

Quantock Hills Heathland Breeding Bird Survey 2012

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Summary

Forty one kilometre squares (or part squares) were surveyed for 16 heathland and woodland edge species. This is one square less than was covered in the previous survey in 2006.

The Quantocks SSSI heathland is an increasingly important site for birds. Heathland and woodland edge species are generally increasing or stable, in particular skylark, linnet and yellowhammer, all of which are high conservation priorities. Conversely, two species, Dartford warbler and whinchat, have shown major declines, and tree pipit numbers have shown a drop from the last survey. Declines in Dartford warbler can be explained by two very cold winters, but the reason behind the decline in whinchat is less clear.

A summary of species populations in 2000, 2006 and 2012 is given in Table 1 below:

Table 1: Summary of species populations and trends

Species	2000 (30 km sq)	2006 (30 km sq)	2006 (40 km sq)	2012 (40 km sq)
Cuckoo	10	21	23	21
<i>Dartford warbler</i>	<i>18</i>	<i>35</i>	<i>38</i>	<i>1</i>
Garden warbler	not monitored until 2012			38
Grasshopper warbler		2	2	0
Lesser Redpoll	not monitored until 2012			25
Linnet	93	117	139	197
<i>Meadow Pipit</i>	<i>210</i>	<i>168</i>	<i>187</i>	<i>202</i>
<i>Redstart</i>	<i>8</i>	<i>26</i>	<i>36</i>	<i>44</i>
Skylark	78	47	58	136
<i>Stonechat</i>	<i>128</i>	<i>98</i>	<i>108</i>	<i>132</i>
Tree Pipit	33	57	75	39
<i>Whinchat</i>	<i>22</i>	<i>22</i>	<i>22</i>	<i>4</i>
<i>Whitethroat</i>	<i>41</i>	<i>60</i>	<i>71</i>	<i>83</i>
<i>Willow Warbler</i>		131	163	138
Yellowhammer	86	97	123	177

Red listed birds in bold

Amber listed birds in italics

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Appendix 1: Survey instructions and recording forms.

Appendix 2: Numbers and distribution of breeding birds (territories) on the Quantock Hills in 2006, giving total area surveyed in both 2000 and 2006, and the grand total of the 2006 survey.

Appendix 3: Comparison of 2000 and 2006 survey results by km square (territories).

Appendix 4: Species distribution maps.

Appendix 5: Population change maps.

Appendix 6: Distribution of stonechats, whinchats and Dartford warblers, and bracken areas.

1 Introduction

The Quantock Hills were the first Area of Outstanding Natural Beauty (AONB) to be designated in England. Key components of the natural beauty of the Hills are the combination of SSSI maritime and upland heathland and SSSI/SAC oak woodland. These habitats support some of the region's highest priority bird species and are part of the 'Exmoor Coast and Heaths' Important Bird Area (IBA), identified for stonechat, whinchat, nightjar and peregrine (Heath and Evans eds. 2000).

Monitoring bird populations provides a valuable indication of the habitat condition and the effects of management practices. This year's survey was the fourth to focus on heathland birds since 1992, using a repeatable method, allowing populations and trends to be established and potential management issues for birds to be identified.

The list of target species was revised and two species added for 2012: garden warbler and lesser redpoll. The former is currently not listed as of conservation concern but is becoming a higher priority following recent BBS trends. Lesser redpoll is now on the Birds of Conservation Concern (BoCC) red list (Eaton et al 2009), following 90% declines in woodlands between the mid 1980s and early 2000s.

Target species during the 2012 survey:

Cuckoo
Skylark
Tree pipit
Meadow pipit
Redstart
Wheatear
Whinchat
Stonechat

Garden warbler
Whitethroat
Dartford warbler
Grasshopper warbler
Willow warbler
Linnet
Lesser redpoll
Yellowhammer

BoCC Red listed species, Amber listed species

2 Method

The 2012 survey was a repeat of previous surveys, carried out in 1992, 2000 and 2006. Fieldwork was undertaken by staff and volunteers from the Quantocks AONB Service/Forestry Commission, Somerset Ornithological Society and the National Trust.

