

THE SIZEWELL C PROJECT

(EN010012)

DEADLINE 5

POST HEARING SUBMISSIONS INCLUDING WRITTEN SUBMISSIONS OF ORAL CASE SUBMITTED BY THE HEVENINGHAM HALL ESTATE

TERRESTRIAL ECOLOGY

(INTERESTED PARTY NUMBER: 20026675)

1 Introduction

- 1.1 The Heveningham Hall Estate (the **HHE**) appeared at Issue Specific Hearing 7 (**ISH7**) Part 1 held on 15 July 2021 and made oral submissions in respect of the following agenda items concerning terrestrial ecology:
- (a) Agenda Item 2(c): Minsmere Marsh Harriers, including the proposed compensatory measures;
 - (b) Agenda Item 2(d)(ii): Recreational pressure on European sites;
 - (c) Agenda Item 2(g): Ancient woodland.
- 1.2 This document summarises and expands on the arguments made by the HHE before the Examining Authority (**ExA**) at ISH7 Part 1. It also includes the HHE's submissions in respect of Agenda Item 2(e) regarding protected species.
- 1.3 References to documents followed by "EXL" and then a reference number (e.g. **EXL AS-107**) are references to the document's unique Examination Library reference.

2 Minsmere Marsh Harriers

- 2.1 NNB Generation Company (SZC) Limited's (the **Applicant's**) approach of providing terrestrial compensatory habitat for Marsh Harriers is novel and insufficiently certain to meet the test for compensation under Regulations 64 and 68 of The Conservation of Habitats and Species Regulations 2017 (as amended) (the **Habitats Regulations**).
- 2.2 As Mr Trowmans QC, appearing for the Applicant, confirmed the approach to Regulations 64 and 68 of the Habitats Regulations is well established. As the Court of Justice of the European Union (**CJEU**) held in C-164/17 *Grace and Sweetman v An Bord Pleanala* (which is retained EU Law for the purposes of section 6 of the European Union (Withdrawal) Act 2018) at paras. 51-51:

51. It is only when it is sufficiently certain that a measure will make an effective contribution to avoiding harm, guaranteeing beyond all reasonable doubt that the project will not adversely affect the integrity of the area, that such a measure may be taken into consideration when the appropriate assessment is carried out (see, to that effect, judgment of 26 April 2017, *Commission v Germany* C-142/16, EU:C:2017:301, paragraph 38).

52. As a general rule, any positive effects of the future creation of a new habitat, which is aimed at compensating for the loss of area and quality of that habitat type in a protected

area, are highly difficult to forecast with any degree of certainty or will be visible only in future (see, to that effect, judgment of 21 July 2016, *Orleans and Others*, C-387/15 and C-388/15, EU:C:2016:583, paragraphs 52 and 56 and the case-law cited).

