



Wharnccliffe Heath Nature Reserve Common Bird Census and Nest Box Project 2018

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 Forestry England, and managed jointly by Forestry England and Wharnccliffe Heathlands Trust (WHT). The reserve consists predominantly of heathland, deciduous and coniferous woodland of varying maturity, Wharnccliffe sandstone crags and wood pasture. Two ponds are also found on the reserve.

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 12th April and 4th July 2018, 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 included 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 included birds singing or other territorial display and courtship behaviour.

Additional visits were made to record birds utilising 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 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 during 2016, 2017 and 2018.

Species	1999	2000	2002	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Chaffinch	0	0	0	0	0	0	0	0	0	0	1	2	0
Tree Pipit	6	6	5	3	4	6	4	5	5	5	5	3	4
Willow Warbler	21	14	14	22	19	23	20	18	24	24	34	38	30
Chiffchaff	1	0	0	0	0	1	1	0	2	2	3	5	5
Blackcap	1	1	0	0	0	1	2	1	4	3	3	5	5
Garden Warbler	1	0	0	0	0	1	0	1	2	2	1	1	1
Common Redstart	0	0	0	0	0	1	0	1	1	1	0	0	0
Red Flycatcher	0	0	0	0	0	0	0	0	1	3	6	3	5
Spotted Flycatcher	0	0	0	0	0	0	0	0	1	1	1	1	0
Blue Tit	1	0	0	0	0	1	6	15	21	12	19	33	42
Great Tit	1	0	0	0	0	2	3	3	8	6	8	19	24
Coal Tit	2	0	0	0	0	1	0	1	1	0	1	3	2
Wren	22	22	20	22	9	11	10	5	22	23	27	26	21
Robin	18	13	6	15	10	7	6	13	14	17	19	18	20
Luthatch	0	0	0	0	0	1	1	1	1	0	0	1	2
Junco	2	2	1	7	4	1	2	2	2	2	3	4	3
Great Spotted Woodpecker	0	0	0	0	0	0	0	0	1	1	1	1	0
Goldcrest	2	0	0	0	0	0	0	0	0	1	1	3	3
Recreeper	0	0	0	0	0	0	0	0	0	0	1	2	1
Blackbird	0	0	0	0	0	0	0	0	0	0	0	2	2
Song Thrush	0	0	0	0	0	0	1	2	0	0	1	1	2
Mistle Thrush	0	0	0	0	1	0	1	0	0	0	1	1	2
Chaffinch	11	3	0	4	2	5	4	10	10	11	11	8	8
Lesser Redpoll	0	0	0	0	0	0	0	0	0	0	0	2	1
Linnet	1	1	4	1	2	3	3	2	2	4	3	3	4
Lightjar	1	0	0	1	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	8
Cuckoo	0	0	0	1	1	1	1	1	1	1	1	1	1
Screech Owl	0	0	0	0	0	0	0	0	0	0	0	1	1
Pheasant	2	1	0	0	0	0	0	0	0	0	0	2	0

Table 1: Territory numbers of birds recorded on Wharnclyffe Heath from 1999-2018. 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	Total Occupied Boxes (%)
2012	18	6	2	0	0	0	0	0	8 (44.4%)
2013	18	15	2	0	0	0	0	0	17 (94.4%)
2014	30	19	6	0	1	0	0	0	26 (86.6%)
2015	40	12	5	0	3	0	0	0	20 (50%)
2016	60	19	8	0	4	1	0	2	34 (56.6%)
2017	120	32	18	1	2	0	1	8	62 (51.6%)
2018	224	41	23	0	3	0	2	6	77 (34.3%)

Table 2: Numbers of birds utilising nest boxes on Wharnccliffe Heath from 2012-2018.

Other Species Recorded

Mallard, Greylag Goose, Canada Goose, Common Buzzard, Grey Heron, Sparrowhawk, Kestrel, Bullfinch, Long tailed Tit, Carrion Crow, Swallow, Swift, Goldfinch, Jay, Wood Warbler, Pheasant, Red Legged Partridge

A total of 25 species had established territories on Wharnccliffe Heath Nature Reserve in 2018. Twelve of these were species of conservation concern, which included eight red list species: pied flycatcher (*Ficedula hypoleuca*), 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 four from the amber list: nightjar (*Caprimulgus europaeus*), willow warbler (*Phylloscopus trochilus*), dunnock (*Prunella modularis*) and tawny owl (*Strix aluco*).

In the winter of 2017-18, 104 additional nest boxes were placed on the nature reserve bringing the total of usable boxes to 224. This included 85 of the previously used design for pied flycatcher, ten of the design with an oval hole designed for redstart, three boxes designed for treecreeper, and two open fronted nest boxes. These were placed in areas of woodland to the west of the dam pond, to the east of the northern enclosure, and in the western enclosure. A further four nest boxes were also placed by the South Yorkshire Bat Group (SYBG) in woodland close to existing bat boxes.

A total of 77 of the 224 nest boxes on the reserve were occupied in 2018, including six boxes initially occupied but subsequently resulted in failure or abandonment by unknown species. It was noted that total occupancy of nest boxes was proportionately lower in 2018 than in 2017.

Five male pied flycatchers had established territories in 2018, an increase of two from 2017. Three of the territories were located in woodland to the west of the dam pond, with further males in woodland to the east of the northern enclosure and the southern enclosure. Three of these males were paired with females by mid-May, with all nests established in the newly placed nest boxes in woodland to the west of the dam pond. The remaining males had departed by early June, after apparently failing to attract a female.

The further increase in nest box availability was associated with the highest recorded numbers of blue tit and great tit on the reserve, with 41 pairs of blue tit, and 23 pairs of great tit recorded in nest boxes respectively. Other pairs of each species were recorded around natural nest sites in woodland to the south of the dam pond. Two pairs of nuthatch also utilised nest boxes in 2018, with a pair in a nest box to the west of the dam pond, and another in the western enclosure. Nest building was noted in a further six boxes, but as these were abandoned early, with only traces of moss found inside, the species using these boxes could not be identified.

Four tree pipit territories were established in 2018. One territory was located in each of the enclosures, with the remaining territory on the reserve boundary with Wharncliffe Chase in the south.

The number of willow warbler territories dropped to 30 (38 in 2017), and were mainly located in the edges of the heathland and below Wharncliffe Crag.

A pair of nightjar was recorded on the reserve from late May, with the male bird heard 'churring' and wing clapping, but with no further records after mid-June.

The method used to estimate the number of breeding male woodcock on the reserve suggested the presence of about eight roding males for the third 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. Several birds were flushed during the May surveys, but no evidence of breeding was found.

As in 2017, breeding of tawny owl was confirmed in 2018, with a juvenile heard calling in the woodland to the east of the heathland during an evening visit.

Mallards were present throughout the year in 2018, although no breeding was confirmed.

The other species recorded on the reserve in 2018 remained at similar numbers to 2017.

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>

Andrew Hill, Dave Buttle