or RISING (a.m. watch)		Notes on other roosts, other birds or mammals seen at the site, and their relationship to the roost	COMMENTS (Behavioural notes and explanatory details of special circumstances, quality of roost, etc.)
	TIMES		TIMES			
	FIRST (H or G?)	LAST (H or G?)	OTHERS (H or G?)	FIRST (H or G?)		

Figure 1
Example recording form (front and back) as used in the Hen Harrier Winter Roost Survey.

Report the figures for each month, highlighting the maximum number, and provide a map of the site with summarised registrations, the boundary of the survey area and a brief description of the habitat. Return completed national survey forms to the organisers at the end of the season.

References

- Bibby, C J and Etheridge, B (1993) Status of the hen harrier in Scotland 1988–89. *Bird Study* 40: 1–11.
- Clarke, R and Watson, D (1990) The hen harrier *Circus cyaneus* winter roost survey in Britain and Ireland. *Bird Study* 37: 84–100.