- 2.3 Unsurprisingly, the favoured or optimal foraging habitat for Marsh Harriers is marshland/wetland. This was agreed by the Applicant in oral evidence, and is stated expressly by Natural England in its Relevant Representation (Part II, key issue 27 pdf p.83 **EXL RR-0878**) and the Applicant in section 3.2 of its Marsh Harrier Habitat Report (**EXL REP2-119**). The compensation proposed by the Applicant, however, replaces 100 hectares of wetland with roughly 47 hectares of habitat, of which 4.39 hectares is now proposed to be wetland following Change 5.
- 2.4 This approach is based on the fact the proposed compensatory area identified by the Applicant (roughly half the size of the land that the Applicant has identified in the Shadow Habitats Regulations to be “lost” in functional terms for foraging Marsh Harriers throughout the construction period) cannot be used as wetland for geological reasons and the Applicant has been unwilling to consider alternative locations (see Natural England’s Relevant Representation Part II, key issue 27 **EXL RR-0878**).
- 2.5 These factors have prompted the Applicant to adopt the entirely novel approach of compensating for the loss of wetland foraging habitat with terrestrial foraging habitat on the assumption that providing suitable habitat for prey species for Marsh Harriers will increase the availability of prey and in so doing, provide effective compensation. So far as the HHE is aware this approach has never been undertaken, subject to scientific study or even attempted to determine its effectiveness in providing compensatory Marsh Harrier foraging habitat. According to Natural England it has not previously been attempted (see Part II, key issue 27 **EXL RR-0878**).
- 2.6 The Applicant’s novel approach of replacing wetland with terrestrial habitat is based on: (1) a simple metric that essentially relates to the number of prey species supported by the area of terrestrial habitat; and, (2), the assumption that if that number of terrestrial prey species is present it will be sufficient to compensate for the loss of wetland in terms of foraging. The HHE has the following serious concerns about this approach:
 - (a) Firstly, the published evidence that the Applicant appears to have relied on is the Underhill-Day study from 1985.¹ This report explains that a significant proportion of Marsh Harrier prey comprises waterbirds, which will not be supported by the terrestrial habitat (see page 13 of the Marsh Harrier Habitat Report at **EXL REP2-119**). If anything, that militates against the approach taken by the Applicant. Certainly it does not achieve certainty;
 - (b) Secondly, and importantly, the Underhill-Day study (1985) is clear that Marsh Harrier prey species are seasons specific. This means that while there are adult birds and mammals that might be supported by a terrestrial habitat and which are important to Marsh Harriers between April to May, later in the year water birds provide an increasing proportion of their prey and these species are not supported by a terrestrial environment. In short, a terrestrial habitat will not support suitable prey species for Marsh Harriers all year round;
 - (c) Finally, the Applicant’s assumptions regarding the provision of prey ignore the ecological reality; namely that the viability of foraging habitat is a complex multifactorial question, which turns on more than the ability of a habitat to sustain a quantity of prey species. For example, the Applicant’s approach overlooks competition from other predators, such as foxes, for prey. Foxes will prey on terrestrial prey species such as rabbits, thereby creating competition but will not compete for wetland birds. Leaving aside the test of *certainty* which the Applicant is required to meet, the approach of its witness Dr Murray Grant, which was simply to assert (without any scientific basis) that he could “see no reason” why there would be a difference in competition for prey in wetland and terrestrial habitats, given their obvious differences and the obvious difference of the species which inhabit them. Not only does the Applicant appear to have glossed over the complexities involved, it has not commissioned its own research into the foraging habits of Marsh Harriers in Minsmere (see

¹ Available at https://britishbirds.co.uk/wp-content/uploads/article_files/V91/V91_N06/V91_N06_P210_218_A058.pdf.

page 16, Section 4 of the Marsh Harrier Mitigation Area Feasibility Report (**EXLR APP-260**)). Instead, the Applicant has relied on the Underhill-Day Study (1985), which if anything undermines its position. In short, the provision of terrestrial habitat with a limited amount of marshland to compensate for the acknowledged loss of Marsh Harrier foraging habitat of over 100 hectares of marshland throughout the construction period does not meet the test of certainty under Regulations 64 and 68 of the Habitats Regulations.

