Hale Solar Farm

RES-Group

Ecological Monitoring Report: Year 3



avian ecology

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1 INTRODUCTION

1.1.1 Avian Ecology Ltd. (AEL) was appointed by RES-Group to undertake an independent site survey and review of the implementation of ecological commitments contained within the Ecological Management Plan[1], submitted in support of the consented solar development (14/05740/FUL)[2] on land adjacent to Boscombe Airfield, Idminston,Wiltshire SP4 0AW (the Site).

1.1.2 Planning Condition 9 in the Planning Decision Notice (14/05740/FUL)[3] stated that:

"Before the scheme first becomes operational, an Ecological Management Plan (EMP) shall be submitted to and approved in writing by the Local planning Authority. The ecological management plan shall:

i) be based on the Outline Ecological Management Plan (Delta Simons,20th November 2014);

ii) provide full details of the locations and measures that will be put in place to mitigate, compensate and enhance biodiversity on the site;

iii) contain a five year management programme for ecological features with details of how management will be continued for the duration of the scheme;

iv) contain details of a monitoring programme to assess the effectiveness of the EMP with reporting to the planning authority in the first, third and fifth years after the Site first becomes operational.

v)Planting, sowing and initial aftercare will be completed as specified in the approved EMP within one year of the Site becoming operational. Management works will be undertaken in accordance with the approved EMP and the first year of the management programme will start in the month in which the Site first becomes operational.

Reason: In the interests of ecology."

1.1.3 The Ecological Management Plan (EMP) requires a site check by a suitably qualified ecologist during the first, third and fifth year after the site becomes operational (Section 4.6). A report of the findings and recommendations is required for submission to the Local Planning Authority.

1.1.4 This report presents the findings of a site monitoring visit and review of the biodiversity enhancement and management measures implemented within the Site to-date, in line with requirements of Condition 9 and the EMP. Where relevant, recommendations are made in relation to remedial actions, and ongoing vegetation/habitat management to assist the successful implementation of the EMP.

1.1.5 The Solar farm became operational in 2017 and it is understood that the initial planting and seeding works took place during autumn and winter 2017.

1.1.6 This report presents monitoring results from the third operational year of the Site (year 3).

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[1] Delta-Simons Environmental Consultants Ltd 2015, *Ecological Management Plan – Proposed Solar Farm, Land Adjacent to Boscombe Airfield, Idmiston*, Delta-Simons Project No. 13-0673.03

[2] https://unidoc.wiltshire.gov.uk/UniDoc/Document/Search/DSA,840875 accessed 15/07/2019

[3] https://unidoc.wiltshire.gov.uk/UniDoc/Document/File/MTQvMDU3NDAvRlVMLDU2MDc0Nw== accessed 15/07/2019

1.2 Ecological Management Plan Overview

1.2.1 Chapter 4 of the EMP refers to Biodiversity Enhancements and Management. Key areas which have formed the basis of the site check and review process include:

- Hedgerows
- Fine grassland
- Wildflower grassland
- Habitat Piles

1.2.2 It is understood that the generic fine grass and wildflower seed mixes originally proposed in the EMP were replaced across the entire Site by a single "calcareous soils" mix of grasses and wildflowers, which was considered more appropriate for the specific ground conditions. As a result, the categories of fine grassland/wildflower grassland are combined (the actual sown mix is presented at **Appendix 1**).

1.2.3 The EMP provides details of initial ecological enhancement works in the construction (year 0), and management actions required in the subsequent years. **Table 1.2** below summarises these.

Table 1.1: Summary of schedule of works and management regime, Ecological Management Plan

Activity	Construction Year 0	Year 1	Year 2-3	Year 4 to 25
Hedgerow planting and management	Planting undertaken during next available season following construction. Appropriate ground preparation and planting techniques implemented. Protective guards applied to new plants	Weed as required to avoid competition by ruderals. Monitor for individual success. Prune newly planted hedgerow plants annually for the first three years. Check guards and supports to ensure they are still effective and do not restrict growth Replace any plants which die in the first three years.		Once established to a height of approximately 1.5 m – 2 m, hedgerow trimmed once every two – three years. Management works should avoid the bird nesting season (March-July). Annual monitoring of habitat success. Any failed plants to be replaced.
Fine grassland and wildflower grassland	Prepare ground and sow in autumn or spring following construction	April to June – top or mow to remove weed species	No management spring to late July/August. Following flowering in late July/ August cut back to 50 mm and leave for 1-7 days to dry and shed seed, then remove all cuttings from Site. Can be cut again in autumn and spring if necessary, or apply, light sheep grazing until New Year. Habitat monitored annually July-August to determine growth success and species diversity. If germination of individual wildflowers or grass species is poor an alternative wildflower species mix may be sown subject to agreement with the Ecologist.	
Habitat piles	Installation immediately Following construction process	Limited management should be required, however, damaged or deteriorating hibernacula should be replaced.		

