

Lochailort Kentford Ltd
Eagle House
108-110 Jermyn Street
London
SW1Y6EE

Sweco UK Limited
North Kiln, Felaw Maltings
46 Felaw Street
Ipswich, IP2 8PN
+44 1473 231 100

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Landwades Country Park – Ornithology Response Assessment

Introduction

This letter has been prepared by Sweco for Lochailort Kentford Ltd to respond to West Suffolks Council's letter dated 8 November 2024, and the 9 September 2024 responses from both the RSPB and Wildlife Trust, received on the same day, with regards to the site and stone curlew impacts .

The approach of this assessment is considered valid for all submissions on the Landwades Country Park site.

The Breckland Special Protection Area (SPA) is located 2.2km northeast of the closest part of the site, and separated from the site by the village of Kentford, the A14 road and farmland. The site falls outside the 1.5km constraint zone around the SPA and meets the criteria for "Redevelopment of existing building(s) to residential where there is no net increase in area of built development within settlement boundaries". Natural England considered this sufficient to screen out potential impacts to the Breckland SPA under the small development tool for the permitted development scheme, and providing adequate mitigation is applied to any larger application addressing recreational pressures, would likely support the larger application. However, West Suffolk Council state that birds outside the 1.5km, buffer through precautionary principles are functionally linked to the designated site and that due to this, the development should undertake three years' worth of surveys of all suitable habitat within 1.5km of the development itself to ensure any stone curlew are identified.

Bird Surveys

Sweco has undertaken bird surveys of the entire Animal Health Trust site. The breeding bird surveys followed a set transect route which aimed to include all core habitat types on and adjacent to site. The breeding bird survey undertaken at the site was based upon the line transect survey methodology utilised by the British Trust for Ornithology (BTO) Breeding Bird Survey (BBS)¹ and Bird Survey Guidelines produced by the Bird Survey & Assessment Steering Group², in line with CIEEM good practice guidelines³.

Six separate visits were undertaken between 27 March 2024 and 18 July 2024, and were led by experienced ornithologists. The surveys were undertaken during suitable weather conditions, as summarised in Table 1 below, and consisted of five dawns and one dusk.

Table 1 : Breeding Bird Survey Conditions

Survey	Date	Time		Temperature (°C)		Wind (Beaufort Scale)		Cloud Cover (Oktas)		Precipitation (mm)	
	2024	Start	End	Start	End	Start	End	Start	End	Start	End
1	27 March	05:30	11:00	10	12	1	1	5	6	0	0
2	11 April	15:45	19:45	14	11	2	2	7	8	0	0
3	24 April	05:40	11:30	10	13	2	3	8	5	0	0
4	24 May	05:15	11:00	14	15	1	1	1	2	0	0
5	18 June	05:00	11:00	10	12	1	1	5	3	0	0
6	18 July	04:20	08:30	15	16	2	3	8	7	0	0

All field boundaries were walked slowly, and birds were identified by both sight and sound, with records of their behaviour taken and recorded onto plans. Standard BTO species

¹ BTO/JNCC/RSPB. (2018). Breeding Bird Survey Instructions, https://www.bto.org/sites/default/files/bbs_instructions_2018.pdf [accessed November 2024]

² Bird Survey & Assessment Steering Group. (2024). Bird Survey Guidelines for assessing ecological impacts, <https://birdsurveyguidelines.org> [accessed November 2024]

³ CIEEM. (2021) Good Practice Guidance for Habitats and Species, May 2021, version 3

codes and symbols were used to record bird species¹. Activity and direction of flight where appropriate were used as recommended for the Bird Census Techniques (C. Bibby, 2000).

Species and activity data were analysed spatially to compare where species were identified during more than one survey visit and therefore are likely to be holding a territory and/or actively breeding in the area. If a bird exhibited breeding activity, such as commuting with nesting material or singing for example, it was judged to be breeding or attempting to breed on site.

No stone curlew, nightjar or woodlark were recorded on site during any of the surveys. This is likely due to the habitat on site being suboptimal for all three species. Continuing management on site controls the habitats, and regular hay cuts of the meadow areas prevent succession into habitats that may better suit the assemblages. Furthermore, in relation to stone curlew, the site is enclosed and, in some areas, bisected by small blocks of mature woodland that provide easy vantage points for predators (raptors and corvids), further reducing the potential for the site to support stone curlew. The site also supports a large rookery around the main entrance road, and a large congregation of nesting crows on the north eastern woodland block, both of which further reduce the likelihood of ground nesting birds using the site, combined with the dense woodland blocks that runs across the site providing easy access for predators like foxes and badgers, both of which have been recorded on site during the site surveys.