Two visits were carried out, the first between 1 April and 15 May and the second between 15 May and 30 June. Observers devised a route to cover areas of suitable habitat, noting target species and other points of interest on the recording form. For full details of the survey instructions and recording forms, see Appendix 1.

The survey forms were collated and analysed by RSPB (Exeter), as in 2000 and 2006. This approach ensured consistency between each survey and the maximum comparability of data. All completed survey forms for 2000, 2006 and 2012 are stored at the RSPB SW England Regional Office in Exeter.

3 Results

In total, 40 km squares (or part squares) were surveyed. This was the same area as covered in 2006, bar a single km sq (ST 1738) which was covered in 2006, but not 2012. For comparison purposes, data from this square were removed from the 2006 results (though only four of the target species occurred in this square in 2006).

Five surveyors were involved in the survey. Weather conditions in 2012 were poor, wet and cool, and hampered survey efforts considerably. Consequently some of the first survey visits were carried out past the allocated time for the first visit.

Distribution maps of territories for all breeding species are presented in Appendix 2, and population change maps in each 1 km square for all species except cuckoo are presented in Appendix 3. A map showing species diversity is Appendix 4.

3.1 Species accounts

In the species accounts below, the table shows the population recorded in each survey year. As the survey areas have varied between years, figures are presented to enable direct comparisons as far as possible.

NB: The 2006 data are presented as the figure comparable with 2000 and followed, in brackets, by the figure comparable with 2012.

Cuckoo

UK conservation status	BoCC Red List
Regional status	Declining. -71% since 1995 (BBS data) Largely confined to the uplands where it appears to be stable.

Recent surveys comparison	1992	2000	2006 (40km ²)	2012 40km ²	Trend
Population (observations)	20	10	21 (23)	21	Stable

Cuckoos were once again widespread across the survey area with a fairly even distribution. Data are presented as observations rather than pairs or territories because of the difficulty in identifying individual territories in the field. Despite this, the numbers appear to be very similar to 2006. The only noticeable difference in distribution is the record of a bird at Cothelstone Hill, where the species was not recorded in 2006. A map illustrating the locations of singing males is in Appendix 2.

Skylark

UK conservation status	BoCC Red List
Regional status	Declining. -23% since 1995 (BBS data). Uplands important. Declining on Exmoor (Geary, 2002, Stanbury 2008) and stable on north Dartmoor (Stanbury, 2006) and Bodmin Moor (Chown 2008).

Recent surveys comparison	1992	2000	2006 (40km ²)	2012 40km ²	Trend: numbers and occupancy
Population (territories/pairs)	250	78	47 (58)	136	Recent increase
Distribution (1km squares occupied)	-	19	13	22	Expansion on 2006

Skylark numbers appear to have increased considerably on the heath over the last six years, a substantial reversal of the decline seen at the previous survey. The map in appendix 2 shows the distribution of records of skylark across the survey area, and shows a particularly high concentration of birds in northern half of the Hills; a much greater density here than in previous years. SX 1341 has gone from 3 to 18 territories and similar increases were recorded in the surrounding area. This area has been surveyed by the same surveyor over the years and as such there is a high degree of confidence in the data. The map in appendix 3 showing the change in distribution across the site, clearly shows that skylark declines have occurred in the southern half of the Hills, with the major increases in the northern part.

Tree pipit

UK conservation status	BoCC Red list
Regional status	Major decline on Bodmin Moor (Chown, 2000, 2008) and slight decline on Exmoor (Stanbury 2008), increase on north Dartmoor (Stanbury, 2006).

Recent surveys comparison	1992	2000	2006 (40km²)	2012 (40km²)	Trend: numbers and occupancy
Population (territories/pairs)	142	33	57 (75)	39	Decline
Distribution (1km squares occupied)	-	14	18 (17)	17	Stable

Tree pipits showed a recovery between 2000 and 2006 but have since declined again, although the number of 1 km sq they occupy has remained stable. The species occurs mostly in the southern part of the Hills, with concentrations at Aisholt Common (as in 2006) and Middle Hill and at Robin Upright's Hill, although the population change map in Appendix 3 shows declines in this part of the Hills.