1.3 Ecological Monitoring

1.3.1 In accordance with Condition 9 and the EMP, an ecological monitoring visit was undertaken by AEL on the 11th July 2019. This visit was undertaken by experienced ecologist and botanist Ms S Turner BSc MSc GradCIEEM. The objective was to undertake a review of on-Site habitat conditions in relation to the measures set out in the EMP (Chapter 4 of the EMP and summarised in **Table 1.1**).

1.3.2 The site visit consisted of the following:

- A general walkover of the Site including the array areas, tracks and cabins, Site margins, the central hedgerow and the habitat piles. Both array areas, north and south, were included.
- Detailed check of the hedgerow planting.
- Detailed botanical checks of the grassland between and around the panels (grassland between the panels accounts for most of the grassland present across the Site). To allow for future comparison, these comprised three walked transects, and two quadrat samples taken in typical areas of grassland as shown on **Figure 1**.

1.3.3 Walked transects were undertaken to provide an overview of the relative abundance, distribution and establishment of the target species from the seed mix used across the Site, and of the presence and distribution of some key weed species. The DAFOR scale was used to provide an assessment of the relative abundance of species in a given habitat. This scale is routinely used for semi-quantitative sampling and provides a consistent method to record relative abundance in a given habitat or area. The quadrats measured 2m by 2m and all species were recorded with approximate percentage cover. Results from transects and quadrat samples are provided in **Appendix 2.**

1.3.4 **Table 1.2** below shows the abundance groupings used in the DAFOR scale.

Table 1.2: DAFOR Scale

Value	Percentage Cover	Notes
D – Dominant	> 75%	Very rarely used, a species which covers at least 75% of a survey area; most often found in plantations or highly improved grassland.
A - Abundant	51 – 75%	Very common in many parts of the survey area, often no species will be found to be abundant.
F - Frequent	26 – 50%	A plant found in several places, with usually a number of individual plants in each place **or** a plant found in one place but covering a substantial area.
O - Occasional	11 – 25%	Occurring in several places but populations are only small **or** a species that is common in one small area.
R - Rare	1 – 10%	Species that occur in small numbers in one area or scattered over several different locations.

1.3.5 Transects and quadrat sampling were not undertaken in the southern array area, south of the hedgerow, as the grassland here had been recently cut of the grassland and all arisings removed. The resulting very short sward was therefore not suitable to compare with the northern array area grassland at the time of survey.

2 ECOLOGICAL MONITORING VISIT RESULTS

2.1.1 This section of the report provides an overview of the ecological enhancement/mitigation measures implemented within the Site to-date in line with the recommendations provided within the EMP.

2.2 Hedgerows

2.2.1 Evidence of hedgerow planting could be seen, with new plants in gaps along the existing defunct hedgerow, as required in the EMP.

2.2.2 The hedgeline is however currently dominated by rank grasses and tall ruderals including false oat grass *Arrhenatherum elatius*, cleavers *Galium aparine* and nettle *Urtica dioica*. Whilst the new planting is successful in places with shrubs growing away well, along some sections the new planting has been swamped by weed species, with failed establishment of young plants leaving gaps in the new hedgerow planting. It is not clear whether the dead/missing plants failed or were killed by disease and were then overgrown with weeds, or whether the weeds caused the failures. It is likely to be a combination of both factors.

2.2.3 Some percentage of losses in planted shrubs is to be expected, and the EMP makes provision for the replacement of dead specimens during the first three years after planting. Evidence of replacement planting could not be demonstrated however due to the level of weed encroachment, and visible gaps in the hedgeline.

2.2.4 The EMP requires that new planting is pruned annually in the first three years to help establish bushy growth. It is not evident that this has taken place, with some hedgerow plants having grown tall and thin rather than producing dense branching growth. This has contributed to the development of a sparse hedgerow in places. **Photo 1** shows a replanted section of the hedgerow.

