

# Springwell Solar Farm

Environmental Statement

## Appendix 7.8: Notable Arable Flora Survey

Volume 3

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# 1. Introduction

## 1.1. Purpose of this report

- 1.1.1. This report details the results of arable flora surveys undertaken within the Order Limits of the proposed Springwell Solar Farm (referred to hereafter as the Proposed Development). The Proposed Development is located in Lincolnshire, UK, near the village of Ashby de la Launde.
- 1.1.2. Preliminary Ecological Appraisal surveys of the area were undertaken in 2022 and 2023 (as set out in **ES Volume 3, Appendix 7.1: Preliminary Ecological Appraisal [EN010149/APP/6.3]**). Subsequent consultation with the North Kesteven District Council ecologist recommended further survey for notable arable flora. Fields sown in the current rotation with sugar beet and maize were recommended as areas in which to focus botanical surveys, as the nature and cultivation of these crops makes it easier for arable weeds to establish. The survey areas and crop types are shown in **Figure 2**.

## 1.2. Ecological context

- 1.2.1. The Proposed Development is located close to the villages of Blankney, Scopwick, and Ashby de la Launde in the district of North Kesteven, Lincolnshire (location is shown in **Figure 1**). The area is dominated by agricultural land (mostly large arable fields) bounded by hedgerows with a few, mostly small, broadleaved woodlands at the edges of the Order Limits.
- 1.2.2. The topography was relatively flat. Arable farming is the predominant land use, with fields devoted to growing barley, wheat, sugar beet, maize and green manure. Fields are typically large and intensively farmed, and assemblages of arable 'weed' species (wildflower and grasses typical of arable habitat) are typically confined to occasional field corners, strips cultivated for low-input seed, nectar and green manure crops, and arable areas set aside. The eastern area (Springwell East) had a heavier clay soil type compared to the central and western areas (Springwell Central and Springwell West) which have a lighter more calcareous soil type.
- 1.2.3. The surrounding landscape is largely arable with a mixture of villages, farm complexes, RAF Digby, woodland, hedgerows, and some scattered residential properties.

## 1.3. Development proposals

- 1.3.1. The Proposed Development comprises the construction, operation and maintenance of Solar Photovoltaic (PV) generating modules, energy

storage facilities, and grid connection infrastructure, across a proposed site in North Kesteven, Lincolnshire.

- 1.3.2. The Proposed Development is located within the administrative boundary of North Kesteven District Council and Lincolnshire County Council.  
Relevant Legislation
- 1.3.3. The Natural Environment and Rural Communities (NERC) Act 2006, Section 40 **[Ref-2]** requires that any public body or statutory undertaker in England must have regard to the purpose of conservation of biological diversity in a manner that is consistent with the exercise of their normal functions. This may include enhancing, restoring or protecting a population or a habitat. The intention is to help ensure that biodiversity becomes an integral consideration in the development of policies, and that decisions of public bodies work with the grain of nature and not against it.
- 1.3.4. As part of this duty, statutory undertakers must have regard to the list of habitats and species which are of principal importance for the purpose of maintaining and enhancing biodiversity. For England, the duty to compile such a list is captured under Section 41 of the NERC Act.
- 1.3.5. The definition of arable field margins as priority habitat is “*..herbaceous strips or blocks around arable fields that are managed specifically to provide benefits for wildlife. The arable field must be in a crop rotation which includes an arable crop, even if in certain years the field is in temporary grass, set-aside or fallow. Arable field margins are usually sited on the outer 2–12m margin of the arable field, although when planted as blocks they occasionally extend further into the field centre*” **[Ref-2]**.

## 2. Methods

### 2.1. Surveys

- 2.1.1. The botanical surveys were undertaken on 5 and 6 June 2024 by a senior ecology consultant, with several years of botanical survey experience; an MSc in Plant Diversity; a Field Identification Skills Certificate at Level 6 and a member of CIEEM at ‘Associate’ level. Areas surveyed are shown in **Figure 2**.
- 2.1.2. The survey recorded arable plant species within the Order Limits, using the Important Arable Plant Area (IAPA) methodology **[Ref-1]** to assess the importance of arable weed assemblages within the survey area.

