



# Tawny Owl Survey 2005



15 August – 15 October 2005

## INSTRUCTIONS FOR PARTICIPANTS

### INTRODUCTION

In 1989 the BTO set up the first, and so far only survey of Tawny Owls breeding in Britain. The 1989 survey was set up to investigate factors affecting owl populations in Britain, and to establish a baseline database for their future monitoring. The results formed the basis of BTO Research Report No. 57 (Percival, 1990), on which these present instructions are based.

None of the annual BTO surveys monitor the nocturnal Tawny Owl very well, and there is a pressing need for a specifically designed survey to assess whether the species' abundance has changed since the 1989 survey, as hinted at in BBS results. To this end, we are repeating the survey in the autumn of 2005, aiming to match the locations and timing of visits as far as possible to those of the first survey, as described below. This way, we can most reliably compare records from the two years. Periodic monitoring of Tawny Owl populations will enable BTO research staff to look at future effects of climate, land-use and pesticides.

### AIMS OF THE BTO TAWNY OWL SURVEY 2005

To provide reliable data on Tawny Owl numbers in sample areas (key squares) using methods which can be repeated in future years, so that population change can be assessed accurately. The results from the 2005 survey will be used:

1. To compare with the results from the 1989 survey.
2. To compare Tawny Owl numbers in different areas and habitats.

### SURVEY METHODS

The methods for the Tawny Owl Survey are broadly similar to those used in the Key Squares Survey of the New Breeding Bird Atlas (Gibbons et al 1993). The main points to note are:

1. **Where to count:** The Tawny Owl Survey aims to cover one-in-nine of the 10km squares throughout Britain (Ireland is not included). The squares are the same as the Atlas Key Squares (see map on page 3). Each 10km square consists of 25 2x2km squares, termed **tetrads**, which can be identified from the 1:50 000 Ordnance Survey map. Tawny Owls in each Key Square will be counted by carrying out a point count within each of the 15 target tetrads. The count should be made as close as possible to the centre of the tetrad. In most cases this will be the nearest public access to the centre of the tetrad, but it should always be within 300m of the actual centre. Sites close to busy roads or others where extraneous noise might affect the count should be avoided where possible (choose an alternative site within 300m).

2. **How many tetrads and how often should they be counted?** A single point count at the centre of each tetrad during the times specified below is adequate. Additional repeat visits during the survey period will be useful when it is possible to carry these out. If visits were made to your allocated tetrad(s) during the 1989 survey then details can be found on the back of the Record Form. Please aim to visit your tetrad(s) as close as possible to the 1989 dates and times.

3. **How to do the point counts:** Point counts should last exactly **ten minutes**. They should be made in the two hours following sunset between 15 August and 15 October. These methods have been chosen because they have been shown to give accurate results in detailed pilot fieldwork for the 1989 survey. The survey is being held in the autumn because this is the time at which Tawny Owls are most vocal: juvenile birds are then leaving their parental areas and territorial behaviour is at its peak as these young birds try to establish themselves in the population. Only carry out counts when the weather is calm and dry. Precipitation and wind both reduce calling activity of owls and therefore should be avoided.

4. **How to record the owls:** During the ten-minute count you should remain stationary and record the number of Tawny Owls hooting and calling. At the end of the period an assessment of the total number of 'pairs' heard should be made. The criteria for the identification of a pair are:

- (a) Single hooting or calling bird. No other birds heard within 300m.
- (b) Hooting bird with calling bird – at distance of less than 300m.
- (c) Hooting bird with second bird hooting softly in response less than 300m apart. Both (b) and (c) represent the male and female of a pair vocalizing to each other.