Meadow pipit

UK conservation status	BoCC Amber list
Regional status	Declining. -4% since 1995 (BBS data) Nationally important population on Dartmoor (Stanbury, 2006) and substantial population on Exmoor and Bodmin Moor. All moors show slight declines.

Recent surveys comparison	1992	2000	2006 (40km²)	2012 (40km²)	Trend: numbers and occupancy
Population (territories/pairs)	426	210	168 (187)	202	Stable since 2000

Distribution (1km squares)	-	26	25	30	Expansion
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Meadow pipits have shown a fluctuation in numbers across the surveys but the population appears relatively stable overall. Meadow pipits are widespread over the Hills and remain the most numerous species, though they appear to be absent from Aisholt Common. As in the last survey, greater numbers were recorded in the central and northern areas than in the southern section. The change map in appendix 3 shows that the central northern part of the Hills has seen a substantial increase in meadow pipits but with generally lower numbers in the central area and southern areas.

Redstart

UK conservation status	BoCC Amber list
Regional status	Largely absent from the lowlands. Increases on Dartmoor (Geary, 2000; Stanbury, 2006), Bodmin Moor (Chown, 2000, 2008) but slight drop in numbers on Exmoor following previous increases to 2002 (Stanbury, 2008).

Recent surveys comparison	1992	2000	2006 (40km²)	2012 (40km²)	Trend: numbers and occupancy
Population (territories/pairs)	-	8	26 (36)	44	Increase
Distribution (1km squares)	-	5	14	24	Expansion

Redstarts continue to show an increase, favouring the woodland fringe areas, but have expanded their distribution, being recorded in the north eastern part of the Hills where they were previously absent, including Weacombe and Bicknoller hill. However, there were fewer records in the south at Lydeard Hill. The change map in appendix 3 shows lower numbers recorded in this area, across to Wills Neck and Triscombe, but the drop in numbers in this area is not enough to prevent an overall increase.

Whinchat

UK conservation status	BoCC Amber list
Regional status	Largely extinct in the lowlands (apart from Salisbury Plain). Decline on Bodmin Moor (Chown, 2000) and Exmoor (Geary, 2002), increasing on north Dartmoor (Stanbury, 2006). Possible decline on Salisbury Plain (Stanbury, 2005).

Recent surveys comparison	1992	2000	2006 (40km ²)	1012 (40km ²)	Trend: numbers and occupancy
Population (territories/pairs)	62	22	22 (22)	4	Decline
Distribution (1km squares)	-	8	8	4	Contraction

Whinchats have declined markedly since the last survey, at which time they appeared to have stabilized. The four birds were in the northern half of the Hills, one at each of Longstone Hill, Black Hill, Thorncombe Hill and Weacombe Hill.

Stonechat

UK conservation status	Not listed.
Regional status	Increases on Bodmin Moor (Chown, 2000), Dartmoor (Geary, 2000; Stanbury, 2006) and Exmoor (Geary, 2002).

Recent surveys comparison	1992	2000	2006 (40km ²)	2012 (40km ²)	Trend: numbers and occupancy
Population (territories/pairs)	63	128	98 (108)	132	Increase
Distribution (1km squares)	-	25	24	30	Expansion

As in the previous survey stonechats were widespread across the Hills. The distribution appears generally similar to 2006 but with higher densities in the northern part of the heathland. Some of this increase in density builds on an increase also recorded previously. For example, ST1341 saw an increase from two to eight territories between 2000 and 2006 and in 2012 this had increased further to ten territories. Much of the central northern part of the Hills has seen substantial increases with Bicknoller Post increasing from three to nine territories.

There have been drops in numbers in other parts of the Hills around the woodland areas and in the Lydyard Hill to Triscombe area, but the most notable drop was in the Paradise Farm areas in ST1238.