- 2.7 The HHE's concerns highlighted above are particularly important given the Applicant does not appear to have an alternative solution should its approach fail. This is illustrated by Table 2.1 of the Terrestrial Ecology Monitoring and Mitigation Plan (see page 12 of **EXL REP1-016**), which sets out the monitoring measures to be undertaken to assess whether the terrestrial compensatory habitat is effective. Firstly, the level and type of monitoring suggests that the Applicant's own view is that its approach is subject to scientific uncertainty, the effect of which is that it does not meet the test under Regulations 64 and 68 of the Habitats Regulations. Secondly, the column setting out potential interventions should the foraging habitat compensation scheme be lacking refers to the deployment of additional terrestrial habitat i.e. the Applicant proposes to "do more of the same". Yet this solution overlooks the myriad of reasons why the terrestrial compensatory habitat might have been unsuccessful in the first place. The upshot is that should the Applicant's monitoring identify issues, there is a significant risk nothing can be done to effectively address the problem. For these reasons, the level of uncertainty associated with the Applicant's novel approach to compensatory foraging habitat means the statutory test under the Habitats Regulations cannot be satisfied. While the Applicant has provided a fallback option should the ExA / Secretary of State consider it to be required (at Westleton), this suffers from the same fundamental issues as outlined above. It is no answer to the fundamental defects in the Applicant's approach.
- 2.8 At ISH7, the Applicant sought to reject the idea that its approach to the provision of terrestrial foraging habitat was novel and the implication that the proposals would not work. Dr Murray Grant on behalf of the Applicant highlighted that Marsh Harrier do not exclusively rely on wetland habitat and he did not consider the creation of foraging habitat on dry habitat to be "a problem". If habitat is created that increases the food supply, Dr Grant asserted, Marsh Harriers will go there to forage, particularly since the compensatory habitat is located adjacent to existing wetland foraging habitat. With regard to competing predators, again Dr Grant baldly asserted that he did not anticipate any issues and could not foresee why an increase in prey on the compensatory habitat would make predators more likely to focus on prey in that area, as opposed to prey in the Minsmere South Levels. Dr Grant did however admit that he was not aware fox densities in the area.
- 2.9 The Applicant has undertaken to provide a written response to the legal points raised by the HHE in its submission under this agenda item, which the HHE looks forward to receiving after Deadline 5. In the meantime, the HHE notes that Dr Grant appears fundamentally to have misunderstood, or at the very least failed to answer, the point being made by the HHE at ISH7:
- (a) First, the HHE does not deny that Marsh Harriers can forage in a range of habitats and can adapt. The HHE has also not said the terrestrial compensatory habitat proposals will fail in their infinity. Rather, the HHE's concern is that the approach being taken is entirely novel. Whilst Dr Grant denied that, his suggestion to the contrary is untenable. There is simply no evidence that the approach proposed works. It has never been tried before, and there is no evidence to demonstrate beyond reasonable doubt that it will succeed. The piece of research relied upon by the Applicant is a single study from 1985 that, on analysis, undermines rather than supports the Applicant's approach. This falls far short of the test of certainty, which is what is required;
 - (b) Second, the Applicant has not addressed the HHE's comments regarding the seasonality of Marsh Harrier prey supported by terrestrial habitat, which is evidence by scientific research in the form of the Underhill-Day study;
 - (c) Thirdly, Dr Grant's refusal to acknowledge even the possibility that the final outcome may differ from the Applicant's theory is concerning, given the Applicant's back up plan in the event problems is to introduce more terrestrial habitat. Habitat creation is as the CJEU

explained “highly difficult to forecast with any degree of certainty” (see C--164/17 *Grace and Sweetman* para. 52). This approach to habitat creation has not even been tried or tested. Even if the new habitat successfully attracts prey species, Marsh Harriers, as another Interested Party eloquently put it, are not a “*herd of cows*”. Dr Grant’s admission that he is not familiar with local fox densities serves to highlight the HHE’s argument that the Applicant does not appear to have grappled with the range of factors in play properly, including the existence of competing predators. It has worked on the basis of assumption rather than taking a precautionary approach which achieves certainty beyond all reasonable scientific doubt, which is what the Habitats Regulations require;

- (d) Finally, it is too simplistic to treat prey species located in the Minsmere South Levels and the terrestrial compensatory habitat as being of equal attraction to competing predators. While some predators may forage in both terrains, others will restrict their hunting to a particular type of habitat. There are obvious differences in the predators capable of foraging in wetland and terrestrial habitats.

- 2.10 Overall, the approach taken by the Applicant to compensatory foraging habitat for marsh harriers falls long short of the certainty beyond reasonable scientific doubt required by the Habitats Regulations. It is seeking to rely on a novel approach, which it admits is sub-optimal, in the absence of any study or scientific evidence capable of providing the certainty required.

3 Recreational pressure

- 3.1 The HHE raised two points in response Mr John Rhodes’ (the Applicant’s planning consultant) submission that the Applicant has adopted a precautionary approach to the assessment of recreational pressure on European sites. The HHE disagrees with his characterisation for the following reasons:

- (a) Firstly, the age of the Applicant’s survey data means insufficient account has been taken of change since 2014, not just in terms of population numbers but also lifestyle changes, particularly over the course of the past two years when outdoor exercise has increased in light of the pandemic;
- (b) Secondly and more importantly, the Applicant has given insufficient consideration to in combination effects with other development and the cumulative pressure that will be put on recreational use of Special Areas of Conservation and Special Protection Areas.