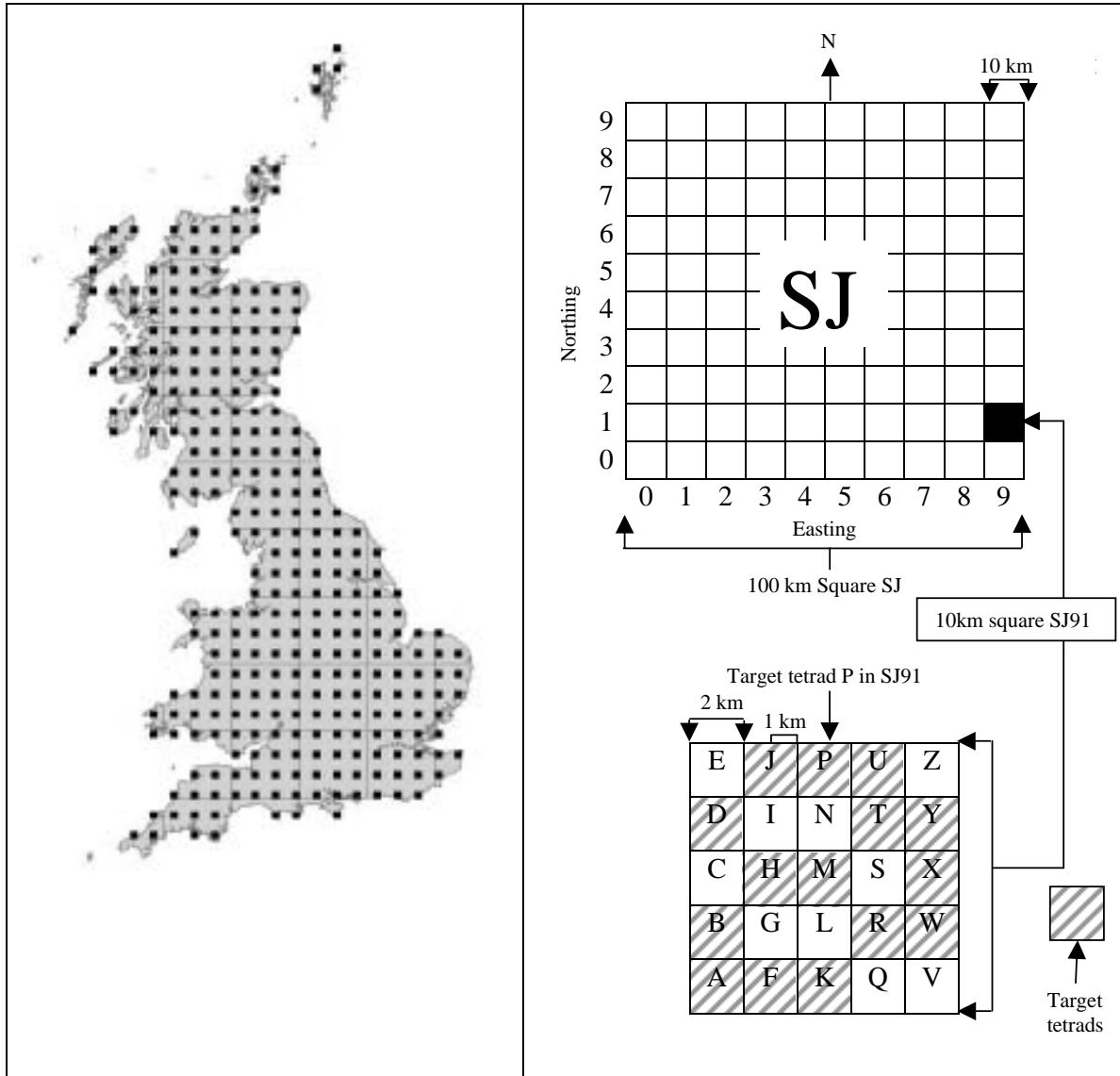
Two hooting or calling birds more than 300m apart should be recorded as two pairs. If two birds are hooting loudly together, even if less than 300m apart, they should be counted as two pairs, as they represent two males in a territorial dispute.

5. **Recording the habitat:** Habitat should be recorded at two levels.
- (i) an estimate of the percentage of the 10km square occupied by each of the major habitat types should be made at the top of the form (square habitat).
  - (ii) the habitat at each point count site should be recorded using the same habitat codes as the New Breeding Atlas (see page 4). A main (primary) and a secondary habitat can be coded.

Please make a note of the largest feature in the 10km square, for example, the name of a village, town, lake or hill and enter it at the top of the form.

