Proof of Evidence of Councillor Dr Chris Foster – on behalf of Greenham Parish Council and Newbury Town Council

Sandleford Park, Newtown Road, Newtown, Newbury

Outline planning permission for up to 1,000 new homes; an 80 extra care housing units (Use Class C3) as part of the affordable housing provision; a new 2 form entry primary school (D1); expansion land for Park House Academy School; a local centre to comprise flexible commercial floorspace (A1-A5 up to 2,150 sq m, B1a up to 200 sq m) and D1 use (up to 500sq m); the formation of new means of access onto Monks Lane; new open space including the laying out of a new country park; drainage infrastructure; walking and cycling infrastructure and other associated infrastructure works. Matters to be considered: Access.

Planning Application Reference: 20/01238/OUTMAJ

Planning Inspectorate Reference: APP/W0340/W/20/3265460

Proof of Evidence

Summary

I am Councillor Dr Chris Foster, witness for the Rule 6 Parties, Greenham Parish Council and Newbury Town Council:

A) I am a lecturer in Animal Ecology at the University of Reading with ten years experience of research and teaching in ecology and zoology. My PhD research examined the effects of landscape heterogeneity and change on beetles in urban and rural woodlands. I am a committee member for the UK chapter of the International Association for Landscape Ecology and national organiser for the Ground Beetle Recording Scheme

B) I will explain why the proposed development is highly likely to result in deterioration of the ancient woodlands on site, in contravention of paragraph 175c of the National Planning Policy Framework.

C) I will detail:
    a. The effects of trampling and disturbance from footpaths through woodland
    b. The effects of waste dumping, disturbance, introduction of invasive species and light pollution at development/woodland edges
    c. The potential of domestic pets on the ancient woodlands
    d. The likely impact of habitat fragmentation and overall cumulative impacts
    e. The buffer size necessary to mitigate these impacts.

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Proof of Evidence

1 - Trampling and Disturbance from Footpaths

1.1 Trampling adjacent to woodland edges and footpaths can significantly impact vegetation structure, composition and tree regeneration, with effects in two Finnish studies extending into apparently untrampled areas up to 8 metres from the path (Hamberg et al. 2008, Lehvavirta et al. 2014). In a study of ground flora in British urban woodlands, Littlemore & Barker (2003) found bluebell cover drops significantly after only 80 foot traffic passes in one summer, with a higher threshold of 150 passes for bramble. In the case of bluebells flowering and seeding was suppressed entirely at higher levels of trampling.

1.2 Invertebrate communities may also be modified by trampling, even where vegetation is apparently unaffected (Kotze et al 2012). Woodland specialist ground beetle species decrease in activity with increased levels of trampling, many of these are flightless species which are especially vulnerable to local stochastic extinctions (Sadler et al 2006, Kotze et al 2012).

1.3 Disturbance from footpaths may also disturb breeding birds. Gladalski et al. (2016) found that breeding success of Blue Tits was higher in undisturbed forests than in urban parkland, with a probable link to human activity patterns in the parkland. The Woodland Trust cite an extensive body of evidence suggesting that nesting birds “avoid habitat adjacent to well-used tracks, roads and motorways” (Corney et al. 2008) and that ground-nesting birds may flush (thus wasting energy) when approached to within 50 metres (Thiel et al. 2007).

1.4 The Woodland Trust also notes that “where paths link new housing development to existing ancient woodland, or pass nearby, they decrease the effective distance between the development and the woodland, which may increase risks of human disturbance from unmanaged access". Unmanaged access may well lead to the creation of informal paths, in addition to formal managed paths which cause significant damage to vegetation in their construction and maintenance (Ballantyne et al. 2015).

1.5 The applicant considers that the current existence of tracks relating to management for shooting means there will be no impact from access. This fails to take into account the likely huge increase in foot traffic causing additional trampling and disturbance. The type, extent and construction of any formal paths and means of managing access through the ancient woodland should therefore be carefully considered. Figure 1 shows buffers of 8 and 50 metres around the paths shown on the applicants Green Infrastructure plan, the likely minimum extent of impacts from trampling (10% of the ancient woodland area) and disturbance by humans and dogs (51%) respectively.