2.2.5 The EMP hedgerow planting mix listed:

- 40 % hazel Corylus avellana;
- 40 % field maple Acer campestre;
- 10 % holly Ilex aquifolium; and
- 10 % dog rose Rosa canina.

2.2.6 On Site the new hedgerow appears to be dominated by field maple, with only occasional rose and hazel. No evidence of holly was seen in the hedgerow during the survey. It cannot be confirmed whether this reflects an alternative percentage mix used in the original planting, or simply variable survival rates and speed of establishment from planting to this year 3.

2.3 Grassland

2.3.1 The sown mix of wildflowers and fine grasses appears to have taken reasonably well, with at least some of the listed species (**Appendix 1**) abundant across most of the Site. **Photo 2** shows a typical aisle between the panels in the northern part of the Site. Based on transects and sample quadrats, the abundance of key recorded species used in the original list, is summarised in **Table 2.1**.

2.3.2 It should be noted that the establishment of a stable grassland meadow community can take a number of years. During this time, species presence and abundance is likely to vary naturally, with some species taking much longer to establish after sowing, and some gradually disappearing from the mix after a time. In addition, new, non-sown species would also be expected to colonise the grassland over time. Such natural variability is to be expected, and the monitoring of the establishing grassland does not seek or expect to find an exact match to the sown mix or the percentages used of

different species. Also the exceptionally dry conditions of summer 2018 may have impacted on the species mix. Rather, the intention is to gain an overview of the general diversity and quality of the developing grassland and wildflower community and relate the species mix as far as practicable back to that originally sown, and the intention to create a meadow representative of calcareous spoil conditions.

Table 2.1: Occurrence of key species recorded within grassland habitat across Site

Frequent to Abundant	Occasional	Rare	Not recorded (2019)
golden oatgrass *Trisetum flavescens*	betony *Stachys officianalis*	greater knapweed *Centaurea scabiosa*	bladder campion *Silene vulgaris*
smaller catstail *Phleum bertolonii*	common toadflax *Linaria vulgaris*	wild mignonette *Reseda lutea*	bulbous buttercup *Ranunculus bulbosus*
crested dog's-tail *Cynosurus cristatus*	kidney vetch *Anthyllis vulneraria*	upright brome *Bromus erectus*	dropwort *Filipendula vulgaris*
brown top bent grass *Agrostis capilliaris*	lady's bedstraw *Galium verum*		dark mullein *Verbascum nigrum*
hard fescue/sheep's fescue *Festuca trachyphylla/ovina*	meadow buttercup *Ranunculus acris*		quaking grass *Briza media*
bird's-foot trefoil *Lotus corniculatus*	red clover *Trifolium pratense*		cowslip *Primula veris**
oxeye daisy *Leucanthemum vulgare*	wild carrot *Daucus carota*		
	small scabious *Scabiosa columbaria*		
	red fescue *Festuca rubra litoralis*		

**some early-flowering species are less likely to be visible in mid-summer, but may be present and visible if surveyed in spring*.

2.3.3 The grassed margins around the perimeter of the Site appear to have a greater diversity of species, with a shorter sward, in comparison to the areas between the solar panels (**Photo 3**). The shorter sward may be due to the more open, less sheltered nature of these areas, or due to an earlier cut (prior to the recent cut in the southern area). These margin areas included some slightly more unusual species such as hare's foot clover *Trifolium arvense*, common broomrape *Orobranche minor* and dwarf spurge *Euphorbia exigua*, providing welcome additional diversity to the species present across the Site as a whole

2.3.4 In the somewhat more shaded areas beneath the panels, vegetation was sparser, and showed fewer of the key sown species and a greater presence of rank grasses and other "weedy" species, including barren brome *Bromus sterilis*, cleavers, willowherbs *Epilobium spp*., bramble *Rubus fruticosus agg.,* creeping thistle *Cirsium arvense*, prickly lettuce *Lactuca serriola* and occasional willow *Salix sp*.

saplings **(Photo 4).** Some weed control has been undertaken beneath the panels, to control shrub saplings (which can reduce effectiveness of the panels through shading) and barren brome patches.

2.3.5 Occasional common poppy *Papaver rhoeas* was noted along the edge of the panels in many places, which may have been present in the soil seed bank, as contamination in the original seed mix, or from nearby poppy fields.