## **SAFETY**

If you are surveying owls in remote areas make sure that you let someone know where you have gone and when you expect to return. Always carry torches, warm clothing and, in remote areas, a supply of food and drink. Volunteers are responsible for their own health and safety and should not put themselves in a position that could place them, or others in danger. You are strongly advised not to undertake any activity if you have any concerns about risks to your own or others' health and safety.



The 'Key Squares'. Please ask your RR for the correct key square designations.

The 100-km square, the 10-km square and the tetrad. An example is tetrad P in SJ91. The 15 target tetrads are shaded. Please note squares are not to scale.

**REFERENCES**

Gibbons, D.W., Reid, J.B. & Chapman, R.A. (1993) *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991*. London: Poyser.

Percival, S.M. (1990) *Population trends in British Barn Owls, Tyto alba, and Tawny Owls, Strix aluco, in relation to environmental change*. Research Report 57. BTO, Tring

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## Habitat Classification

Each habitat has a unique two number code (e.g. coniferous woodland 01, and reed bed 22), one number from column A and one from column B.

A	B
0 <b>Woodland and Scrub</b>	0 Broad-leaved woodland 1 Coniferous woodland 2 Mixed woodland (Broad-leaved and Coniferous) 3 Scrub (all scrub including downland and coastal scrub)
1 <b>Semi-natural Grassland Heaths</b>	0 Bracken 1 Chalk grassland and similar 2 Damp or unimproved lowland grassland (include flood meadows) 3 Dry lowland heath 4 Wet lowland heath 5 Upland heather moor (unenclosed land; depth of peat less than 0.5m) 6 Upland grassland (unenclosed and unimproved land; depth of peat less than 0.5m) 7 High montane heath/grassland (on exposed summits)
	Note: Record reclaimed marsh and other maritime grasslands as 42 and 43 respectively. Record improved grasslands as 60, 61 or 62. Record upland heather moor or upland with deep peat (more than 0.5m) as 20.
2 <b>Bog, Fen and Marsh</b>	0 Acid bog (include blanket and raised bog; depth of peat more than 0.5m) 1 Fen/marsh/swamp 2 Reed bed (with <i>Phragmites</i> )
	Note: Record flood meadow and wet lowland heath as 12 and 14 respectively.
3 <b>Water Bodies (Freshwater)</b>	0 Lowland river/stream (below 800ft = 250m) 1 Upland river/stream (above 800ft = 250m) 2 Canal 3 Standing water body less than 5 ha 4 Standing water body more than 5 ha
	Note: 5 ha is approximately 12 acres or 8 football pitches.
4 <b>Coastal</b>	0 Intertidal mud/sand (include sandy beaches) 1 Saltmarsh 2 Reclaimed marsh 3 Other maritime grasslands (include machair) 4 Brackish pools and lagoons 5 Gravel/pebbles/shells (non-sandy beaches, bar, spit etc) 6 Sand dunes (include dune slacks, but record scrub as 03) 7 Intertidal rock 8 Cliff/small rocky island (record scrub as 03)
5 <b>Exposed and Bare Surfaces</b>	0 Inland cliff/crag/montane rock/scree/boulder slope 1 Limestone pavement 2 Quarry surface 3 Spoil (eg slag-heap, but record rubbish tip as 77)
6 <b>Improved Farmland</b>	0 Improved lowland grassland 1 Enclosed, improved upland grassland 2 Unenclosed, improved upland grassland 3 Arable (crops) 4 Mixed farmland (grazing and crops) 5 Farm building
	Note: Record chalk grassland, unimproved lowland grassland, unimproved upland grassland, and montane grassland as 11, 12, 16 & 17 respectively. Hedges are not included as they form part of other habitats (eg 60 & 63).
7 <b>Miscellaneous (mostly artificial)</b>	0 Urban/suburban park 1 Rural park 2 Golf course 3 Cemetery/churchyard 4 Residential housing (including gardens) 5 Non-residential building 6 Sewage treatment works 7 Rubbish tip 8 Waste land (record scrub as 03)

Improved grassland = grass regularly treated with artificial fertilisers, distinguished by its bright colour, lush growth and even texture.  
 Unimproved grassland = not treated with artificial fertilisers, usually grazed or mown regularly, may be rank and neglected.  
 Enclosed land = land enclosed within a hedge, stone-wall, fence or equivalent.