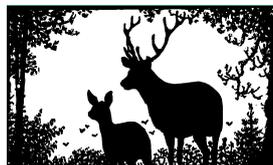


Picture SRL's Hazel Dormice and Badger Strategy for the proposed future development of GA2, incorporating a response to comments and objections raised by Mr Michael McCarrick and Dr Jenny Jones, on behalf of Ms Nikki Hamilton

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1.0 Dormice

1.1 Introduction & Background

- 1.1.1 In Hertfordshire, in recent times, hazel dormice (*Muscardinus avellanarius*) have been considered very rare, if not absent from the county. In 1983, a record of dormice in a bird box in Box Wood on the edge of Stevenage, south of GA2 was made by Mr John Tomkins, a local licensed bird ringer. However, a survey undertaken by The Hertfordshire Mammal Group in 1993 of both Box Wood and the adjacent Herts and Middlesex Wildlife Trust Nature Reserve Pryor's Wood, failed to find any evidence of an extant population of hazel dormice, thus assuming they were now extinct from these two woodlands, and appearing to follow the national and county trend of declines and extinctions.
- 1.1.2 Since this 1983 dormouse record, there have been no confirmed records lodged with the Hertfordshire Environmental Records Centre until the confirmation of hazel dormice in the GA2 site by Keith Seaman of ELMAW Consulting, in 2008. The Hertfordshire Natural History Society's *Hertfordshire Atlas of Mammals, Amphibians and Reptiles 2015-2019* states that hazel dormice are not recorded in Hertfordshire.
- 1.1.3 In 2008, on behalf of Hertfordshire County Council, a number of hedgerows and woodlands including New Spring Wood and Brooches Wood in the northern part of the GA2 site were surveyed for hazel dormice and evidence of dormice was found; three nests were found in three nest tubes within the scrub below the electricity pylons and the hedgerow radiating north from New Spring Wood.
- 1.1.4 In 2010, further hazel dormouse surveys were carried out on behalf of Weston Parish Council by Keith Seaman, aided by local volunteers. This survey focused on 1300m of hedgerows in addition to those surveyed in 2008, plus Nine Acre Spring and Newbury Grove. A hazel nut search was also carried out within Nine Acre Wood and Newbury Grove. No evidence of hazel dormice was found; no nests in nest tubes or typically gnawed hazel nuts were found.
- 1.1.5 In 2017, the entire woodland and hedgerow network within the GA2 site was re-surveyed by ELMAW Consulting, on behalf of Picture SRL. Both nest tubes and wooden nest boxes were used; no evidence of hazel dormice was found and it was assumed that the hazel dormouse population is now locally extinct,

finding limited evidence in 2008 and no evidence in 2010 and 2017. However, as stated in the 2017 *Ecological Evaluation Site GA2*, ELMAW Consulting, whilst the surveys may suggest likely absence, hazel dormice absence cannot be conclusively precluded either.

1.2 Objection Response

1.2.1 Mr McCarrick, in his submission, stated that he was concerned that hazel dormice nesting tubes were being used to survey for hazel dormice, throwing doubt on their reliability as a survey tool and thus questioning the likely negative result. However, according to the *Dormice Conservation Handbook* (Bright et al. 2006), to find evidence of hazel dormice, *nest tubes*, installed at the appropriate density and location, are recommended and good practice guidelines for their use are given. In addition, Natural England's standing advice to local authorities in assessing the impacts of development on hazel dormice, states that the use of hazel dormouse nest tubes is an acceptable method for surveying the species. The late Michael Woods, considered to have been one of the country's hazel dormouse experts, states that dormouse tubes are adequate but should be used in conjunction with dormouse nest boxes. As such, it should be noted that our nest tube hazel dormouse survey of 2010 and 2017 was carried out using dormouse boxes as well as nest tubes. Consequently, Picture SRL consider it wholly appropriate for dormouse nest tubes to have been used for the surveys of GA2.

