



Wharnccliffe Heath Nature Reserve Common Bird Census and Nest Box Project 2017

1.0 Introduction

Wharnccliffe Heath Local Nature Reserve (The Site) is located to the north of Sheffield, to the west of the town of Deepcar, South Yorkshire (approximate central OS grid ref SK 29747 97648). The Site is a Scheduled Ancient Monument (SAM), a Geological SSSI and a Local Nature Reserve (LNR) under the ownership of the Forestry Commission, and managed jointly by the Forestry Commission and Wharnccliffe Heathlands Trust (WHT). The reserve consists predominantly of heathland, deciduous and coniferous woodland of varying maturity, Wharnccliffe sandstone crags and wood pasture.

A Common Bird Census for the reserve has been undertaken regularly since 1999.

2.0 Survey Methodology

The breeding bird survey was undertaken following the British Trust for Ornithology (BTO) Common Bird Census methodology (Gilbert et al, 1998). The entirety of Wharnccliffe Heath Nature Reserve was systematically surveyed for breeding/territorial activity during a total of ten survey visits undertaken between 10th April and July 9th 2017, which includes the period of peak bird breeding.

During each survey visit, the site was walked along a pre-defined route, covering all parts of the reserve. All visual and auditory contact with birds was recorded on a field map using standard one or two letter BTO species codes and activity codes.

Field signs characteristic of confirmed breeding include nest building or excavation, adult(s) carrying food, the presence of nestlings or newly fledged young, and adult(s) removing faecal matter. Field signs characteristic of holding a territory include birds singing or other territorial display and courtship behaviour.

Additional visits were made to record birds using the nest boxes on the reserve in May and June. Separate visits after sunset were made in late May and June to establish the status of crepuscular and nocturnal species on the reserve, including using the standard methodology set out by the BTO to record woodcock, where counts of the territorial roding flights undertaken by males at dusk and dawn are used to estimate the number of breeding males.

3.0 Results

A full list of bird species, conservation status (Eaton et al, 2015) and the number of territories recorded during the surveys is provided in Table 1 below. The total number of nest boxes and the number of nest boxes utilised by each species of bird is found in Table 2. The bird survey in 1999 was undertaken by Paul Medforth, from 2000 to 2002 by Dave Buttle, and from 2009 onward by Andrew Hill. The woodcock survey was undertaken by Dave Buttle in May and June 2016 and 2017.

Species	1999	2000	2002	2009	2010	2011	2012	2013	2014	2015	2016	2017
Mallard	0	0	0	0	0	0	0	0	0	0	1	2
Tree Pipit	6	6	5	3	4	6	4	5	5	5	5	3
Willow Warbler	21	14	14	22	19	23	20	18	24	24	34	38
Chiffchaff	1	0	0	0	0	1	1	0	2	2	3	5
Blackcap	1	1	0	0	0	1	2	1	4	3	3	5
Garden Warbler	1	0	0	0	0	1	0	1	2	2	1	1
Common Redstart	0	0	0	0	0	1	0	1	1	1	0	0
Pied Flycatcher	0	0	0	0	0	0	0	0	1	3	6	3
Spotted Flycatcher	0	0	0	0	0	0	0	0	1	1	1	1
Blue Tit	1	0	0	0	0	1	6	15	21	12	19	35
Great Tit	1	0	0	0	0	2	3	3	8	6	8	19
Coal Tit	2	0	0	0	0	1	0	1	1	0	1	3
Wren	22	22	20	22	9	11	10	5	22	23	27	26
Robin	18	13	6	15	10	7	6	13	14	17	19	18
Nuthatch	0	0	0	0	0	1	1	1	1	0	0	1
Dunnock	2	2	1	7	4	1	2	2	2	2	3	4
Great Spotted Woodpecker	0	0	0	0	0	0	0	0	1	1	1	1
Goldcrest	2	0	0	0	0	0	0	0	0	1	1	3
Treecreeper	0	0	0	0	0	0	0	0	0	0	1	2
Blackbird	0	0	0	0	0	0	0	0	0	0	0	2
Song Thrush	0	0	0	0	0	0	1	2	0	0	1	1
Mistle Thrush	0	0	0	0	1	0	1	0	0	0	1	1
Chaffinch	11	3	0	4	2	5	4	10	10	11	11	8
Lesser Redpoll	0	0	0	0	0	0	0	0	0	0	0	2
Linnet	1	1	4	1	2	3	3	2	2	4	3	3
Nightjar	1	0	0	1	1	1	1	1	1	1	1	1
Woodcock	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8	8
Cuckoo	0	0	0	1	1	1	1	1	1	1	1	1
Tawny Owl	0	0	0	0	0	0	0	0	0	0	0	1
Pheasant	2	1	0	0	0	0	0	0	0	0	0	2

Table 1: Territory numbers of birds recorded on Wharnccliffe Heath from 1999-2017. Bird species highlighted in red are red list and amber for amber list.

Year	Boxes	Blue Tit	Great Tit	Coal Tit	Pied Flycatcher	Redstart	Nuthatch	Unknown
2012	18	6	2	0	0	0	0	0
2013	18	15	2	0	0	0	0	0
2014	30	19	6	0	1	0	0	0
2015	40	12	5	0	3	0	0	0
2016	60	19	8	0	4	1	0	2
2017	120	32	18	1	2	0	1	8

Table 2: Numbers of birds utilising nest boxes on Wharncliffe Heath from 2012-2017.