The Wider Area

This report includes an assessment of the wider area surrounding the site, conducted alongside the bird surveys summarized above, to evaluate the impact of nearby developments and the suitability of the land for supporting stone curlew populations with relation to the proposed development.

West Suffolk Council state within their response of 9 September 2024 that “*Stone Curlew nest density has been shown to be negatively impacted by the built environment, with lower nest densities found up to 1.5km from settlements. The precise mechanisms for disturbance from buildings are not fully understood. For example, it is not a straightforward line-of-sight issue, as reduced nest density occurs beyond woodland that screens any visual development effects. It is likely to be a combination of the visual disturbance caused by buildings in the environment, increased recreational disturbance, noise and light pollution, and disturbance (including predation) by domestic pets.*” Consequently, West Suffolk Council state that there is a requirement to survey suitable habitats within 1.5km buffer of the development site over a three-year period, as these areas may still be viable for stone curlew.

A review of aerial mapping reveals that the site is located immediately south of the village of Kennet, west of Kentford, north of Moulton, and east of Thetford. Following the principles

outlined by the West Suffolk Council, the figure below shows a 1.5km buffer drawn around each of these built-up areas (focused on buildings – if curtilage is included, the area covered is larger), as well as a 1.5 km buffer drawn around the Lanwades site (see Figure 1). This figure clearly demonstrates that the 1.5km buffer around the Lanwades site lies *entirely* within the 1.5km buffer that already affected by existing built-up areas. Therefore, all areas within the Lanwades 1.5km buffer already experience impacts from the existing surrounding developments. As such, this buffer zone is significantly less likely to be utilized by stone curlew for nesting, for the reasons highlighted by West Suffolk Council.