1.2.2 In Mr McCarrick's submitted objection he stated that in 2019 he found two opened hazel nuts appearing to have been opened by hazel dormice and he concluded that a very small number of dormice are still residing within GA2. This statement we do not necessarily dispute; in the *Ecological Evaluation Site GA2* report, we do acknowledge that because of the very low densities this species can exist at, they can remain under-recorded and their presence missed and, as was stated in the aforementioned report, we cannot preclude their presence within the site. It should be noted however, that Mr McCarrick did not submit his 2019 record of hazel dormice-opened hazel nuts as evidence of presence to the Hertfordshire Environmental Records Centre or the Hertfordshire

County Ecologists for verification, as would be the standard procedure concerning a very rare species considered extinct in the county.

1.2.3 Mr McCarrick also goes on to state his concern over the importance of this declining species and stated that development should not be considered within the areas of New Spring Wood, Brooches Wood or the hedgerow between Nine Acre Spring and Brooches Wood. However, we would confirm that, with the exception of potential hazel dormouse habitat within the proposed access road under the electricity pylons and through New Spring Wood, very little dormouse habitat would be removed, lost or adversely affected within the GA2.

1.2.4 Picture SRL acknowledges concern expressed about the loss of linear parcels of woodland and scrub habitat to facilitate two access roads off Mendip Way and its potential to fragment the hazel dormice population, should they be extant, through the removal of arboreal connectivity and removal of vital habitat between New Spring Wood and Brooches Wood. However, a number of studies have shown hazel dormice do not rely solely on arboreal connectivity for dispersal within their habitat as commonly thought. They will cross open land and importantly, they will cross roads to access adjacent habitats. Dormice radio tracking studies in both northern Germany and the UK (Kelm et.al. 2015) and (Chanin & Gubert 2012) have demonstrated that hazel dormice will cross roads at night of a width of up to 30m in certain circumstances, although 10m appears more usual. Also, in another radio tracking study in Germany, hazel dormice have been shown to cross open farmland to access isolated woodlands and patches of scrub habitat up to a distance of 500m (Buchner 2008). Other studies in the UK and Japan have also demonstrated that dormice will cross arboreal-linking small mammal bridges and vegetated archways suspended over roads or gaps in hedgerows and woodlands to maintain access between two adjacent habitat parcels, aiding their dispersal and colonisation of adjacent habitats and greatly limiting habitat fragmentation (White. 2019) & (Peoples Trust for Endangered Species. Pg8 2009).

1.3 Dormouse Strategy

1.3.1 Picture SLR has a clear strategy to ensure that if hazel dormice are still persisting within GA2, measures would be taken to ensure their favourable conservation status is maintained throughout the GA2 development. This strategy

anticipates that as part of the Environmental Impact Assessment, an Ecological Impact Assessment (EclA) would be completed to support a future GA2 planning application. This will involve a final re-survey of the GA2 to establish with confidence the presence or likely absence of hazel dormice. Should it be found that a relic population still persists on site, tried and tested methods, as proposed in the 2017 Ecological Evaluation Site GA2 will be employed to ensure the maintenance and enhancement of the hazel dormouse population. It is anticipated that these methods will include a lighting strategy that provides dark, unlit corridors buffering woodland edges and hedgerows. In addition, arboreal small mammal bridges and vegetated archways linking woodland and hedgerows and gaps in hedgerows, where considered necessary, will be used and the provision of at least a one-for-one replacement of lost dormouse habitat along with a Management Strategy for the GA2 woodlands, for the benefit of dormice. Such proposed mitigation measures to aid the movement and dispersal of dormice within a large development at North Stoneham Park, Hampshire, similar to GA2 was approved by Eastleigh Borough Council in 2016 (WYG 2017).

- 1.3.2 Ultimately, Picture SRL's strategy, in accordance with the Conservation of Habitats and Species Regulations 2017 (as amended), is to maintain the favourable conservation status of the local hazel dormouse population.

