

# Bearded tit

## *Panurus biarmicus*

### Status

Amber listed: BL  
Non-SPEC  
Schedule 1 of WCA 1981

### National monitoring

National surveys: 1992 (RSPB), 2002.

### Population and distribution

Bearded tits breed in reedbeds, mainly in south-east England, with the highest concentration in East Anglia. In 1947 there were only 2–4 pairs of bearded tit breeding in England. By 1974, the British population had increased and was estimated to be at least 590 pairs in 11 counties (O'Sullivan 1976). Since 1974, the population has declined. The reasons for this decline are largely unknown, but may include: fewer birds immigrating from the continent; loss or degradation of habitat; and the severity of the winters. A survey in 1992 estimated that there were between 339 and 408 pairs of bearded tits breeding in Britain (Campbell et al 1996).

### Ecology

Almost entirely confined to beds of reed *Phragmites australis* in the breeding season and only slightly less so in the winter. A clutch of 5–6 eggs is laid, and the breeding season can last from March to August, occasionally longer, with two, three or possibly four broods produced in a season (*Red Data Birds*).

### Breeding season survey – population

Bearded tits are difficult birds to census. They do not sing, are non-territorial, and their reedbed habitat is often impenetrable. The method for surveying this species, developed for the 1992 national survey, is time-consuming and particular care is needed to follow the instructions closely so that the results are comparable between years and sites.

#### Information required

- estimated total number of breeding pairs
- total number of all confirmed and probable first-brood nests
- mapped locations of nests.

#### Number and timing of visits

A minimum of three visits, in the first three weeks of May. Preferably at least six, between mid-April and the end of May.

#### Time of day

Up to three hours after sunrise, but can be later for the detailed survey visits.

### Weather constraints

All visits should be in calm weather.

### Sites/areas to visit

All sites with a reasonable area of reedbed, particularly where bearded tits have been recorded previously.

### Equipment

- 1:10,000 OS map of the area to be visited
- 1:25,000 OS map showing footpaths and rights of way
- telescope.

### Safety reminders

Reedbeds are potentially hazardous habitats. Ensure someone knows where you are working and what time you expect to return. If entry into the reedbed is unavoidable, try to work in pairs and use a map showing safe and unsafe areas.

### Disturbance

Reedbeds have restricted access, can be damaged by trampling, and new paths invite predators. In addition, the presence of rare breeding birds such as bitterns and marsh harriers may place restrictions on access to certain areas of reedbed at particular times of year.

### Methods

Mark the extent of the reedbed on the map. Map the survey route and observation positions and shade any areas which could not be covered.

Cover the whole reedbed in the 2–3 hours after sunrise on three separate days. Split large sites into blocks which can be covered in the three-hour period. Each block may require more than one person to cover it, and, if this is the case, at the end of each visit produce a single visit map from the different observers' maps and cross-reference timed notes with mapped observations to reduce the chance of double-counting the same individual. On each visit, record sightings and birds heard calling on a map of the site using standard BTO symbols (Appendix 1). Use a separate map for each day.

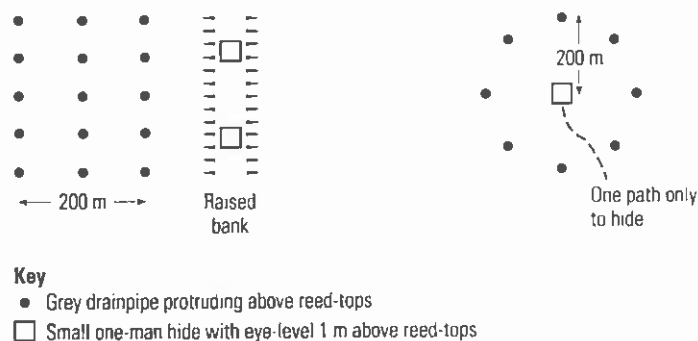
Make observations from an elevated position wherever possible. The best observation position is for eye-level to be 1 m above reed height. If you can, use footpaths, elevated dykes, hides and any other access routes. It is difficult to observe behaviour accurately at a distance of more than about 250 m, even with a telescope, so observation points should be positioned to take account of this. If necessary, put out colour-coded marker posts (eg plastic drainpipes) in the reedbed before the breeding season. They should be visible above the reed growth at known distances and will allow more accurate mapping (Figure 1).

Areas where birds were regularly seen or heard in the first three visits should be targeted for a further detailed census, in order to produce a map of all 'confirmed' and 'probable' nest-sites. Observe areas of about 200 X 200 m for not less than one hour from a good vantage point.

A *confirmed* nest-site is one where either:

- adults are observed returning with food to the same specific location (about 10 x 10 m) on three or more separate observation periods, or
- an adult is seen returning with food and leaving the same small area with a faecal sac on the same day.

**Figure 1**  
Two examples of ways in which reed areas can be split up to help observations on bearded tits.



A *probable* nest is one where either:

- adults have been observed returning to the same general location on three or more separate observation periods, or
- an accumulation of adult sightings, calls and observations of juveniles suggests that a pair are nesting or have nested in a particular part of the reedbed.

Care must be taken not to confuse adult feeding areas with nest locations. Adults are likely to return to the same site many times for food.

Transfer all observations from individual maps to one master map. Record the location of all confirmed and probable first-brood nests with the date on which each nesting area was determined. These detailed census visits should only be made in May. After May, some pairs produce second broods, and this confuses estimates of breeding numbers.

Report the combined total for confirmed and probable first-brood nests as the estimated total number of breeding pairs at a site.

If observations are carried out in June, then a separate map showing confirmed and probable second- and third-brood nests should be produced.

## Breeding season survey – productivity

### Information required

- maximum number of first-brood young observed in flocks in late June/July
- maximum number of birds observed in flocks in September
- maps of the area surveyed.

### Number and timing of visits

Two or three visits in late June/July to record the maximum number of juveniles. Two or three visits in September to record the number of adults and post-moult juveniles.

### Time of day

Preferably up to three hours after sunrise, otherwise later in the day.

**Weather constraints, Sites/areas to visit, Equipment, Safety reminders, Disturbance**

As for the population survey method (above).

**Methods**

On large sites, assessing productivity is difficult as flocks are very mobile. In this situation it may be more productive to use two teams of people to cover the area more quickly and accurately, and for the two teams to keep notes on times and flight directions of flocks.

Observe each area of reedbed for an hour, preferably from an elevated position (see the population survey method, above), marking the areas and sightings on the map and using a different map every day. Record the maximum number of juveniles on site in late June/July. At this time, they form small flocks which should be made up of first-brood young. Mark the numbers and location of first-brood young on the map.

Record the maximum number of birds (both adults and post-moult juveniles) in September in the same way. At this time, birds are conspicuous during 'high flying' displays prior to dispersal in late September.

**References**

- Campbell, L H, Cayford, J T and Pearson, D J (1996) Bearded tits in Britain and Ireland. *British Birds* 89: 335–346.  
O'Sullivan, J M (1976) Bearded tits in Britain and Ireland 1966–74. *British Birds* 69: 473–489.