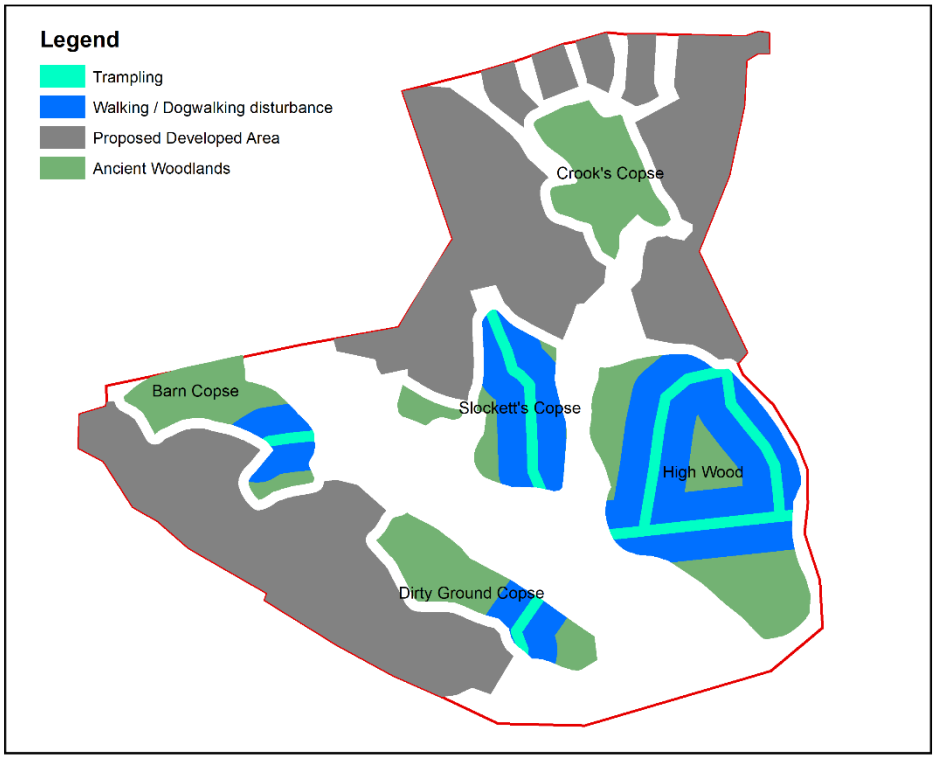

Figure 1. Potential impacts of trampling and disturbance from proposed footpaths through the Sandleford ancient woodlands

2 - Waste, Disturbance, and Invasive Species from Edges

2.1 Edge effects of development including changes to vegetation structure, spread of non-native plant species, dumping of consumer or construction waste and vandalism can occur up to 50 metres into woodlands (Matlack 1993, Hamberg et al. 2008, McWilliam et al. 2010, Gaggini et al. 2017). The Woodland Trust therefore recommends a buffer of at least 50 metres wide around woodlands, tailored to the individual development, noting that a 100 metre buffer may also mitigate noise pollution from the developed areas (Huisman 1991, Corney et al. 2008)). Access to the buffers, as shown in parts of the applicants Green Infrastructure Plan, is not recommended as it is likely to facilitate this type of disturbance (Matlack 1993, Corney et al. 2008).

2.2 Woodland edges are also vulnerable to spray drift from fertiliser and herbicide, penetrating up to 30 metres into the wood (Bateman et al. 2004, Gove et al. 2007). Since the woodlands are currently bordered by arable fields their vulnerability to such effects is not likely to increase should those fields be developed. However, it should be taken into account in any proposed management of the buffer areas and in determining how close the nearest developed area can safely be – managing domestic use of fertiliser or herbicide in adjacent gardens would likely be very difficult.

2.3 Light pollution near ancient woodland is likely to modify the behaviour of crepuscular and nocturnal species such as moths, bats and some birds (Longcore & Rich 2004, Corney et al. 2008) and may be an overlooked driver of insect declines (Grubisic et al. 2018).

2.4 Figure 2 shows the area of the ancient woodlands on site which would still be within 50 metres of developed areas, accounting for the proposed 15 metre buffer.