Wheatear

Forty wheatears were recorded during the survey but all in the first visit only and are therefore assumed to be migrants. Wheatears have not previously bred on the Quantocks.

Grasshopper warbler

No grasshopper warblers were recorded compared to two birds recorded in the previous survey at Robin Upright's Hill.

Dartford warbler

UK conservation status	BoCC Amber List
Regional status	Increasing on Exmoor (Geary, 2002 and Stanbury 2008 and national survey) and Dartmoor (national survey). Increasing population and range across region. But, severe winters of 2009 and 2010 knocked the population right back to just a few individuals at these sites.

Recent surveys comparison	1992	2000	2006 (40km²)	2012 (40km²)	Trend: numbers and occupancy
Population (territories/pairs)	0	18	32 + 3 (38)	1	Decline
Distribution (1km squares)	-	13	14 + 3	1	Contraction

This species has shown a massive decline following the harsh winters of recent years. A lone territory was recorded in ST1341, a square that held five territories in 2006. The split in the 2006 figures represents three territories that were located outside of the survey dates.

Garden warbler

2012 was the first time this species was surveyed and 38 territories were recorded.

Whitethroat

UK conservation status	BoCC Amber list.
Regional status	Increasing. +44% since 1995 (BBS data)

Recent surveys comparison	1992	2000	2006 (40km²)	2012 (40km²)	Trend: numbers and occupancy
Population (territories/pairs)		41	60 (71)	83	Increase
Distribution (1km squares)		13	23	28	Expansion

Whitethroats have increased again since 2008 and have expanded their distribution on the Hills. In the previous survey, increases were reported in the north where they were absent in 2000 and occupied six squares in 2006. In 2012 this expansion in distribution and numbers has continued and they are now present over much of the Hills. Numbers have also increased in the south in the Aisholt Common and Lydeard Hill area.

Willow warbler

UK conservation status	BoCC list Amber list; c70% decline over last 20 years (Amar <i>et al</i> , 2006)
Regional status	Declining. -44% since 1995 (BBS data). 67% decline in Devon and Somerset over 25 years (Charman, 2009)

Recent surveys comparison	1992	2000	2006 (40km²)	2012 (40km²)	Trend: numbers and occupancy
Population (territories/pairs)	-	-	131 (163)	138	Slight decline
Distribution (1km squares)	-	-	26 (25)	35	Expansion

Willow warblers were first surveyed in 2006. In 2012 they showed a slight drop in numbers from 2006, but remained numerous and widespread across the area. There was a particularly high density in the south western corner of the survey area at Broomfield Hill, and also between Halsway and Hurley Beacon and other combes and woodland edge areas in the northern part of the Hills. The change map at Appendix 3 shows that willow warbler numbers have increased across much of the northern part of the Hills, but have shown substantial drop in numbers in the southern part at Aisholt Common, Lydeyard Hill, Wills Neck and across to Triscombe.

Linnet

UK conservation status	BoCC Red List
Regional status	Declining. -22% since 1995 (BBS data) Increasing on Exmoor (Geary, 2002, Stanbury 2008), abundant on Dartmoor, increasing on Bodmin Moor

Recent surveys comparison	1992	2000	2006 (40km²)	2012 (40km²)	Trend: numbers and occupancy
Population (territories/pairs)	151 birds	93	117 (139)	197	Increase
Distribution (1km squares)	-	24	29 (28)	34	Expansion

Linnets have continued to increase and are widespread across the Hills. They are now the second most numerous species on the Hills after meadow pipit.

The main area of increase is in the northern part of the Hills, as demonstrated in the change map in appendix 3.

Lesser redpoll

2012 was the first time this species had been surveyed, with 25 territories recorded.

Yellowhammer

UK conservation status	BoCC Red list
Regional status	Declining. -12% since 1995 (BBS data) Increasing on north Dartmoor (Stanbury, 2006) and stable on Exmoor (Stanbury 2008).