4 Protected species

Overview

- 4.1 The approach adopted by the Applicant in respect of protected species at the Northern Park and Ride (**NPR**) and Yoxford Roundabout (**YR**) sites is not robust and is based on incomplete and partial survey information. There is a need for much more detail regarding the proposed avoidance and mitigation measures to provide any confidence that they will adequately address potential adverse effects. In particular, the HHE has significant concerns regarding the assessment of impacts on Great Crested Newts (**GCN**) and bats at the NPR and Sandy Stilt Puffball at the YR.

GCN at the NPR

- 4.2 As GCN are known to be present in on-site Pond 78 at the NPR, a European Protected Species mitigation licence from Natural England is required. The survey work undertaken by the Applicant to date, however, is too inadequate to assess potential effects arising from the NPR fully and in Ecology Solutions’ view there is doubt as to whether Natural England would grant a licence. As detailed below, the Applicant is currently relying on out of date, incomplete data and assumptions to inform its assessment of potential impacts, and in turn identify the mitigation required to avoid harm.

- (a) Firstly, the Applicant's survey data is out of date, with comprehensive aquatic surveys for GCN last undertaken in 2015 (6 years ago). Updated survey work undertaken in 2019 and 2020 constitutes only individual presence / absence surveys of selected ponds. While these have duly confirmed that newts are still present within on-site Pond 78, the eDNA survey methodology does not provide any useful information regarding population size, even in terms of how many newts are present within the on-site pond. It simply confirms that they are still present.
- (b) Secondly, the Applicant has been forced to rely on various assumptions, as it was unable to survey a number of off-site waterbodies situated between the NPR and the A12 (see Figure 7.4 of the Environmental Statement at **EXL APP-365**) in 2015 due to a lack of access. It remains unclear whether the Applicant sought to re-survey these waterbodies in either 2019 or 2020 when undertaking updated surveys. The current use of assumptions in the absence of concrete data leads to uncertainty.
- (c) Finally, the Applicant has scoped out eight waterbodies to the east of the NPR on the basis the A12 represents a substantial barrier to GCN movement. The closest of these is Pond 92, located around 130 metres to the east of the site boundary. While the HHE accepts that the A12 would inhibit the movement of newts, the A12 does not represent a fundamental barrier which would prevent them from crossing the road. The A12 is a single carriageway road, no more than 15 metres in width including the footpath, which will be much quieter at night (when newts are active) and does not possess 90 degree kerbs that prevent newts from crossing. In Ecology Solution's opinion the Applicant should have surveyed or at least sought access to survey Pond 92 to ensure a proper understanding of the newt population. Instead, the Applicant seems to have summarily scoped out the need to undertake surveys of any waterbodies to the east of the A12.

4.3 Given the unknowns regarding the baseline detailed above, the Applicant should adopt a precautionary approach to mitigation for the following reasons:

- (a) If the Applicant is correct in its assumption that the A12 effectively constitutes a complete barrier to GCN movements, it follows that the terrestrial habitats used by newts throughout the year (when they are not breeding during the Spring) can only be situated to the west of the A12 alongside the boundary of the NPR site. This means the GCN population is even more reliant on habitats within the NPR site (for example the field margins) and adjacent gardens and ponds for its long term survival;
- (b) The Applicant's conclusion that on-site Pond 78 and the unsurveyed off-site waterbodies between the NPR site and the A12 support a moderate population of newts is essentially based on aquatic surveys of a single pond (Pond 78) undertaken in 2015. If these ponds do in fact support a large population, which is eminently possible given the age and inadequacy of the current data, then it is even more likely that these newts would utilise terrestrial habitats within the NPR site.