Other Species Recorded

Greylag Goose, Common Buzzard, Grey Heron, Sparrowhawk, Kestrel, Bullfinch, Long tailed Tit, Carrion Crow, Swallow, Swift, Goldfinch, Jay



Plate 1: Adult male pied flycatcher, one of the three singing on the reserve in 2017.

A total of 29 species had established territories on Wharncliffe Heath NR in 2017. Fifteen of these were species of conservation concern, which included nine red list species: pied flycatcher (*Ficedula hypoleuca*), spotted flycatcher (*Muscicapa striata*) cuckoo (*Cuculus canorus*), tree pipit (*Anthus trivialis*), song thrush (*Turdus philomelos*), mistle thrush (*Turdus viscivorus*), woodcock (*Scolopax rusticola*), linnet (*Linaria cannabina*), lesser redpoll (*Acanthis cabaret*), and six from the amber list: nightjar (*Caprimulgus europaeus*), mallard (*Anthus pratensis*), willow warbler (*Phylloscopus trochilus*), common redstart (*Phoenicurus phoenicurus*), dunnock (*Prunella modularis*),) and tawny owl (*Strix aluco*).

In the winter of 2016-17, 60 additional nest boxes were placed on the nature reserve bringing the total of usable boxes to 120. This included 50 of the previously used design for

pied flycatcher and ten of the design with an oval hole designed for redstart. These were placed below Wharnccliffe Crag and to the east of the northern and southern enclosures, predominantly in sessile oak-dominated wood pasture or woodland edge habitat. A total of 62 of the 120 nest boxes on the reserve were occupied in 2017, of which 44 were thought to have been successful. Seven boxes were initially occupied by blue or great tits but resulted in failure/abandonment at the egg stage, eight boxes failed at the nest building stage (before the species using the boxes became known), and three boxes were predated, likely by a weasel.

Three male pied flycatchers had established territories in 2017 (Plate 1), half the number present in 2016. Two of these males were paired with females by mid-May and nests were established in nest boxes in the southern enclosure, although one of these resulted in failure due to the eggs being predated. The remaining pair nested in the same box in the south of the southern enclosure as in 2016, and is thought to have been successful (although could not be confirmed due to the box being un-openable). The remaining male was apparently unpaired, and established a territory around a nest box in the woodland edge of the northern enclosure.

The increase in nest box availability was associated with the highest recorded numbers of blue tit and great tit on the reserve, with 32 pairs of blue tit, and 18 pairs of great tit recorded in nest boxes respectively; with further three territories for blue tit, and one for great tit in the woodland parts of the reserve. Twenty-six blue tit nests and 16 great tit nests were thought to be successful. Four of the blue tit nests and two of the great tit nests failed at the egg stage, and two blue tit nests were predated, likely by a weasel. A pair of coal tit utilised a nest box in the southern enclosure, the first recorded pair to breed in the reserve's boxes, and is thought to have successfully fledged juveniles. Nest building was noted in a further eight boxes, but as they were abandoned early, with only traces of moss found inside, the species using these boxes could not be identified. Other pairs of each species were recorded around natural nest sites, or using the reserve's bat boxes. A pair of nuthatch began nest-building in a box in the southern enclosure, but then stopped abruptly in late April.

Three tree pipit territories were established in 2017, the joint lowest recorded on the reserve. One territory was located in each of the northern and the southern enclosures, with the remaining territory on the reserve boundary with Wharnccliffe Chase in the south.

Willow warblers reached the highest number ever recorded for the second consecutive year, with a total of 38 territories established, mainly in the edges of the heathland and below Wharnccliffe Crag.

A pair of nightjar was recorded on the reserve from late May to early June, with the male bird heard 'churring' and wing clapping, but with no further records after mid-June. Given the lack of records later in the year, it is possible that a nesting attempt either failed or did not take place.

The method used to estimate the number of breeding male woodcock on the reserve suggested the presence of about eight roding males for the second consecutive year. It is

possible that this is an under-estimate as only the northern part of the reserve was used for recording roding woodcock.

Breeding of tawny owl was confirmed in 2017, with two juveniles heard calling in the woodland to the east of the heathland.

Two territories of lesser redpoll were established on the reserve in 2017, the first recorded territories for the reserve. Male birds sang until early May, but it is not known if any breeding attempts took place.

Two pairs of mallard bred on the reserve in 2017, with a pair on the dam pond and another female seen with ducklings near the grazing pond. All the juvenile birds on the dam pond gradually vanished, with predation a likely cause. No further sightings of the other brood of ducklings were made around the grazing pond.

Increases in goldcrest, treecreeper, pheasant, blackcap and chiffchaff were noted, as well as the first confirmed blackbird territories on the reserve. The other species on the reserve remained at similar numbers to the previous year.

References

Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708–746

Gilbert, G., Gibbons, D.W. and Evans, J. (1998) *Bird Monitoring Methods*. RSPB, Sandy

Woodcock survey Methodology taken from:

<https://www.bto.org/sites/default/files/u203/downloads/Woodcock%20count%20analysis%20method.pdf>