Recent surveys comparison	1992	2000	2006 (40km²)	2012 (40km²)	Trend: numbers and occupancy
Population (territories/pairs)	74	86	97 (123)	177	Increasing
Distribution (1km squares)	-	20	27 (26)	36	Expansion

Yellowhammers have seen a further increase on the Hills and are widespread and numerous. Densities are highest in the northern part and two outlying areas at Cothelstone Hill and Broomfield Hill.

4 Discussion

4.1 Bird populations and trends

After the review of the Birds of Conservation Concern lists in 2009, several species changed conservation status between the 2006 and 2012 surveys. Whinchat, wheatear and whitethroat, previously not listed as being of conservation concern, became amber listed. Cuckoo, tree pipit and lesser redpoll became red listed. Stonechat moved from amber to unlisted.

In total, seven of the target species were red listed at the time of survey, compared to four previously, indicating the species breeding on the Hills are of increasing importance.

4.1.1 Red listed species

The survey has shown that of the seven red listed species, cuckoos appear stable, whereas linnets, yellowhammers and skylarks are showing substantial increases. These results are encouraging and buck the national trend.

Linnets and yellowhammers occupy the combs and moorland fringes, benefitting from the heather and gorse, while skylarks use the open grassland on the hill tops.

Upward trends in all these species indicate the Hills are providing a good diversity of habitat.

Tree pipit numbers fluctuate over the series of surveys, but with a notable drop in the last 6 years. Thirty-nine territories is however a reasonable population for the relatively confined area of the Hills. Exmoor, by comparison, had an estimated population of 180 tree pipit territories in the 2008 survey (Stanbury et al 2008), a survey area of around ten times larger than the Quantocks. The red listing of this species since the last survey shows that concerns are now high for this species and management of the Hills should seek to cater for tree pipits by retaining sufficient scattered trees on the slopes of the heathland. It is also a species worthy of interim counts between the main survey years.

Skylark numbers had fallen in the previous survey but numbers have increased significantly since. As expected, skylarks occupied the flat tops of the hills where grazing keeps the vegetation shorter. Management should aim to maintain the hill top habitat so enable skylarks to continue to thrive. It is possible skylarks have benefited from bracken control and the swaling programme on the hill tops.

Grasshopper warblers and lesser redpolls do not have reliable trend information, but 25 territories of the latter is encouraging. Lesser redpolls can use mature European gorse (based on observations on Exmoor) and tree scrub, especially birch, while grasshopper warblers need damp areas with rough grassland and low scrub.

4.1.2 Amber listed species

Populations and trends of the amber listed birds Dartford warbler, redstart, meadow pipit, whinchat, whitethroat and willow warbler present a mixed picture.

The most stark change is in Dartford warbler numbers, which following colonisation and rapid increase to becoming a nationally important population as reported in 2006, have been hit hard by the harsh winters of 2009 and 2010. Dartford warblers are dependent on spiders and insects year round, making them vulnerable to harsh winters. Good quality habitat, especially thick bushy gorse and heather, will enable the birds to cope better with cold winter weather by providing year round habitat for invertebrates and therefore support their recovery.

The other species showing a marked decline is whinchat. At the same time, the species continues to decline nationally; recently published figures indicate a 60% decline between 1995 and 2011 (Eaton et al 2013). The recently published BTO bird atlas, shows that whinchat range has contracted into the uplands and that within the uplands there are also losses.

On the Quantocks, since the last survey there has been extensive bracken management and a programme of swaling (which is likely to have benefited skylarks). Bracken management has been targeted at the densest areas of bracken, which largely are areas where whinchats and other species were absent in 2006. The objective of the bracken spraying was to break up the densest stands and facilitate

the growth of the dwarf shrub heath. This management should be beneficial for the heathland but has caused concern as whinchats are a species associated with bracken and the bracken control has coincided with the drop in breeding numbers.