4.4 In light of the above, there is doubt as to whether current mitigation proposals are adequate.

- (a) Firstly, while application documents indicate that the on-site pond that supports GCN (Pond 78) is to be retained with a 10 metre buffer between the pond and construction works, neither the Environmental Statement (**EXL APP-363**),² nor the latest Mitigation Route Map (**EXL REP2-058**) provide details as to what is to be provided within the buffer. The Site Clearance Plan (**EXL AS-124**) and Proposed Landscape Masterplan (**EXL AS-124**) also suggest that some works will be undertaken within the 10 metre buffer;
- (b) Secondly, there is some uncertainty as to whether enhancements to the on-site pond, proposed as part of the avoidance and mitigation strategy, will actually be delivered, since the Ecology Chapter of the Environmental Statement (**EXL APP-363**) notes that these proposals will need to be agreed with the landowner, with alternatives to be put forward if

² Chapter 7 (Terrestrial Ecology and Ornithology) of Volume 3 (Northern Park and Ride).

consensus cannot be reached. If the ExA is unable to assess any of these 'alternative measures' at this point in time, then it cannot determine whether the measures are adequate.

Bats at the NPR

- 4.5 With the exception of an updated ground-level appraisal, the Applicant is forced to rely on survey work from 2014 and 2015 to determine the value of the NPR site for both roosting bats and also commuting and foraging bats. This problematic for two reasons:
- (a) the use of any given site by bats could have changed significantly in the last five to six years. Without current data there is no way of knowing;
 - (b) in the absence of scientific certainty, there is no alternative but to adopt a precautionary approach that assumes the NPR site may be used by light-sensitive bat species such as Barbastelle for roosting, commuting and foraging. In this regard, the HHE notes that surveys from 2015 identified the potential presence of a Barbastelle roost within Little Nursery Wood which lies immediately to the west (see Table 1.16 of **EXL APP-364**, page 59).
- 4.6 While the Applicant has undertaken updated tree climbing surveys for other associated sites (**EXL RE2-121**), the NPR site was scoped out on the basis no trees are to be felled. This suggests that the Applicant's methodology focuses solely on those trees to be physically removed and ignores trees that could be directly affected in other ways, for instance due to an increase in artificial lighting in connection with the NPR. Presumably, the Applicant's approach assumes the impact of artificial lighting may be appropriately mitigated; however, this confidence is not shared by the HHE. The latest proposed measures included in the Mitigation Route Map (latest version **EXL REP2-058**, references NPR-TE1 and NPR-TE2) are generic in nature and in Ecology Solution's opinion do not provide sufficient clarity to demonstrate that impacts will be avoided and mitigated. Instead, far more information is required in relation to monitoring and critically, the mechanisms to be adopted should lighting levels exceed identified thresholds, thereby potentially causing adverse impacts to bats and other nocturnal species. In this regard, the HHE notes the Applicant's contrasting approach to lighting management in relation to the Main Development Site (see the Technical Note on Indicative Lighting Model at **EXL REP3-057**). Given the uncertainty regarding the baseline for the NPR site and the presence of bats, it is unclear why the Applicant has not produced a similar document for the NPR. As a bare minimum more detailed work is needed to demonstrate that any adverse effects associated with artificial lighting can and will be avoided.

Sandy Stilt Puffball

- 4.7 The YR site is located immediately adjacent to Roadside Nature Reserve 197, designated on account of the species Sandy Stilt Puffball. This is a rare species afforded legislative protection under Schedule 8 of the Wildlife and Countryside Act 1981 (one of only four fungi there listed) and is a Priority Species for Suffolk. The Applicant's Environmental Statement notes that this is only found in approximately 30 sites in the UK (paragraph 7.4.5 of **EXL APP-494**)³ and is therefore acknowledged by the Applicant itself to be of 'national' importance.
- 4.8 To date the Applicant's only Sandy Stilt Puffball surveys at the YR site were undertaken in Spring, and therefore at the wrong time of year to record the fungus (paragraph 1.5.14 of **EXL APP-495**).⁴ This is surprising given the acknowledged importance of the fungus and the fact the Applicant recognises that the YR site itself supports a suitable habitat for this species. In Ecology Solution's opinion the Applicant has not therefore satisfactorily verified whether this protected species is present at the YR site. This is concerning, since works to construct the Yoxford Roundabout will entail the permanent loss of habitat. At this point in time, it is therefore unclear whether the

³ Chapter 7 (Terrestrial Ecology and Ornithology) of Volume 7 (Yoxford Roundabout and Other Highway Improvements).