2.3.6 The grassed aisles between the panels had relatively few vigorous "weedy" species, with weed species restricted to occasional creeping thistle, spear thistle *Cirsium vulgare*, and common ragwort *Jacobaea vulgaris*. White clover, a vigorous species typical of improved grassland, is more frequent across the site. The more open marginal around the array areas were similar, with occasional bristly oxtongue also present.

2.3.7 Weedy species were more abundant around the track edges and around the inverter / transformer cabinets, including broadleafed dock *Rumex obtusifolius*, burdock *Arctium minus*, thistles and common ragwort (**Photo 5**). These weed species were most noticeable at the entrance to the Site and around the substation nearby.

2.3.8 The grassland areas in the southern part of the Site, south of the hedgerow, had been mown prior to the survey and arisings removed, leaving a short sward (**photo 6**). This is not in accordance with the EMP, which requires the sward to be left uncut from spring to late July / August in order to allow target species to flower and set seed, and also to avoid disturbance to ground nesting birds. The grassland areas (and developing hedgerows in time) are considered to provide a suitable habitat for nesting birds and invertebrates including pollinators.

2.3.9 The height and timing of grassland cuts is important when providing suitable conditions for ground nesting birds. There did not appear to have been any cutting of the weedy species under the panels. At time of survey the grassland areas in the northern part of the Site were uncut, in accordance with the EMP.

2.3.10 In summary, it appears that, at least in the northern part of the Site, the calcareous soils mix is producing a reasonable cover and mix of fine grasses and wildflowers, which is likely to have been reflected in the southern area, but this area has been cut too early. At present, many of the originally sown species are present throughout the Site, but only in small numbers, reflecting this early stage of grassland meadow establishment. It is considered that the vegetation mix in year 3 reasonably reflects the objective of producing a diverse grassland and wildflower species mix, suited to calcareous soil conditions. With appropriately timed management in line with the EMP (as summarised in Table 1.2), this grassland should continue to establish in accordance with the EMP and Condition 9.

2.4 Habitat Piles

2.4.1 Intact habitat piles formed from logs and brash were noted on site at the locations shown in the EMP **(photo 7).** This objective has been fully achieved**.**

3 SUMMARY AND RECOMMENDATIONS

3.1.1 Table 4.1 (below) provides a summary findings and recommendations arising from the monitoring visit undertaken in July 2019.

Table 4.1: Ecological Audit Results Summary

Activity	Actions completed.	Recommended Further Actions based on the EMP
Hedgerow planting and management	Hedgerow planted. No evidence that dead/dying specimens had been replaced – gaps present along hedge line. No evidence that young shrubs had been pruned to encourage bushy growth – some field maple has grown tall, leading to a thin hedgerow Field maple predominant over hazel and other species originally planted. Original % mix not currently represented Excessive weed growth along and over planted hedgeline appeared to be smothering young shrubs and slowing establishment.	Remove weeds along hedgerow as necessary each year. Ensure weed control (if strimming) does not damage stems of young planted trees and shubs Check for any dead/dying or diseased plants and replace with native species holly, dog rose or hazel species of UK provenance on an annual basis to re-balance the mix to that set out in the EMP. Prune shrubs to encourage bushy side growth. Trim back once hedge has reached approximately 1.5-2m, any material removed may be added to habitat piles.
Fine grassland and wildflower grassland	Grassland has been sown with an appropriate mix for the calcareous soil type on Site. Establishment is generally good across the site with a range of species representative of the original mix being recorded and good sward cover establishing. Some variability across site reflecting	Cutting should not take place between spring to late July/August. This is important to enable grasses and flowering plants to set seed and develop a species diverse sward. Cutting too early, especially in the early years of establishment will encourage over-dominance of a few species able to tolerate these conditions, contrary to the objectives of the EMP. Avoid cutting grassland during bird breeding season (generally March-August inclusive). If necessary, ay targeted topping undertaken between these months should be no lower than 200mm to prevent harm to any ground nesting birds. There may be circumstances when an additional summer cut is required to prevent over-tall vegetation