Looking at this more closely, of the 22 whinchat territories in 2006, 12 were in areas that were subsequently sprayed, and 10 were in areas that were not sprayed. The central part of the Hills, between Black Ball Hill and Black Hill, which had the greatest density of whinchats in 2006, has been left largely unsprayed. Conversely, Robin Upright's Hill and Frog Hill have been sprayed and had no whinchat records in 2012. It would be worthwhile monitoring whinchat numbers annually over the coming years to check occupancy in treated and untreated areas. Research on whinchat declines is planned, some is already underway, which will shed light on the drivers of whinchat decline nationally and identify their habitat requirements at the fine scale. The outcomes should help guide management on the Quantocks and elsewhere.

5 Recommendations

The following recommendations are proposed based on the results of this survey:

- If possible, monitor whinchat annually across the Hills, or at a sample of locations, including areas where bracken has been treated and where it hasn't.
- Repeat the full breeding bird survey in 2018 as part of the ongoing 6 yearly monitoring cycle.
- Avoid mechanical habitat management operations during the breeding season (March to end July) to prevent destruction of ground nests and chicks.
- Maintain the open character of the hill tops and a variety of heathland and scrub habitats, including scattered bracken and trees along the slopes.

6 Acknowledgements

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Appendix 1: Survey instructions and recording forms

QUANTOCKS HEATHLAND BREEDING BIRD SURVEY 20

METHODS

The basic unit of fieldwork is the 1 km square of the OS national grid.

Within the square, only areas of open moorland are to be surveyed, using the published methodology for recording stonechats and Dartford warblers:

Devise a route that takes you within 50m of every part of the moorland within the square and mark this route on the map.

The survey consists of two visits, following the same route each time.

The first visit should take place between the beginning of April and mid May; the second between mid May and the end of June.

FIELD RECORDING FORM

This is the field map. Record all your observations of the selected species onto this map, noting breeding behaviour, using the atlas codes below. Use black ink for the first visit and blue ink for the second visit.

SUMMARY RECORDING FORM

Please complete the separate summary recording form as soon as possible after each visit specifying for each species, whether breeding is possible, probable or confirmed.

ATLAS CODES (summary of observations)		Evidence of breeding
✓	Present in breeding season in possible nesting habitat	Possible breeding (Po)
P	Pair observed in suitable nesting habitat	Probable breeding (Pr)
S	Singing male	Pr
T	Territorial behaviour	Pr
D	Courtship and display.	Pr
N	Adult visiting probable nest site	Pr
BB	Carrying nesting material	Pr
A	Agitated behaviour/anxiety call/distraction display	Confirmed breeding (Co)
FL	Recently fledged young	Co
FY	Adult carrying food	Co

**QUANTOCKS HEATHLAND SURVEY 2012
FIELD RECORDING FORM**

KM SQUARE						
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VISIT 1 SURVEYOR		VISIT 1 DATE	
VISIT 2 SURVEYOR		VISIT 2 DATE	

MAP OF KM SQUARE. Please use black ink for Visit 1 records and blue ink for Visit 2 records.

Insert 1km square map

SPECIES TO RECORD

Stonechat (SC), Whinchat (WC), Dartford warbler (DW), Meadow pipit (MP), Skylark (S.), Redstart (RT), Yellowhammer (Y.), Whitethroat (WH), Cuckoo (CK), Tree Pipit (TP), Linnet (LI), Wheatear (W.), Willow warbler (WW), Grasshopper warbler (GH)

**QUANTOCKS MOORLAND BREEDING BIRD SURVEY 2006
SUMMARY RECORDING FORM**

KM SQUARE						
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SPECIES	EVIDENCE OF BREEDING			
	Po	Pr	Co	Total
Stonechat				
Whinchat				
Dartford Warbler				
Meadow Pipit				
Skylark				
Redstart				
Yellowhammer				
Whitethroat				
Cuckoo				
Tree Pipit				
Linnet				
Wheatear				
Grasshopper warbler				
Willow warbler				

ADDITIONAL RECORDS/NOTES/OWNERSHIP DETAILS IF KNOWN ETC

Appendix 2: Species distribution maps

Appendix 5

Population change maps for:

Skylark

Tree pipit

Meadow pipit

Redstart

Whinchat

Stonechat

Dartford warbler

Whitethroat

Linnet

Yellowhammer