⁴ Appendix 7A (Ecological Baseline and Method Statement) to Chapter 7 (Terrestrial Ecology and Ornithology) of Volume 7 (Yoxford Roundabout and Other Highway Improvements).

Applicant's scheme will result in direct adverse impacts to a protected and by all accounts extremely rare species.

- 4.9 Moreover, the Applicant's Dust Risk Assessment incorrectly concludes that "there are no sensitive habitats within 500m of the proposed [Yoxford Roundabout] development site" (paragraph 1.1.1 of **EXL APP-488**). The potential for indirect effects resulting from dust and air quality impacts on the Sandy Stilt Puffball have been entirely overlooked.

5 Ancient woodland

- 5.1 The value attributed to Little Nursery Wood by the Applicant – located to the immediate west of NPR site – is inconsistent. As highlighted by Simon Taber, an ecological consultant and director at Ecology Solutions, acting on behalf of the HHE at ISH7 Part 1:
- (a) there are discrepancies within the Applicant's application documents. The original Phase 1 habitat survey completed by Amec in 2011 and included as an annex to Appendix 7A (Ecological Baseline and Method Statement) to Volume 3, Chapter 7 of the Environmental Statement)⁵ advises that Little Nursery Wood is "thought to be a remnant of ancient semi natural woodland, due to the mature broadleaved tree stands and varied ancient woodland indicator ground flora; ancient woodland and replanted ancient woodland sites Sillett's Wood (CWS) and Willowmarsh Wood are also within close proximity" [underlining added]. Yet, notwithstanding this conclusion from 2011, within the body of Appendix 7A at paragraph 1.5.12 the Applicant advises: "Little Nursery Wood is not recorded on the ancient woodland inventory and is therefore likely to be of recently relative origin".⁶ These inconsistencies within Appendix 7A and its annexes create uncertainty in terms of the value attributed to the woodland by the Applicant, both in the context of the NPR site and the wider area;
 - (b) updated habitat survey work completed by the Applicant in 2020 does not resolve any inconsistencies within the application documents and if anything further undermines confidence in the Applicant's baseline assessment of Little Nursery Wood. This is due to the fact descriptions of vegetation types and species within the 2020 Ecology Survey Report (**EXL AS-036**) do not align with descriptions included in earlier application documents.
- 5.2 Given the uncertainty surrounding Little Nursery Wood's status as ancient woodland, the Applicant should adopt a precautionary approach. The current mitigation proposals outlined in the Landscape Master Plan (**EXL AS-124**) are inadequate, consisting of a 20 metre grassland buffer. Natural England's guidelines⁷ recommend that ancient woodland buffer zones consist of a mosaic of habitats that are complimentary, which in this case would include woodland, a mix of scrub grassland, heathland, wetland and planting. A buffer consisting solely of grassland also offers little to mitigate against noise disturbance and lighting in connection with the NPR, which may affect protected species such as bats (see above comments).
- 5.3 The Applicant agreed to respond to the above points and inconsistencies highlighted by the HHE in writing, which HHE looks forward to receiving following Deadline 5.

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⁵ Paragraph 4.1.2 of Annex 7A.3 (Phase 1 Habitat Survey 2011) to Appendix 7A (Ecological Baseline and Method Statements) of Chapter 7 (Terrestrial Ecology and Ornithology) of Volume 3 (Northern Park and Ride) of the Environmental Statement (**EXL APP-364**).

⁶ Paragraph 1.5.12 of Appendix 7A (Ecological Baseline and Method Statements) of Chapter 7 (Terrestrial Ecology and Ornithology) of Volume 3 (Northern Park and Ride) of the Environmental Statement (**EXL APP-364**).

⁷ <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>.