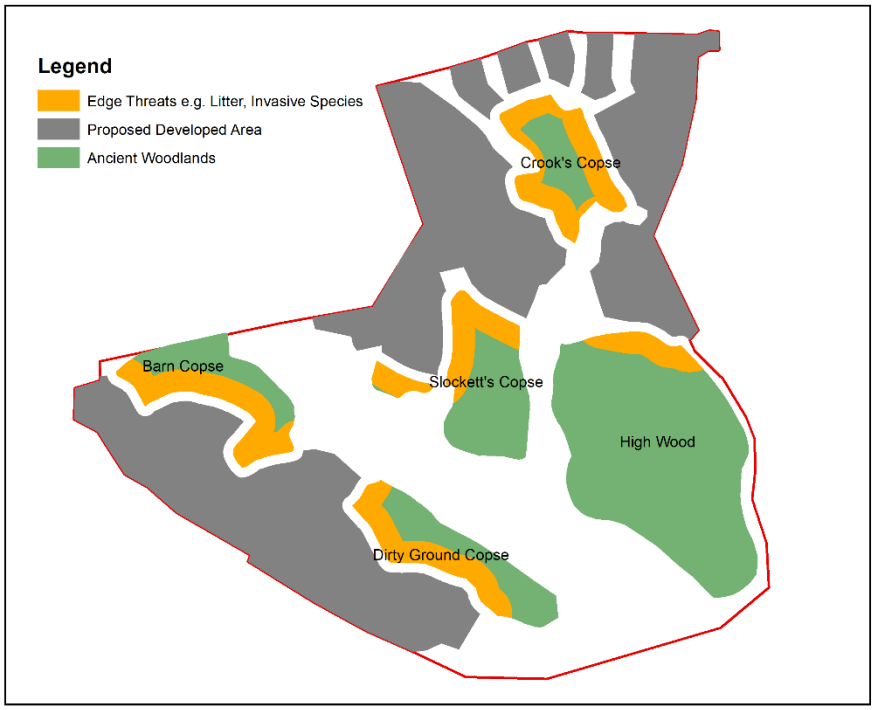

Figure 2. Potential impacts of various edge effects on the ancient woodlands within 50 metres of the developed areas.

3 - Domestic Pets

3.1 Approximately 26% of households own a pet cat, making an estimated total of 10.9 million domestic cats in the UK, and 24% report owning a dog, with an estimated total of 10.1 million (PDSA 2020). A development of 1000 houses is therefore likely to have at least 260 cats and 240 dogs associated with it.

3.2 In a study of roaming behaviour in domestic cats, Hanmer et al. (2017) found a median distance reached from home of 99 metres. In suburban settings the median distance was 141 metres. Figure 3 shows that domestic cats may regularly access 57% of the ancient woodland area at Sandleford, based on the more conservative median roaming distance of 99 metres. As well as direct predation, cats can have significant sub lethal effects ultimately reducing the abundance of bird populations (Beckerman et al. 2007). Hanmer et al. (2017) conclude that buffer zones of 300 – 400m should be established between housing developments and any habitat containing vulnerable species to mitigate the ecological consequences of cat predation.

3.3 As potential predators dogs are also likely to modify birds behaviour. A study in Australia found that dog walking in woodland can reduce bird diversity by 35% and abundance by 41% (Banks and Bryant 2007). 82% of dog owners report walking them once or more a day, 37% twice or more. Many of these walks from the proposed development are likely to include the ancient woodlands. 10% of dog owners in the PDSA 2020 survey reported that their dog doesn't come back when called, this could

mean a substantial minority of dogs present on the development regularly being out of control in the ancient woodlands.

3.4 Predation rates from other wildlife has also been shown to increase with increasing human housing density (Thorington & Bowman 2003).

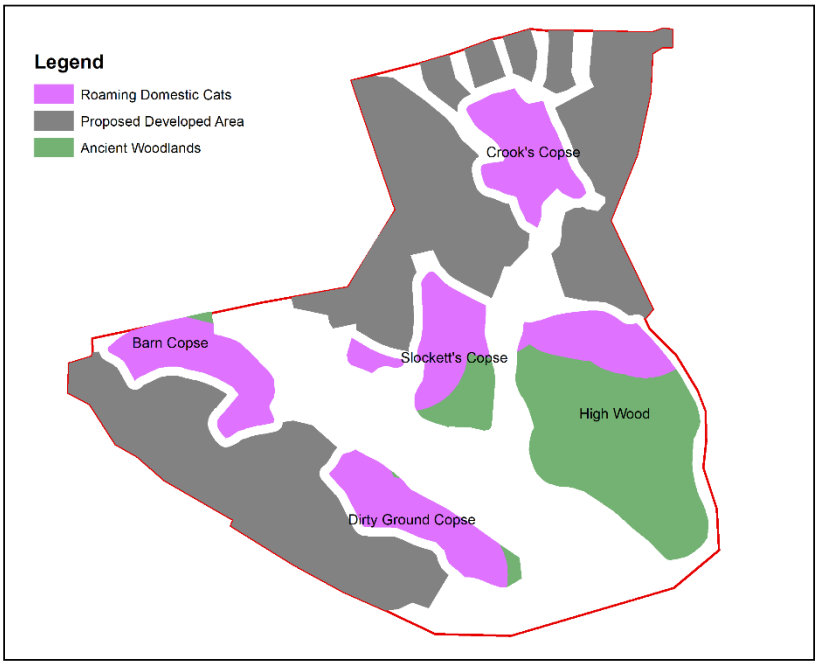

Figure 3. Areas of the Sandleford ancient woodlands that may regularly be visited by domestic cats. .

