Cleve Hill Solar Park

DCO Application Reference EN010085

Answers to the Examination Authority's written questions and requests for information (ExQ1) from

Kent Wildlife Trust

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1.1.1. Are Natural England, Kent Wildlife Trust, RSPB and the Local Authorities content with the approach to defining study areas for wildlife surveys and assessment in Chapter 8 of the Environmental Statement [APP-038] and the appended survey reports?

Are the same parties content with the explanation of how the zone of influence for ornithological study and assessment was determined, especially in relation to the functional linkage identified between affected habitats on the development site and interest features of the Swale SSSI, SPA and Ramsar site (Chapter 9 of the Environmental Statement [APP-039] and the RIAA [APP-026])?

The answer to both these questions, having had regard to proportionality, is yes. While the bird populations present clearly move in and out of the survey area, and studying these wider movement may give a clearer understanding of the relative importance of the application site to the SPA as a whole, the key areas (adjacent intertidal including eel-grass beds, grazing marsh) have been included, and a suitable method (i.e. 'peak-mean') has been proposed to assess and mitigate the impacts. Questions remain regarding the mitigation (considered elsewhere), but we think it unlikely that this could be dealt with by increasing the survey area.

1.1.4. Are Natural England, Kent Wildlife Trust, RSPB and the Local Authorities content that the various 2015 protected species surveys, some of which were carried out in accordance with subsequently updated guidance, and the 2016 breeding bird and flight activity surveys are sufficiently up to date to facilitate an accurate assessment, noting the timing and results of the updated phase 1 habitat survey in February 2018?

The protected species surveys should be updated in line with the guidance[1] and licencing requirements. We understand the Applicant is aware of this and is undertaking updated surveys.

1.1.8. In relation to potential bird mortality or injury through collision with solar panels or fences, are the Applicant, Natural England, Kent Wildlife Trust, RSPB or the Local Authorities aware of any relevant monitoring studies at existing solar farm sites?

Kent Wildlife Trust is not aware of any monitoring studies at existing east-west solar farm sites. The most recent review of the literature we are aware of, Taylor *et al.* (2019)[2], identifies some risk, but acknowledges the need for more research across all types of solar array.

1.1.27. Are Natural England, RSPB or Kent Wildlife Trust aware of any types of inter-species competition or interaction that might restrict the capability of the area to support the necessary density of all three species of birds? Do Natural England, RSPB or Kent Wildlife Trust consider that any additional evidence is required from the Applicant in this regard?

As geese feed on vegetation and the plovers (lapwing and golden plover) feed on invertebrates there should be no direct competition between these groups. However, as there will be competition between geese and some of the invertebrates (those that feed on grass, and by

[1] For example https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications#standing-advice-for-protected-species Accessed: 24/6/19

[2] Taylor, R., Conway, J., Gabb, O. & Gillespie, J. (2019). Potential ecological impacts of ground-mounted photovoltaic solar panels. https://www.bsg-ecology.com/wp-content/uploads/2019/04/Solar-Panels-and-Wildlife-Review-2019.pdf

extension those that feed on grass-feeding invertebrates), it is possible that geese can reduce the amount of invertebrate prey available to the plovers. While there is evidence as to the negative effect of geese grazing on invertebrate populations[3,4] these studies, being of hyper-abundant Arctic-geese, are not directly applicable to Cleve Hill.

Having regard to the lack of coincidence between Brent goose and the two target waders (golden plover and lapwing) in the same fields at the same time, Kent Wildlife Trust has not found any studies that would explain this.

Of greater concern are assumptions made regarding interactions between lapwing and golden plover as applied to the mitigation area. We copy the relevant section of our Written Representation below:

The Ornithology Technical Appendix (APP-223) sets out the case for using 1,560 and 1000 bird-days/ha as a measure of the capacity of the Brent goose mitigation area for golden plover and lapwing respectively (paragraphs 129-131). These figures come from a study of a 2,063 ha mixed arable area, and arise from a '*sum of the field areas weighted by their frequency of occupancy.*[5]' As such they are a measure of the preferential use of certain fields within a wider arable landscape, and should be used with caution. A number of studies have suggested that these species feed opportunistically on a range of open habitats (arable and grassland types) within a landscape, probably determined by prey availability and field size (E.G. Mason & Macdonald (1999)[6]).