2.0 Badgers

2.1 Introduction & Background

2.1.1 Badgers (*Meles meles*) are considered a widespread mammal, distributed throughout England. The International Union for Conservation (IUCN) as well as the Mammal Society in their publication Red List for England's Mammals 2020 state that, in conservation terms, badgers are categorised to be of 'least concern' (LC). Their population status is considered to be stable and the Mammal Society (2018), considers badgers to be increasing. Their 'least concern' conservation status is further endorsed as this species is not the subject of a UK or local Biodiversity Action Plan and is not listed as a UK Priority Species for Conservation under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. It is however acknowledged that badgers are protected under The Protection of Badgers Act 1992, based primarily on the need to protect badgers from badger baiting, willful ill-treatment, killing or harming and to stop the intentional or reckless interference of badger setts. (Natural England 2011).

2.2 Objection Response

2.2.1 Sub-populations (clans) of badgers are found within and adjacent to the GA2 site with a number of main breeding setts, as indicated in the 2017 Ecological Evaluation Site GA2; badger setts are located within Nine Acre Spring and Brooches Wood within the GA2 and within Newberry Grove, outside the boundary of the GA2 site. The presence of badgers and their main setts within the GA2 site is drawn to the attention of the Planning Inspector by Mr McCarrick and Dr Jenny Jones on behalf of Ms Nikki Hamilton and, other than the ever-changing and evolving status of the denning behaviour of the badgers since the 2017 Ecological Evaluation, their general badger findings are not in dispute.

2.2.2 Concerns are raised by both Mr McCarrick and Dr Jenny Jones on behalf of Ms Hamilton over the potential urbanisation of the badgers, that the presence of the badgers and their setts would conflict with new residents (badgers entering gardens) and that the construction of the access road would result in the destruction of one main badger sett, increase road casualties and result in the loss of foraging habitat.

2.3 *Badger Strategy*

- 2.3.1 Picture SRL are very much aware of their legal obligations to ensure the welfare of badgers within the development of the GA2 site. As with hazel dormice, Picture SRL has a clear strategy to address the ecological requirements of important species such as badgers, through the completion of an Ecological Impact Assessment at the appropriate time, which will be in accordance with both The Protection of Badgers Act 1992 and the National Planning Policy Framework (NPPF). This strategy will ensure, as far as is practicable, the welfare of badgers, the protection of main breeding setts, the limitation of potential conflicts with new residents and the provision of compensation for lost badger foraging habitat. To ensure our mitigation strategy addresses the legal and ecological requirements concerning badgers, Picture SRL will ensure the most up-to-date badger setts and territory baseline data is gathered at the appropriate time, by adopting methods such as Natural England's approved bait-marking studies.
- 2.3.2 It is acknowledged that the development of GA2 will result in a partial urbanisation of the local badger population. Professor Stephen Harris acknowledged in his badger studies in the city of Bristol and surrounding towns in 1981-1982 (Harris 1984), that urban badgers do happily persist in towns and cities often comprising of relic rural populations as a result of new development, but does concede potential conflicts with badgers' access to gardens and the damage they may cause. Where such potential urbanisation conflicts are identified, likely where gardens transect well-worn active badger paths and territory boundaries, badger exclusion fencing will be used at the appropriate locations. Harris et.al. through the publication The Royal Society for the Prevention of Cruelty to Animals (RSPCA) Problems with Badgers, acknowledges potential conflicts with badgers accessing gardens, but importantly, the RSPCA advises that badger fencing of the appropriate specification can help to keep badgers out of gardens. Where gardens may impact on minor badger paths, then diversionary fencing and dark badger corridors along hedge lines, woodland edges and rear gardens will be used. Such corridors are routinely used in development, locally in 2007 and 2011, Three Rivers District Council and Dacorum Borough Council approved the use of green corridors to allow badgers continued access through and around residential developments of the former Old Merchant Taylor School, Croxley Green, Hertfordshire. (Jaquelin

Fisher Associates 2010) and Jubilee Walk, Kings Langley, Hertfordshire. (ELMAW Consulting 2007).