Activity	Actions completed.	Recommended Further Actions based on the EMP
	localised conditions and early stage development. Southern area of grassland had been cut too early, against EMP requirements Some weed species present, but weed growth is not considered excessive or currently threatening grassland establishment	obscuring panels, in such cases cuts should reduce sward height to no lower than approximately 200mm to avoid impacts on nesting birds (generally between March-August inclusive). Following flowering in late July/ August cut back to approximately 50 mm and leave arisings on site for 1-7 days to dry and shed seed, then remove all cuttings from Site. This delay between cutting and removing cut material is necessary to retain seeds on site and develop/maintain species diversity in the grassland. The grassland can be cut again in autumn and spring if necessary, or light sheep grazing applied until New Year. Problem perennial weeds can be controlled by hand pulling or if necessary careful targeted application of a non-residual herbicide by way of spot spraying with a knapsack (low pressure to avoid spray drift), or weed wiping at the appropriate time of year (generally in April, June and August). Alternatively, annual weeds could be managed by topping prior to setting seed which will encourage lateral spread of the grasses. Any topping undertaken between April and July should be no lower than 200mm to prevent harm to any ground nesting birds.
Habitat piles	Habitat piles have been created as shown in EMP.	No action required. Check again during next monitoring visit. Periodically replenish and top up habitat piles with trimmed material from the hedgerow.

FIGURE 1 – SITE PLAN



APPENDIX 1: CALCAREOUS SOILS MIX

CALCAREOUS SOILS MIX		
%	COMMON NAME	SPECIES
	20% WILD FLOWERS	
1	BETONY	STACHYS OFFICIANLIS
6	BIRDSFOOT TREFOIL	LOTUS CORNICULATUS
2	BLADDER CAMPION	SILENE VULGARIS
8	BULBOUS BUTTERCUP	RANUNCULUS BULBOSUS
2	COMMON TOADFLAX	LINARIA VULGARIS
1	COWSLIP	PRIMULA VERIS
3	DROPWORT	FILIPENDULA VULGARIS
2	DARK MULLIEN	VERBASCUM NIGRUM
7	GREATER KNAPWEED	CENTAUREA SCABIOSA
10	KIDNEY VETCH	ANTHYLLIS VULNEARIA
11	LADY'S BEDSTRAW	GALIUM VERUM
11	MEADOW BUTTERCUP	RANUNCULUS ACRIS
8	OX-EYE DAISY	LEUCANTHERMUM VULGARE
5	RED CLOVER	TRIFOLIUM PRATENSE
4	SMALL SCABIOUS	SCABIOSA COLUMBARIA
10	TUFTED VETCH	VICIA CRACCA
8	WILD CARROT	DAUCUS CAROTA
1	WILD MIGNONETTE	RESEDA LUTEA
100		
	80% GRASSES	
5	BROWNTOP BENTGRASS	AGROSTIS CAPILLARIS
10	SMOOTH STALKED MEADOW GRASS	POA PRATENSIS
22	CRESTED DOGSTAIL	CYNOSURUS CRISTATUS
5	GOLDEN OATGRASS	TRISETUM FLAVESCENS
1	QUAKING GRASS	BRIZA MEDIA
20	HARD FESCUE	FESTUCA TRACHYPHYLLA
10	SHEEPS FESCUE	FESTUCA OVINA
20	SLENDER CREEPING RED FESCUE	FESTUCA RUBRA LITORALIS
5	SMALLER CATSTAIL	PHLEUM BERTOLONII
2	UPRIGHT BROME	BROMUS ERECTUS
100		

APPENDIX 2: BOTANICAL SURVEY RESULTS

Species Common Name	Species Scientific Name	Relative Abundance of Target and Undesirable Species[4]			Percentage cover of all species (to nearest 5%)	
		Transect 1	Transect 2	Transect 3	Quadrat 1	Quadrat 2
Target species						
BETONY	*Stachys officinalis*	R	R	-	-	< 5
BIRDSFOOT TREFOIL	*Lotus corniculatus*	A	A	A	20	20
BLADDER CAMPION	*Silene vulgaris*	-	-	-	-	-
BULBOUS BUTTERCUP	*Ranunculus bulbosus*	-	-	-	-	-
COMMON TOADFLAX	*Linaria vulgaris*	O	R	R	-	-
COWSLIP	*Primula veris*	-	-	-	-	-
DROPWORT	*Filipendula vulgaris*	-	-	-	-	-
DARK MULLEIN	*Verbascum nigrum*	-	-	-	-	-
GREATER KNAPWEED	*Centaurea scabiosa*	-	-	-	-	-
KIDNEY VETCH	*Anthyllis vulneraria*	O	R	F	20	-
LADY'S BEDSTRAW	*Galium verum*	R	R	R	<5	<5
MEADOW BUTTERCUP	*Ranunculus acris*	R	R	R	<5	-
OX-EYE DAISY	*Leucanthemum vulgare*	A	F	A	25	20
RED CLOVER	*Trifolium arvense*	O	-	F	-	-
SMALL SCABIOUS	*Scabiosa columbaria*	R	R	-	-	-
TUFTED VETCH	*Vicia cracca*	-	-	O	-	-
WILD CARROT	*Daucus carota*	F	O	O	-	<5
WILD MIGNONETTE	*Reseda lutea*	-	-	-	-	-
COMMON BENTGRASS	*Agrostis capillaris*	F	A	F	10	10
SMOOTH MEADOW GRASS	*Poa pratensis*	O	O	O	-	-
CRESTED DOGSTAIL	*Cynosurus cristatus*	F	F	F	5	5

