

## Stone Curlew Buffers in the Brecks

Durwyn Liley, 21<sup>st</sup> July 2016

### Overview

- 1.1 This document has been drafted to summarise potential revised buffer zones for stone curlews in the Brecks. The work has been commissioned by Forest Heath District Council to support its Core Strategy Single Issue Review and Site Allocations Local Plan. It builds on the HRA work done for Breckland Council for its emerging local plan.

### Introduction

- 1.2 In order to avoid impacts of built development on stone curlews, plan policy for relevant local authorities around the Brecks has included a 1500m zone around the parts of the Breckland SPA where stone curlews are present. Within such a zone a likely significant effect from new development is presumed at the plan level and adverse effects cannot be ruled out<sup>1</sup>. This zone was originally defined as part of Habitats Regulations Assessment work undertaken around 2008 (following analysis of stone curlew distribution and housing; Sharp *et al.* 2008). We refer to this buffer as the 'primary buffer'.
- 1.3 The stone curlew population is currently increasing and the birds use areas outside the SPA boundary for both breeding and foraging. To provide protection for stone curlews that were nesting outside the SPA, but likely to be part of the same SPA population, planning policy in the Core Strategies of all four adjacent local planning authorities identified supporting habitat areas outside the SPA where birds had regularly nested. A criteria based on 1km grid cells that had held 5 or more stone curlew nests over the period 1995-2006 was used to identify areas outside the SPA that had been regularly used, and a 1500m buffer then applied to these areas<sup>2</sup>. Within this second buffer, it was concluded that likely significant effects would be triggered by new development and project Habitats Regulations Assessment work would be required. As the potential impact related to supporting habitat rather than core habitat within the SPA, it was anticipated that alternative supporting habitat to provide the same function could be provided as mitigation. We refer to this buffer – relating to areas outside the SPA boundary – as the secondary buffer.
- 1.4 It is now timely to review the buffers previously used. While there is still strong evidence that the 1500m distance is appropriate (Clarke, R. & Liley 2013; Clarke *et al.* 2013), it is important to ensure up to date data are used to reflect the areas of the SPA used by Stone Curlews and the areas outside the SPA that are also important.

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<sup>1</sup> Unless that development is within existing urban areas and is in-fill

<sup>2</sup> The buffer is included in the Breckland Core Strategy on page 27, 2.6 key diagram: it is represented by blue hatching

## Revised Buffers

- 1.5 More recent stone curlew data were provided by the RSPB and we have used that data (2011-2015 inclusive) to review the buffer relating to supporting habitat outside the SPA. We have used five years of bird data as survey coverage has varied between years to some extent. The RSPB provided data on which areas had been surveyed for the period 2011-2015 (i.e. where surveys had been undertaken during the five year period), but did not break down survey effort between years. The choice of five years allows us to match bird data and survey coverage.

### 1500m buffer for the SPA ('primary buffer')

- 1.6 A 1500m buffer was drawn around the Breckland SPA, with the exception of the following:
- The entirety of Cranberry Rough, Hockham SSSI and the Rex Graham Reserve SSSI were excluded as neither support habitat suitable for stone curlews
  - Breckland Forest SSSI was largely excluded. A review of stone curlew data showed parts of units 1 and 3 had supported nesting attempts by stone curlew during the period 2011-15. Relevant compartments<sup>3</sup> (based on SSSI unit GIS layer) were buffered.

### 1500m for the areas outside the SPA ('secondary buffer')

- 1.7 Areas outside the SPA that have supported a reasonable number of recent nesting attempts were identified as follows:
- We used a grid of 1km squares, aligned to the National Grid
  - We used stone curlew data provided under licence by the RSPB to identify cells that were outside (but within 3km of the SPA boundary) and had held at least 5 nesting attempts (2011-2015 inclusive).
  - These cells were buffered by 1500m.
- 1.8 We excluded any cells that were more than 3km from the SPA boundary as stone curlews are now more widely distributed across East Anglia and clearly at some point there is potential that land is not functionally-linked to the Breckland SPA. The choice of 3km was made because most stone curlew activity is within 1km of the nest (Green, Tyler & Bowden 2000) and evidence indicates that development impacts occur over a 1500m distance, 3km should therefore adequately encompass the majority of birds' foraging requirements and absorb any impact of development. Radio-tracking (Green, Tyler & Bowden 2000) indicates a maximum home range of 3km and at distances beyond 3km it is suggested that risks would not be significant for the SPA population. The 3km distance is therefore suggested as the limit to which the mitigation requirements would apply and the limit to which any lower tier plan or project level Habitats Regulations Assessment would need to be undertaken (notwithstanding the

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<sup>3</sup> Some units within this SSSI are large, but are subdivided into compartments, and only those compartments with stone curlew nesting attempts were buffered – three compartments in total.