- 2.3.3 Our strategy to address the welfare needs of the local badger population having to cross new roads and to reduce conflict with new residents will include the strategic use of road underpasses (badger tunnels), as well as the use of dark badger corridors; as proposed in the 2017 Ecological Evaluation Site GA2. Natural England's standing advice published in Badgers: surveys and mitigation for development projects. 2015 makes it clear that Natural England do expect the use of mitigation measures such as badger tunnels, or underpasses, maintaining habitat connectivity and badger fencing to reduce impacts on badgers in development schemes. Various studies carried out in the UK and in Portugal (Grilo, Bissonette and Santos-Reis. 2008 and Eldridge and Wynn 2011) demonstrated the effectiveness of badger tunnels under roads when used with badger fencing and when located on active badger paths. Eldridge and Wynn in 2011 reported on the successful use of badger tunnels by the Highways Agency on nine new road and bypass schemes in the counties of Essex, North Yorkshire, West and East Midlands, Cambridgeshire and Berkshire, England - 38 badger tunnels were used and monitoring showed 33 (89%) were being used by badgers on these nine schemes. K. Lankester et. al. stated that the construction of badger tunnels and road fences will probably lead to high survival probability of badgers and territorial bait-marking studies will identify main active badger paths, in part, those associated with boundary marking paths and those closest to main setts, which will inform the locations of badger tunnels and fences. An example where this mitigation measure has been approved locally was in 2018, when East Herts District Council approved Hertfordshire County Council's proposed realignment of Ware Road, A602, Watton at Stone, Hertfordshire, which included the use of badger tunnels with appropriate fencing to allow badgers to pass safely under the new road.
- 2.3.4 As discussed in the 2017 Ecological Evaluation Site GA2 report, a lighting strategy will be developed that reduces the illumination and light spillage on hedgerows and woodland edges; this is particularly important where nocturnal species such as badgers, bats and dormice are present and are currently utilising such landscape features. When the baseline data pertaining to the badger clan territories is mapped using the bait marking method and the detail

is known, then the use of dark corridors can be specified within the Ecological Impact Assessment, to inform the GA2 design.

- 2.3.5 Picture SRL acknowledges that whilst no woodlands supporting main badger setts are to be directly significantly impacted by the GA2 development, some arable land surrounding these woodlands will be lost. Important woodland badger foraging habitat will remain generally unaffected directly by the development, however it is acknowledged that some foraging within the arable land is to be affected and will be lost. However, a preliminary badger territory mapping exercise using the Dirichlet Tessellation method (Roper 2010), suggests that no badger territories will be wholly encapsulated within the proposed GA2 built development and that all four badger clan territories extend outside the GA2 boundary into the arable fields and woodlands beyond. The indicative Masterplan proposes the creation of large areas of grassland not only as wide-open spaces and extensively under the electricity pylons, but as swales, buffering zones of hedgerows and woodland edges on what is now currently intensively managed arable land. Our strategy is that these proposed new areas of grassland will mitigate the loss of the sub-optimal badger foraging habitat of these arable fields and provide new and enhanced badger feeding and foraging habitat.
- 2.3.6 The loss of a main sett within scrub between New Spring Wood and Brooches Wood, through the proposed new access road has been assumed by Ms Hamilton, Mr McCarrick and Dr Jenny Jones on behalf of Ms Hamilton. However, Picture SRL do not predict that this sett would be lost due to the proposed new access road. This sett is located below the electricity pylons, 35-40m from the extent of the road works, within a 65m wide scrub corridor between the two woodlands. The adjacent outlier sett lies over 20m from the extent of the road works. The distance from a sett that adverse impacts (such as the construction of a new road) may occur and when a subsequent Protection of Badgers Act 1992 disturbance licence would be required is currently 20m (Natural England 2011). Both setts are likely to be outside the 20m licensable zone, negating the loss of either sett.

3.0 Conclusion

- 3.1.1 Picture SRL has a clear strategy to address the concerns raised regarding the impacts of the GA2 development on important species such as dormice and badgers as well as bats. As presented in the 2017 Ecological Evaluation Site GA2, Picture SRL will ensure the favourable conservation status of hazel dormice (should it be found they are still extant) will be maintained, and the welfare and conservation of the extant badger clans of the GA2. Industry standard methods, mitigation and compensatory measures will be used to inform the design of the development and specified according to the results and requirements of the Ecological Impact Assessment and will be wholly appropriate and in accordance with The Protection of Badgers Act 1992, The Conservation of Habitats and Species Regulations 2017 (as amended), the National Planning Policy Framework and local Planning Policy NE5.

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