[4] D=dominant, A=abundant, F=frequent, O=occasional, R=rare

APPENDIX 2: BOTANICAL SURVEY RESULTS

Species Common Name	Species Scientific Name	Relative Abundance of Target and Undesirable Species[4]			Percentage cover of all species (to nearest 5%)	
		Transect 1	Transect 2	Transect 3	Quadrat 1	Quadrat 2
GOLDEN OATGRASS	*Trisetum flavescens*	A	A	A	25	25
QUAKING GRASS	*Briza media*	-	-	-	-	-
HARD FESCUE	*Festuca trachyphylla*	F	F	F	30	30
SHEEPS FESCUE	*Festuca ovina*					
SLENDER CREEPING RED FESCUE	*Festuca rubra litoralis*	O	O	F	-	-
SMALLER CATSTAIL	*Phleum bertolonii*	A	A	A	10	5
UPRIGHT BROME	*Bromus erectus*	-	-	-		-
Undesirable species						
Creeping thistle	*Cirsium arvense*	O	O	R	-	-
Spear thistle	*Cirsium vulgare*	R	O	R	-	<5
Curled dock	*Rumex crispus*	-	-	-	-	-
Broad leaved dock	*Rumex obtusifolius*	-	-	-	-	-
Common ragwort	*Jacobaea vulgaris*	R	O	O	-	<5
Nettle	*Urtica dioica*	-	-	-	-	-
Creeping buttercup	*Ranunculus repens*	-	-	-	-	
White clover	*Trifolium repens*	F	F	F	5	10
Other						
Dandelion	*Taraxacum agg.*	n/a	n/a	n/a	5	10
Field madder	*Sherardia arvensis*	n/a	n/a	n/a	<5	<5
Black medick	*Medicago lupulina*	n/a	n/a	n/a	10	-
Smooth hawk's-beard	*Crepis capillaris*	n/a	n/a	n/a	5	<5
Creeping bent	*Agrostis stolonifera*	n/a	n/a	n/a	<5	-

APPENDIX 2: BOTANICAL SURVEY RESULTS

Species Common Name	Species Scientific Name	Relative Abundance of Target and Undesirable Species[4]			Percentage cover of all species (to nearest 5%)	
		Transect 1	Transect 2	Transect 3	Quadrat 1	Quadrat 2
Greater plantain	*Plantago major*	n/a	n/a	n/a	-	<5
Cut leaved cranesbill	*Geranium dissectum*	n/a	n/a	n/a	-	<5
Square stalked willow herb	Epilobium tetragonum	n/a	n/a	n/a	-	<5
Bryophytes		n/a	n/a	n/a	50	50

APPENDIX 3: PHOTOGRAPHS

	**Photo 1** Hedgerow planting with field maple. Mixed success, need for weeding, replacement of dead trees, and possible trimming of taller trees to create more bushy form.
	**Photo 2** Well-established grassland between solar panels, showing key species golden oatgrass and oxeye daisy present.

APPENDIX 3: PHOTOGRAPHS

	**Photo 3** Shorter sward with greater diversity on the margins of the Site
	**Photo 4** - Narrow strip along edge of Site adjacent to railway, tall ruderal vegetation, rank grasses, bramble *Rubus fruticosus* and hawthorn *Crataegus monogyna* scrub (TN5).

APPENDIX 3: PHOTOGRAPHS

	**Photo 5** Weed species more abundant along track edges and around stations.
	**Photo 6** – recently mown grassland in southern part of Site.
	**Photo 7 –** habitat pile present as required in EMP

APPENDIX 3: PHOTOGRAPHS