Nightingale
Luscinia megarhynchos
Species Action Plan

1. Introduction
The nightingale was placed on the Red List in the latest Birds of Conservation Concern assessment (Eaton *et al*, 2015). It has undergone a severe decline in numbers in Worcestershire to the extent that breeding can no longer be confirmed. It is therefore a species of particular conservation concern to the county.

2. Current Status
2.1 Ecology and habitat requirements
Nightingales are niche specialists, preferring particular ages of coppiced woodland with a dense scrub layer and bare ground beneath. This provides a sheltered microclimate with access to leaf litter and bare ground for invertebrate foraging (Hudson, 1979) and thick vegetation for low-level nesting. This type of habitat is generally not stable in the long term and without management sites can rapidly become unsuitable as the shrub layer grows up or is shaded out.

Henderson and Bayes (1989) found that in suitable dense scrub habitats nightingales could breed successfully in very small territories. Males tend to be faithful to sites and this may mean that birds are poorly equipped to adapt and respond to habitat or climatic changes by moving to more suitable areas unless these areas are close. It may also mean that older, more experienced birds will typically occupy habitat that has become less suitable due to lack of management, resulting in these birds either not pairing or being less successful in nesting. It is thought that the dramatic decline in nightingales as a breeding species in Worcestershire is likely to be due to range contraction through climate change rather than habitat loss through direct destruction. In recent years records of singing males at several sites have indicated that the birds were in song for long periods and this could indicate the inability to find mates.

2.2 Population and distribution
The nightingale is a summer visitor to mainly southeast England after over-wintering in Africa. There has been a national contraction in the species' range with an estimated loss of 43% of occupied 10 km squares between 1968-72 and 2008-11. This loss has been most marked on the northern and western limits. Worcestershire has always been on the very edge of this range and so has correspondingly suffered a very marked decline in numbers.

A survey in Worcestershire in 1976 by Hudson recorded 92 males, then 2.8% of the national total. At this time nightingales were also found in the west of the county at Ravenshill Wood and the Knapp and Papermill nature reserve. A survey in 1980 found a patchy increase in the overall English population but in Worcestershire numbers had declined to 66 singing males, 1.4% of the national population. A further, informal, survey of Worcestershire in 1998 found this decline had continued with only 40 males recorded: Langdale Wood was identified as the most important site at this time with 12 or 13 males. Today there are very few nightingales recorded anywhere in the county in any given year.

In 2012-13 the British Trust for Ornithology (BTO) conducted a national nightingale survey and the findings for Worcestershire demonstrated that many previously positive sites no longer held breeding birds. Low numbers of singing birds are still recorded in the south of the county each year, centred on the area around Croome and Pirton to the west of Pershore.

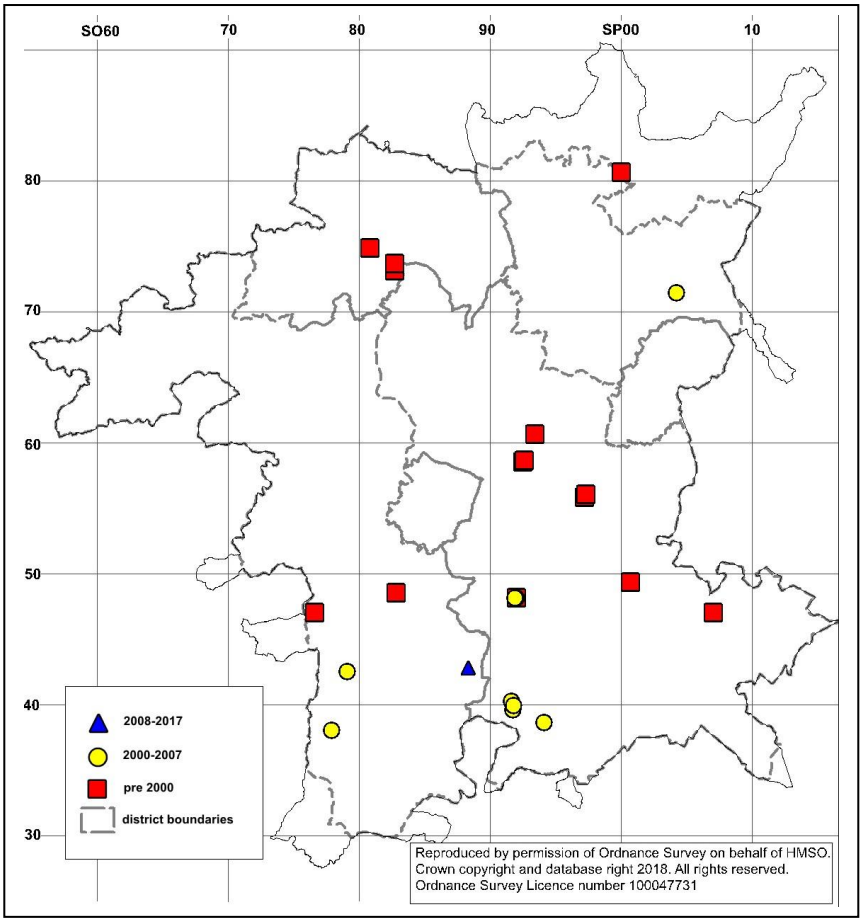

Figure 1. Records for nightingale in Worcestershire. Data provided and maps produced by Worcestershire Biological Records Centre.