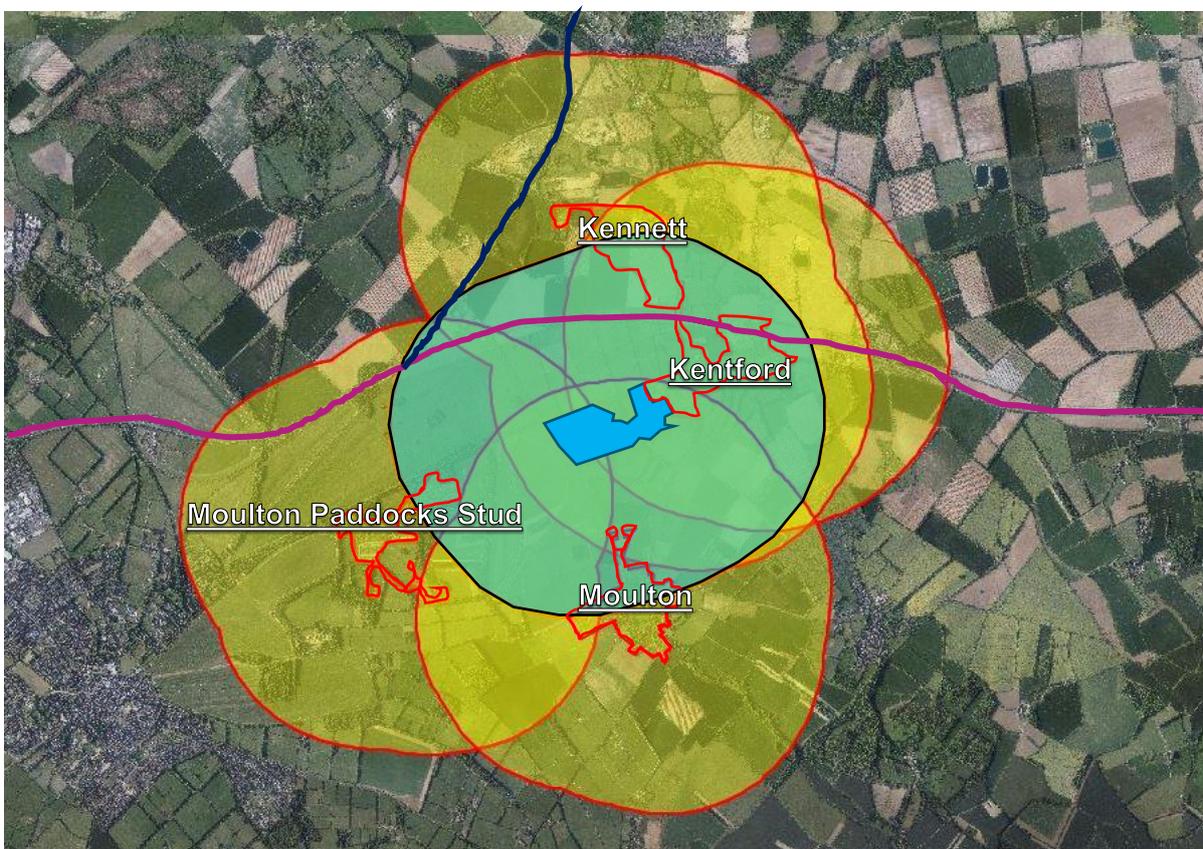


Figure 1. Figure shows a 1.5km buffer around surrounding built-up areas (red line, yellow fill), and a 1.5km buffer around the Lanwades site (black line, blue fill). The approximate boundaries of each village have been highlighted above the zones with the addition of the A14 in purple and the A11 in dark blue.

Assessment of Habitats to the North

Having already established the suboptimal nesting potential of the land to the north of the proposed scheme due to its proximity to existing built-up areas, we can now conduct a

further assessment of the habitat within 1.5km of the site to evaluate its suitability for supporting stone curlew.

Directly north of the site lies St. Simons Stud, followed by the A14, which runs parallel to the stud. The paddocks within the stud are primarily used for horse grazing or hay production. Each field margin is lined with dense, mature trees, and the paddocks are bisected by mature woodland with, in most fields, additional clusters of mature trees. Many paddocks also contain field shelters for horses, as well as barn and stable buildings located throughout the site. The main stud area features a large complex of stables, barns, and housing, with multiple concrete access tracks crossing the site. Further north lies the A14 and beyond this lies the overground railway line and Kennet stations, followed by arable wheat or cereals fields adjacent to the Banks Mills industrial estate.

Studies by Green *et al.*⁴⁵ found that stone curlews breed in short semi-natural dry grasslands and heaths (referred to throughout as heathland) and spring-sown arable farmland, particularly in areas with sandy soils containing stones or rubble. It was noted that these birds are most likely to breed in spring-sown arable fields if the crops grow tall and dense later in the summer and if the fields are in close proximity to short semi-natural grassland or sheep pasture, while being located more than 3km away from the nearest major road. Key characteristics of preferred nesting and foraging habitats include sparse vegetation and bare ground. The more recent study⁶ using GPS trackers found that stone curlew by day are three times more likely to forage on disturbed grassland and by night are twice as likely to forage on disturbed grassland than unmodified grassland.

The grazed paddocks to the north do not meet these criteria. These paddocks are actively grazed by horses and are surrounded by woodland, with a close proximity to existing built-up environments, the overground railway and the A14 and other major roads. There are no bare ground patches within these fields and stones and rocks within the field will be actively removed as part of site management, as these pose a risk to horses. As such, the paddocks are unlikely to provide suitable nesting conditions for stone curlew. The mature woodland that borders all the field margins, and the clusters of mature trees, provide vantage points for corvids (rookery and 18 crow nests recorded in woodland on site adjacent) and raptors, as well as cover for badgers and foxes, resulting in an increased risk of predation for ground-nesting birds. Taking into account the previous points and the proximity to the A14, A11 and B1506, the habitat within St Simons Stud is considered unsuitable for nesting stone curlew. Additionally, as these fields are currently managed as grazed paddocks and

⁴ Green RE, Tyler GA, Bowden CGR. Habitat selection, ranging behaviour and diet of the stone curlew (*Burhinus oedicephalus*) in southern England. *Journal of Zoology*. 2000;250(2):161-183. doi:10.1111/j.1469-7998.2000.tb01067.x

⁵ Green, R.E. and Griffiths, G.H. (1994), Use of preferred nesting habitat by stone curlews *Burhinus oedicephalus* in relation to vegetation structure. *Journal of Zoology*, 233: 457-471. <https://doi.org/10.1111/j.1469-7998.1994.tb05277.x>

⁶ Hawkes, R.W., Smart, J., Brown, A., Green, R.E., Jones, H. and Dolman, P.M. (2021), Effects of experimental land management on habitat use by Eurasian Stone-curlews. *Anim. Conserv.*, 24: 743-755. <https://doi.org/10.1111/acv.12678>

hay-cut fields, it is unlikely that their management will change in the coming years, meaning that further years of monitoring these habitats would be unlikely to result in any significant change in their use by stone curlew.

