

**From:** [Redacted]  
**To:** [Jones, Hefin](#); [Hall, Paige](#)  
**Cc:** [Cleve Hill Solar Park](#); [Redacted]  
[Redacted] Submission relating to ExQ2.1.12  
**Date:** 04 September 2019 18:31:07  
**Attachments:** [Redacted]

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Dear Hefin, Paige,

**Cleve Hill Solar Park - Additional Submission relating to ExQ2.1.12**

Please find attached an additional submission by the Applicant in respect of the ExA's Second Written Question ExQ2.1.12.

The email which forms this submission has also been circulated to members of the Habitat Management Steering Group earlier today (Natural England, Kent Wildlife Trust, RSPB and the Environment Agency).

Kind regards,

Mike

**Michael Bird**

Tel: 01904 715470  
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# CLEVE HILL SOLAR PARK

**ADDITIONAL SUBMISSION - CORRESPONDENCE BETWEEN THE APPLICANT AND DR GILLINGS REGARDING LAPWING AND GOLDEN PLOVER (IN RESPONSE TO EXQ2.1.12)**

September 2019  
Revision A

Submitted: Additional Submission

[www.clevehillsolar.com](http://www.clevehillsolar.com)



**CLEVE HILL**  
SOLAR PARK

## Mike Bird

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**From:** Simon Gillings [REDACTED]  
**Sent:** 02 September 2019 10:12  
**To:** Mike Armitage  
**Cc:** Mike Bird  
**Subject:** Re: Lapwing / Golden Plover capacity

Hi Mike

If the carrying capacity values are real, then it seems reasonable to me to assume that the carrying capacity for Lapwings can be added to the carrying capacity for Golden Plovers. This total "plover days" value could then be shared out according to how common the two species are relative to one another at a particular location. I guess the key question is whether the bird days figures are upper limits of carrying capacity. The figures I quote might be lower than the actual carrying capacity because plovers always seems to prefer being on other habitats so its possible they never actually maximised the resource the grassland offered. But if you're looking at a conservative estimate I presume this is OK. Also as you're talking about applying manure the densities attained could be higher than on the fields I looked at.

Simon

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Dr Simon Gillings  
BTO Head of Population Ecology and Modelling  
[BTO BirdAtlas Publications](#) [REDACTED]  
Can you help us go [beyondthemaps](#)?

On Fri, 30 Aug 2019 at 11:15, Mike Armitage <[REDACTED]> wrote:

Hi Simon

Thanks for all your prior help regarding lapwing and golden plover. In our discussions with Natural England and other interest groups, we have been asked to seek your opinion regarding the inter-species competition between golden plover and lapwing and more specifically, about 'transferability' of foraging capacity between the species. Further to our discussion, I would be grateful if you could provide a comment in response.

If land is used by both species and has combined winter capacity of 1000 lapwing-days per hectare and 1500 golden plover-days per hectare (as per your study in Norfolk, but noting that this does not necessarily represent a maximum capacity), in your opinion, is it reasonable to make the assumption that if there were fewer golden plover, there would more capacity than 1000 lapwing-days per hectare?

This is in the context of providing an area of mitigation grassland, managed primarily for brent geese as a short-sward grassland, grazed in the summer and cut in late summer to ensure it is suitable (<100mm) in late September. The functional area of mitigation land we have is approximately 50 hectares. Over the course of 4 winter seasons, we have measured an annual average of approximately 56,000 lapwing-foraging-days and 29,000 golden plover-foraging-days that need to be mitigated for. At these values, there is under-capacity for lapwing and over-capacity for golden plover (see table below). Our position is that (if 1000/1500 bird-days figures represent combined

maxima) the over-capacity for golden plover will make up the shortfall for lapwing, such that the 50.1 ha mitigation area is sufficient in size to support the required number of lapwing and golden plover.

	Peak-mean measure (bird-days, Oct-Mar)	Mitigation area (ha)	Capacity factor (bird-days/ha)	Mitigation area bird-days	Difference (bird-days)
Lapwing	56023	50.1	1,000	50,100	- 5,293
Golden plover	28801	50.1	1,500	75,150	+ 46,349

The measure is precautionary in that it is a 'peak-mean' value, calculated more specifically as the 'inter-annual mean of the intra-annual monthly peak-mean'. We have only used the highest count each month and have multiple (usually up to 4) counts per month, rather than averaging all counts. The capacity factors we have used for the grassland are based on your calculated capacity for mainly arable land in your study area; however, this appears to be the only reliable measure of bird-days we can find in the literature. Much of the literature cites grassland as having higher invertebrate biomass and being preferred by lapwings/plovers, so we consider that it is applicable to apply your study area capacity values for the grassland mitigation area.

Happy to discuss, thanks again,

Mike

**Mike Armitage**

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