2.3 Legislation

The nightingale is listed in Appendix II of the Bern Convention and given protection under the EC Birds Directive. Nesting birds are given protection by the Wildlife and Countryside Act 1981 (as amended).

2.4 Summary of important sites

Based on recent recording there are very few important sites for nightingale within the county. Although several places have recently held singing males, many of these probably do not breed successfully. One site that has held more than one singing bird repeatedly in recent years is the National Trust parkland at Croome.

3. Current factors affecting the species

- Nightingales are sensitive to climatic changes, in particular cold, wet springs that result in a reduction of available invertebrates.

- Loss of coppicing as a woodland management technique, although over the last decade there has been a revival of coppice management within many woodlands in Worcestershire.

- Agricultural intensification, in particular past losses of small woodlands, wet scrubby corners and thick hedgerows, the effects of land drainage and the loss of invertebrates through spraying.

- Wide scale scrub clearance and intensive management of hedges.

- Scrub clearance as part of conservation management for other species is inadvertently detrimental to nightingales.

- The grazing of the lower shrub layer by deer may affect nightingales by the destruction of invertebrate food plants and prevention of coppice and scrub growth / re-growth.

- Disturbance by humans and dogs on sites with heavy recreational pressure.

- The close spacing of standard trees and the consequent shading of the woodland understory prevents development of dense coppice or scrub.

4. Current Action

4.1 Local protection

There are no sites in Worcestershire protected specifically because of their suitability for attracting breeding nightingales. However, some sites used are listed as Local Wildlife Sites (LWS) and Croome Park is managed by the National Trust.

4.2 Site management and programmes of action

The **BTO** can provide advice on creating and managing habitat for nightingales

The restoration by **National Trust** of the Capability Brown landscape at Croome Park resulted in the loss of nightingale habitat through clearance of scrub which had developed whilst the 'pleasure grounds' were neglected. However, some of the new planting within the Park could develop into suitable nightingale habitat. The Trust is continuing a programme of habitat enhancement specifically aimed at improving parts of the park for this species. Outside of the park, plantation and semi-natural woodlands around Croome continue to provide nightingale habitat and the management plans in place for Lickmoor Coppice will result in the creation of more.

4.3 Survey, research and monitoring

BTO Surveys

The BTO have conducted three Britain-wide surveys for the nightingale, in 1980, 1999 and most recently in 2012-13.

Between the 1980 and 1999 surveys the number of breeding nightingales recorded changed very little: from 4770 to 4410, a decrease of 8%. However, their range decreased considerably during the same period: 20% of the 10km squares that had been occupied in 1980 were no longer occupied in 1999. 70%

of the breeding birds in the UK were at that point confined to Sussex and Suffolk. The 2012-13 survey recorded 3266 singing males and a total population estimate of 5090 was calculated (the 1999 population figures are now believed to have been an underestimate).

BTO atlas surveys in 2008-11 found a 43% reduction in nightingale-occupied 10-km squares since the 1968-72 atlas was produced, with withdrawal especially marked from western parts of the range (Balmer *et al,* 2013).

Surveys have also shown an apparent change in habitat use. In 1976 over 71% of males were found associated with woodland whereas in 1999 over half the singing males were in scrub habitats. In 2012 37% of males were found in woodland and 55% of territories were in scrub (Hayhow *et al,* 2015).

Despite small and decreasing samples, it has now proved possible to calculate a meaningful trend using Common Bird Census/Breeding Bird Survey returns. This evidence was sufficient to alter the status of nightingale from Amber to the Red list of Birds of Conservation Concern in 2015.

Though samples are too small to continue presenting a trend, the Constant Effort Sites bird ringing scheme suggested a sharp decline in productivity during the 1980s, perhaps because nightingale nesting success may be adversely affected by cold and wet springs. It is among a suite of species that winter in the humid zone of West Africa and correspondingly are showing the strongest population declines among our migrant species (Ockendon *et al,* 2012, 2014). There has been widespread moderate decline across Europe since 1980 (PECBMS, 2016); this overall trend masks a stark contrast between severe decreases in southern and western Europe and increases in the east of the range (PECBMS, 2007).

5. Associated Plans

Wet woodland, Woodland, Hedgerows, Scrub.

6. Conservation Aim

Habitat on sites where nightingales occur (as of 2018) has been protected and maintained and there is sufficient suitable habitat to provide for the species should they return to breed.

7. Conservation Objectives

- Maintain the current breeding habitat used by nightingales at Croome Park
- Continue to increase the area of suitable habitat in the Croome / Pirton area where opportunities exist
- Continue ad-hoc monitoring in the county and seek to encourage beneficial management in other areas where nightingales are found to still occur

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