To the north of the study area lies the only potentially suitable habitat for nesting stone curlews: an arable field located north of the A14 and the overground rail line. However, this area is considered unsuitable due to its proximity to the village of Kennett and the ongoing construction works at Kennett Garden Village, which borders this field to the northeast. The construction site has active excavators and other machinery engaged in developing residential properties that back onto these arable fields. Additionally, the A14 and the Banks Mills industrial estate are located immediately adjacent to the arable land along the south further circling the land. Although the habitat itself may possess some suitability, its closeness to these significant disturbances greatly limits its potential to support stone curlews. This is further emphasized by surveys conducted by MLM Group (now Sweco) related to the Kennett Garden Village planning application (18/00752/ESO), which found no stone curlews present during the 2016 or 2017 surveys and concluded that the cropland in this area was unsuitable for stone curlews.

Assessment of Habitats to the East

To the east of the site lies the main village of Kentford, with existing residential development starting immediately adjacent to the site and extending approximately 1.5 km east towards the A14, which curves back around, ending just outside the village. Interspersed throughout this area are grassland paddocks, which increase to the south east. Here, the paddocks are associated with Lanwades Stud, whose main site is directly south of the proposed development. These paddocks resemble those of St. Simons Stud and are bordered by large, mature woodlands, along with blocks of woodland that extend from the River Kennet. The proximity of this mature woodland around the edges of these fields provides ideal vantage points for corvids and raptors, and offers cover for badgers and foxes. Scattered housing is also present throughout this area.

At the southeastern edge of the buffer, much of the land remains dedicated to grazing, but there are arable fields used for crops that could potentially support stone curlew populations. However, these fields are located much closer to the village of Gazeley, at a minimum distance of only 500m from the nearest property, Gazeley Stud, and as such fall well within the 1.5km impact zone around Gazeley.

Considering the size and nature of Kentford and Gazeley, and the existing 1.5km impact zone around each village, the Lanwades development does not increase the area that is already subject to disturbance and thus suboptimal for nesting. Furthermore, given the existing roads and public footpaths between the two villages, as well as the predominant land use comprising horse paddocks, woodland blocks, and equine and agricultural housing, it is unlikely that stone curlew would be nesting in this area.

Assessment of Habitats to the South

Immediately south of the site lies Lanwades Stud and BSAS Telecoms, located almost directly adjacent to the site boundary. The area immediately south consists of horse paddocks and mature woodland blocks, which then lead to Trinity Hall Cottages, a local school, and the village of Moulton, which begins approximately 1 km from the site and extends for another kilometre along the B1085 that starts by the site and runs south through the village.

As previously mentioned, the proximity of the village of Moulton and the existing residential developments adjacent to the site means that the fields between the site and Moulton are already experiencing impacts from these developments. Additionally, the land in this area primarily consists of grazed paddocks, barns, and stable buildings, making it unlikely to support stone curlew populations, for the reasons outlined above.

Assessment of Habitats to the West

Finally, to the west lies Moulton Paddock Studs, a prominent facility in the area that is home to over 200 horses. This extensive property features numerous paddocks, a large stable complex, barns, housing, offices, and a stately home, along with several major gallops and rides that are regularly utilized for exercising and training horses. The site is bordered by significant mature woodlands that line nearly all roads and access tracks, as well as the paddocks and field margins, likely influenced by the construction of Fidget Hall in the early 18th century.

While the paddocks themselves offer negligible nesting suitability for stone curlew, the larger gallops may present some potential due to their expansive open areas. However, these are in regular use and the grass in these regions appears to be regularly-managed to keep it short, with livestock fencing and mow lines present on aerial imagery. Additionally, several grass and sand tracks cross the area, mimicking raceways. The proximity to Newmarket and the A14 further reduces this area's suitability.

Given the level of activity at the site and the low suitability of the habitat for supporting stone curlew, along with existing impact zones already affecting this area, it is unlikely that stone curlew would utilize this location for nesting.

Furthermore, the western boundary of the site lies approximately 3.5km from the Special Protection Area (SPA). A 1.5km impact zone would extend from 3.5km to 5km away from the SPA. A study by the Zoological Society of London⁷ utilized GPS tags to monitor stone curlew movements, revealing that 90% of foraging locations occurred within 1km of nesting sites during the breeding season, although some birds did travel up to 4.1km at night to

⁷ Hawkes, R.W., Smart, J., Brown, A., Green, R.E., Jones, H. and Dolman, P.M. (2021), Effects of experimental land management on habitat use by Eurasian Stone-curlews. *Anim. Conserv.*, 24: 743-755. <https://doi.org/10.1111/acv.12678>

forage in high-quality sites with abundant invertebrate populations, such as pig fields, spring-sown crops, and isolated manure piles. The primary conclusion of the paper emphasizes that conservation efforts should focus on promoting improved breeding attempts through enhanced foraging opportunities created by ground disturbance within 1km of the nest. This aligns with earlier research⁸ indicating that stone curlews travel about 3km from their nests to feed at night and prefer nesting sites in short semi-natural grassland or sheep-grazed pastures that are more than 3km away from major roads. Given these factors, it is unlikely that these areas would be utilized by stone curlews for nesting.