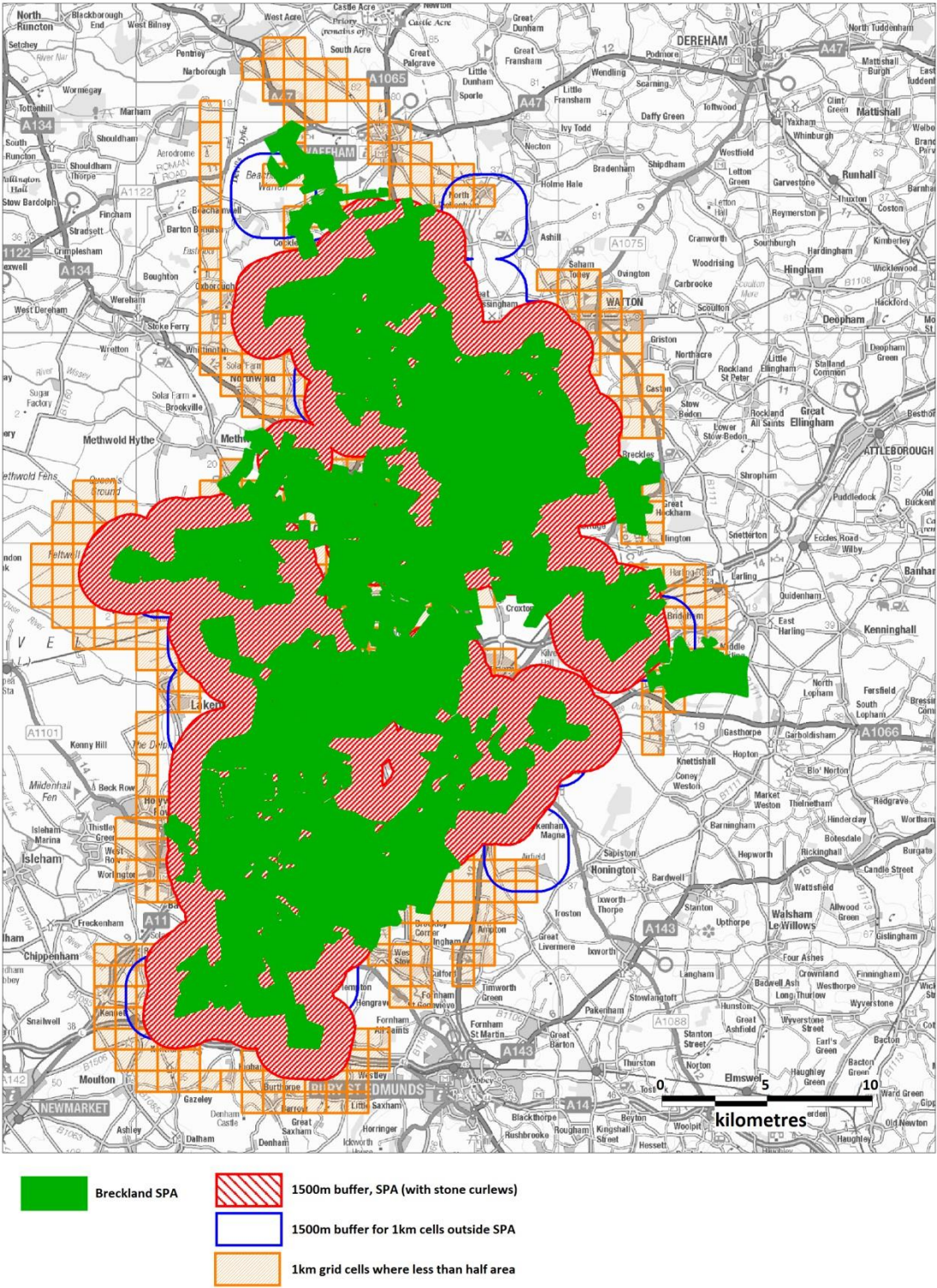
need to still assess impacts on stone curlew in order to fulfil other legislative and policy requirements in relation to wild birds).

- 1.9 A challenge with the definition of the secondary buffer is that survey coverage is incomplete. As described above the RSPB provided a GIS layer to which allowed us to identify areas with no survey coverage for the 2011-2015 period. Any grid cell (where at least part of that cell is within 3km of the SPA boundary) with less than 50% of the area covered by the RSPB survey coverage was identified.

#### **Revised Map**

- 1.10 The resulting map is shown in Map 1. The dark green solid shading shows the SPA and the red hatching around the SPA is the 1500m buffer (the primary buffer). Blue lines reflect the 'secondary' buffer – based on 1km cells that held at least 5 nesting attempts 2011-2015 and relates to cells within 3km of the SPA only. In addition, orange grid cells show areas where there are no or limited (less than half the area) survey data available from the RSPB. As the RSPB data is focused on the key areas for stone curlews, some of these cells may contain unsuitable habitat. Only 1km cells where at least part of the cell is within 1500m of the SPA (with stone curlews) are shown. These orange cells therefore are ones where there are data gaps and additional data checks or survey data may be required to check for use by stone curlews.

Map 1: Stone Curlew buffers



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## References

- Clarke, R.T., Liley, D., Sharp, J.M. & Green, R.E. (2013) Building Development and Roads: Implications for the Distribution of Stone Curlews across the Brecks. *PLoS ONE*, **8**, e72984.
- Clarke, R. & Liley, D. (2013) *Further Assessment of the Relationship between Buildings and Stone Curlew Distribution*. Footprint Ecology/Breckland District Council.
- Green, R.E., Tyler, G.A. & Bowden, C.G.R. (2000) Habitat selection, ranging behaviour and diet of the stone-curlew (*Burhinus oedicnemus*) in southern England. *Journal of Zoology, London*, **250**, 161–183.
- Sharp, J., Clarke, R.T., Liley, D. & Green, R.E. (2008) *The Effect of Housing Development and Roads on the Distribution of Stone Curlews in the Brecks*. Footprint Ecology.