Paragraph 133 of the Ornithology Technical Appendix (APP-223) concludes that there is a shortfall in provision for lapwing, but states "*Lapwing and golden plover overlap to a large extent in their foraging requirements, feeding on similar invertebrate prey, and therefore assuming they are interchangeable, the AR HMA would support more lapwing-days if there are fewer golden plover-days to support.*" This assumes that there is competition between the two species, and the bird-day figures used as a starting point were limited by this competition. This does not appear to be supported by the literature.

Fuller & Youngman (1979)[7] state that "*Both species frequently occurred in the same field when feeding and roosting, but the fact that general field preferences were the same does not rule out the possibility of a more subtle habitat segregation, such as preference for different soil conditions. On occasions we observed that Golden Plovers tended to feed on the higher parts of fields occupied by the two species. Such differences may be linked to varying diet, which is perhaps the most probable means of ecological separation in winter.*"

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[3] Sherfy, M.H. & Kirkpatrick, R.L. (2003) Invertebrate response to snow goose herbivory on moist-soil vegetation *Wetlands* 23: 236. https://doi.org/10.1672/3-20

[4] Scott A. Flemming, Erica Nol, Lisa V. Kennedy, Paul A. Smith, (2019). Hyperabundant herbivores limit habitat availability and influence nest site selection of Arctic-breeding birds. *Journal of Applied Ecology* 56 (4), 976 - 987

[5] Gillings, S., Fuller, R.J. and Sutherland, W. (2007). Winter field use and habitat selection by Eurasian Golden Plovers *Pluvialis apricaria* and Northern Lapwings *Vanellus vanellus* on arable farmland. *Ibis* 149: 509-520

[6] C.F. Mason & S.M. Macdonald (1999) Habitat use by Lapwings and Golden Plovers in a largely arable landscape, *Bird Study*, 46:1, 89-99, DOI: 10.1080/00063659909461118

[7] R. J. Fuller & R. E. Youngman (1979) The utilisation of farmland by Golden Plovers wintering in southern England, *Bird Study*, 26:1, 37-46, DOI: 10.1080/00063657909476615

Gregory (1987)[8] states that "…*Thompson* (1983) *speculated from his results that Golden Plovers may peck for prey at shallower soil depths than Lapwings, so reducing inter-specific competition.*" In Barnard & Thompson (1985)[9], it is stated that "*In the absence of gulls, golden plovers have no significant effect on lapwing time budgeting and feeding efficiency.*" The above papers suggest that golden plover avoid direct competition with Lapwing, and therefore their presence makes little difference to the availability of food for lapwings. The exception to this is when lapwing are under pressure from black-headed gulls, who steal their food. While black-headed gulls were recorded during the Cleve Hill bird surveys, it is not stated if they were acting in such a way.

More evidence is needed to back up the assumption made in paragraph 133 of the Ornithology Technical Appendix, or additional mitigation for lapwing needs to be identified.

1.1.30 Are Natural England, RSPB, Kent Wildlife Trust and other nature conservation interests content that the Outline LBMP [APP-203] and draft Requirement 4 in the dDCO [APP-016] form a sound basis for ensuring that the necessary mitigation would be secured through any DCO or do they consider that there should there be more detail and assurance on the timing of seeding and establishment in the Outline LBMP?

From our Written Representation:

The Landscape and Biodiversity Management Plan (LBMP) sets out how the mitigation and enhancements for species and habitats will be achieved, and is therefore a key document. It needs to give confidence that the desired outcomes can be achieved, while giving enough flexibility to tweak the management in response to monitoring if necessary, and also provide enough certainty for the purposes of the Habitats Regulations. As the document currently stands, it lacks sufficient detail to give confidence that it can meet these aims.