Foraging Value of Horse Paddocks

An important point that has not yet been addressed is the low level of invertebrate populations found in horse-grazed fields. Newmarket has a rich racing history and is home to many studs that produce horses competing at regional, national, and international levels. Due to the frequent movement of horses, standard medical treatments, including anthelmintics (drugs used to treat internal and external parasitic infections), must be administered regularly.

Recent studies⁹ have shown that the most common anthelmintic treatments have significant negative impacts on earthworm populations, with nearly all treatments affecting soil invertebrates adversely, although some are notably more harmful than others. Tyler, *et al.*⁵ found earthworms, soil-surface invertebrates and molluscs are the main prey of adult stone curlews and their chicks. As such, paddocks in general are likely to present a suboptimal foraging resource for stone curlews, before taking into account the other points raised above.

Conclusion

In conclusion this letter addresses the concerns raised by West Suffolk Council regarding the potential impacts of the proposed development on stone curlew populations in relation to the surrounding habitats. The assessments conducted by Sweco indicate that the land within the vicinity of the proposed development, including the wider area, is generally suboptimal for stone curlew nesting and foraging, due to a range of factors.

The site falls outside the Breckland SPA 1.5km constraint zone, which in Natural England's view means that development does not pose a significant threat to the SPA population, provided adequate mitigation measures are implemented.

⁸ Tyler, Glen & Bowden, Christopher. (2000). Habitat selection, ranging behaviour and diet of the Stone Curlew (*Burhinus oedicnemus*) in Southern England. *Journal of Zoology*. 250. 161 - 183. 10.1111/j.1469-7998.2000.tb01067.x.

⁹ Anne E. Goodenough, Julia C. Webb, Jonathan Yardley, Environmentally-realistic concentrations of anthelmintic drugs affect survival and motility in the cosmopolitan earthworm *Lumbricus terrestris* (Linnaeus, 1758), *Applied Soil Ecology*, Volume 137, 2019, Pages 87-95, ISSN 0929-1393, <https://doi.org/10.1016/j.apsoil.2019.02.001>.

Survey results from the Animal Health Trust site recorded no presence of stone curlew, nightjar, or woodlark. This has been attributed to the site's management regime and habitat conditions, which are not conducive to these species. Additionally, the presence of existing residential developments, major roads, and the suboptimal nature of the surrounding landscapes, characterized by horse paddocks and mature woodlands, further diminishes the site's potential to support this species.

The detailed evaluation of the areas to the north, east, south, and west of the site reinforces the conclusion that these regions, while they may contain limited areas of suitable habitat, are significantly impacted by nearby development, as well as disturbance resulting from the day-to-day management and use of these areas. The presence of mature woodland, groups of mature trees, active horse grazing, and proximity to built-up areas create conditions that are not suitable for nesting stone curlews.

Furthermore, the ongoing management of horse-grazed fields, coupled with the use of anthelmintic treatments that negatively affect invertebrate populations, further reduces the foraging potential of the site and its wider surroundings for stone curlew, which rely heavily on soil invertebrates as a food source.

Overall, the evidence presented indicates that the proposed development is unlikely to impact stone curlew nesting in the area due to existing conditions and disturbance that renders the area unsuitable for stone curlew nesting.

We acknowledge that the scheme will need to implement mitigation measures to address potential recreational impacts at the Breckland SPA. However, we do not consider that additional surveys or mitigation for nesting stone curlew are necessary, or appropriate, given the low likelihood that the site, or any land within 1.5km of it, supports this species.

We believe that measures to address potential recreational impacts at the SPA can be effectively managed within the ownership of the site through the creation of walkways and dog off-lead areas, to encourage local recreation. In addition, as recent studies have demonstrated the importance of ground disturbance near nesting sites, there may be an opportunity for the proposed scheme to include funding for the creation of lapwing and stone curlew habitats, either within or in closer proximity to the SPA. This approach would enhance the quality of foraging areas, and serve as both mitigation and enhancement for these birds.

Yours faithfully



Joshua Stafford BSc (Hons) MRSB
Principal Ecologist
joshua.stafford@sweco.co.uk