4 - Fragmentation and Cumulative Effects

4.1 Although the woodlands are already in effect fragmented by arable fields and grassland, developed areas are likely to be less permeable to wildlife, cutting off connectivity between the woodlands. In a study of birds in fragmented habitat in Spain, Pallomena and Caroscal (2007) conclude that significant impacts of urban areas extend to 400 metres, leaving remaining habitat patches vulnerable to biotic homogenisation (McKinney 2006). Insectivorous birds are reluctant to cross between habitat patches in the vicinity of high-density housing (Hodgson and Major 2007), perhaps explaining the negative association between insectivorous warblers in woodlands and presence of adjacent urban areas found by Neumann et al. (2016). Diversity of forest ground beetles also declines in urban forest fragments, when compared to rural forests (Magura et al. 2009).

4.2 These general findings for urban woodlands may result from the cumulative impact of the threats described in **a – e**. Figure 4 shows the area of ancient woodland at Sandleford likely to be affected by at least one of trampling, disturbance, litter or edge effects and domestic pets. The remaining area of undisturbed woodland is just 15% of the total. This demonstrates a potential considerable impact on all the ancient woodlands on site, supporting the Woodland Trust's view that "the cumulative impact of all ecological effects arising from urbanisation has a substantial impact on ancient

woodland that is enveloped, as well as on woods in the surrounding landscape" (Corney et al. 2008).

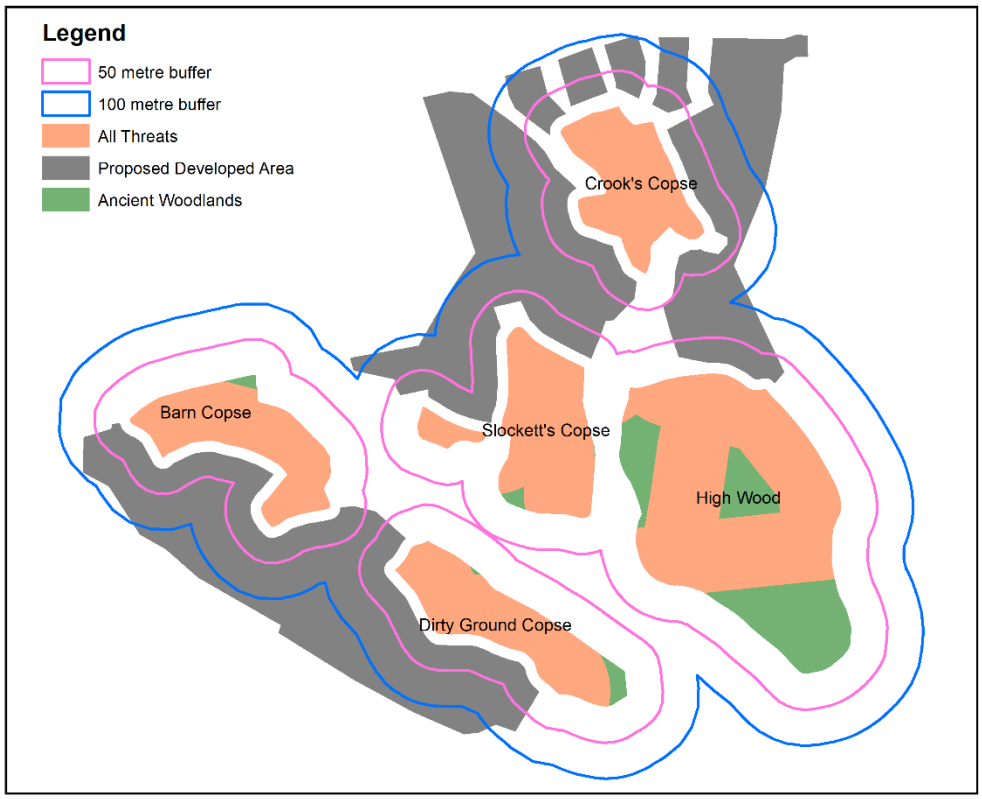

Figure 4. Cumulative potential extent of threats to the Sandleford ancient woodlands and proposed mitigation buffers.

5 - Buffer Size

5.1 Almost all of the potential effect distances described are well in excess of the statutory minimum 15 metre buffer currently proposed. Mindful of the Woodland Trust's view that "locating development further away from ancient woodland will reduce associated disturbance", I support the Planning Authorities recommendation (in Reason for Refusal 8) that this development should be providing 'appropriate and more generous buffers'. Although a case for a buffer of 50m was made out in our SoC and I would regard this as an absolute minimum, further examination has suggested that 100m would be more appropriate to mitigate most of the threats. Given the larger distances quoted in some research even this distance may not altogether remove the threat of 'deterioration'(ref NTTP) of the ancient woodland habitat". The extent of 50 and 100 metre buffers relative to the proposed development is shown in Figure 4.