In particular, we would like to know how the Applicant proposes to control grazing densities within the perimeter fencing. At present, the LBMP treats the area within the perimeter fences as single compartments, but as can be seen from Habitat Management Areas figure (Figure 9.3 within APP-056) these areas can be divided into the ditches and buffers that are proposed to mitigate impacts on marsh harriers, and grassland under solar panels. It can be expected that outcomes between these two areas for any given grazing density (for the combined area) will be different, owing to the different growing conditions between them and behaviour of grazing stock. Another consideration is the prevention of poaching of ditch banks. We therefore consider it necessary to be able to control the grazing density between these areas separately. The provisions for grazing within the LBMP also need to be robust enough to avoid being compromised by commercial grazing interests.

We would also like to see more information regarding control of water levels within the LBMP. To achieve some of the aims of the document with regard to ditches and associated habitats, water levels will need to be raised. It may also be necessary to differentially control water levels in different areas of the site. We have started to progress this issue with the Applicant via the Habitat Management Steering Group, and will be providing more specific

[8] Richard D. Gregory (1987) Comparative winter feeding ecology of Lapwings *Vanellus vanellus* and Golden Plovers *Pluvialis apricaria* on cereals and grasslands in the Lower Derwent Valley, North Yorkshire, *Bird Study*, 34:3, 244-250, DOI: 10.1080/00063658709476968

[9] Barnard, C.J. & Thompson, D.B.A. (1985) Gulls and Plovers: The Ecology and Behaviour of Mixed-Species Feeding Groups. Publ. Croom Helm, London

recommendations to them, particularly where it has a direct influence on water levels within the Special Protection Area.

We also have to consider how deliverable the LBMP is. Specifically, we would like reassurance that the manure required for the plan is likely to be available. As it is claimed that this 'dunging' will also benefit invertebrates (on which lapwing and golden plover feed), we assume the Applicant will be sourcing it from ivermectin-free cattle, owing to the negative effects of this on invertebrates[10]. The same concern (ivermectin-free cattle) should be considered where grazing is part of the LBMP.

1.1.45. Are Kent Wildlife Trust, Natural England and the RSPB content that the LBMP is an appropriate means of securing the monitoring of the Habitat Management Areas and provision of any necessary remedial measures?

We have considered the content of the LBMP in ExQ1.1.30 and we feel it is difficult to separate this question from that one. The phrase 'necessary remedial measures' introduces uncertainty into the proposals, and as we state in our answer to ExQ1.1.30 while flexibility to 'tweak' management is a good idea, the starting point needs to be a degree of certainty that the aims will be achieved, particularly with regard to the SPA species. Our best answer to this question at the present time would be that subject to a suitably robust LBMP with regard to habitat creation and management, we see no reason why 'monitoring' and 'remedial measures' could not also be covered within the same LBMP and DCO requirement, subject to satisfying the requirements of Habitats Regulations Assessment.

1.7.6. Are Swale Borough Council, Natural England, RSPB and Kent Wildlife Trust content with the Applicant's proposal to specify construction plant, equipment and mitigation measures to ensure compliance with the various commitments to reduce noise at a later stage through the development of management plans and the imposition of Requirements?
What reassurance could the Applicant give that sufficient measures will be available to achieve predicted and acceptable construction noise levels?

We do not feel in a sufficiently informed position with regard to the legalities to confidently answer this question. For example, we are assuming that could the Applicant not comply with a Requirement, they could not proceed (i.e. analagous to pre-commencement conditions). If this is not the case then we would request details in advance. We defer to Natural England on this question.

[10] For example, Foster, G, Bennett, J & Bateman, M. (2014). Effects of ivermectin residues on dung invertebrate communities in a UK farmland habitat. *Insect Conservation and Diversity*. 7. 10.1111/icad.12030.