### 2.2. Arable surveys

- 2.2.1. Arable ‘weed’ communities form a distinct group of annual ruderal and ephemeral plants which, because of their casual nature, are poorly covered under the National Vegetation Classification (although open habitat communities do include some of the more characteristic assemblages that arise on different soil types).
- 2.2.2. “Within lie some of the rarest and most-threatened species, with populations of once-common plants such as Corncockle (*Agrostemma githago*) becoming rare due to chemical weedkillers and mechanized agriculture. In addition, rapid worldwide changes to agricultural methods have made it difficult for ecological monitoring to keep on top of the international conservation status of these plants, making them a ‘conservation blind spot’. Few of these species are currently recognized as threatened (i.e. Critically Endangered, Endangered or Vulnerable) on IUCN Red Lists for Europe, and while some qualify for a small degree of protection under the NERC act (2006) **[Ref-2]**, only the few unquestionably native species are included on the Schedule 8 of the Wildlife and Countryside Act (1981)(as amended) **[Ref-3]**, making the future survival of some species quite perilous” **[Ref-4]**.
- 2.2.3. A recent study by Plantlife **[Ref-4]** highlighted the importance of National Character Area (NCA) 47 (South Lincolnshire Edge) for the assemblage of arable plants found in this area. The site is located towards the northern part of NCA 47, which itself sits in the median band in terms of arable plant species richness, giving it an Important Arable Plant Areas (IAPA) score of 100-199. The study admits that the baseline information used is out of date, and the geographic areas too large, but with these caveats it provides a useful snapshot of arable plant species richness in England, and a compelling rationale for these surveys.

- 2.2.4. A widening of scope occurred in regard to the selection of arable survey sites over the course of fieldwork. Four fields each of sugar beet and maize had been selected prior to survey, and these were initially visited. But a walkover survey found other species assemblages worthy of recording at a number of other fields, including a field with a broad bean crop, strips of seed and flower forage and a barley field, which were included as additional target notes.
- 2.2.5. Selected fields were walked as thoroughly as necessary in order to compile a species list comprising approximately 95% of species present. In practice this usually involved walking all 4 margins of a square field, as well as using a degree of binocular survey to scan for areas rich in plant growth within the field. Where these were found – commonly around pylons or telegraph posts, but also in areas of persistent waterlogging – plant communities were surveyed and included either as target notes or within the species list for the field. Non-cultivated field margins were also surveyed, although less time was spent on these where the habitat was well-established and comprised of competitive species, as was often the case.
- 2.2.6. Target notes typically chose a smaller survey area, ranging from a single field corner to the headlands on one side of a field.
- 2.2.7. Measures of abundance were not used as in the vast majority of cases, plants were rare due to the nature of the farmed environment.
- 2.2.8. The method used to assess the value of each survey area was derived from Criterion B of the (IAPA) methodology **[Ref-5]**. This assigns a score between 1 and 9 to a range of threatened arable species based on conservation status, using data from IUCN Red Book listings and distribution data from the Botanical Society of Britain and Ireland (BSBI) database **[Ref-6] (Table 1)**.

**Table 1 Plantlife Important Arable Plant Areas' (IAPA) scores for individual species and their relation to rarity**

Score	Status
9	IUCN Red List Critically Endangered (CR) or Extinct (EX)
8	IUCN Red List Endangered (EN)
7	IUCN Red List Vulnerable (VU)
6	IUCN Red List Near-threatened (NT) or Nationally Rare (found in 1-15 10km squares)
5	Nationally Scarce: found in 16-50 10km squares OR 51 to 100 10km squares AND change index of -1 or less

Score	Status
<b>4</b>	Nationally Scarce: other Nationally Scarce not covered by the above category
<b>3</b>	Species of local concern: 101 to 500 10km squares
<b>2</b>	Species of local concern: 501 to 1000 10km squares
<b>1</b>	Species of local concern: 1001 to 5001 10km squares AND change index less than 0.0

2.2.9. The individual scores for plants on the IAPA list are summed to give a score for each area surveyed. Proposed thresholds have been set by Plantlife for sites of county, national and European importance, with the threshold value depending on soil type. Thresholds are shown in **Table 2** and **3**, below – soils in the western and central portions of the survey area were assessed as free-draining and calcareous, while the north-eastern portion was judged to have soils that were a little more clayey but still for the most part free-draining. Values in column 2 (shown in bold) were therefore used for the entire survey area. **Table 2** shows values for a single field, while **Table 3** shows values for larger areas such as an entire site, monad (1 x 1km square) or tetrad (2 x 2km square).

Table 2: Threshold scores for assessing the importance of arable plants at the field level [Ref-4].

	Chalky and limestone-derived free-draining and calcareous soils	Chalky and limestone-derived free-draining and calcareous soils	Sandy loams, shale and free-draining soils
<b>European importance</b>	45+	40+	45+
<b>National importance</b>	25-44	25-39	30-44
<b>County importance</b>	15-24	15-24	15-29

Table 3: Threshold scores for assessing the importance of arable plants at the holding (site), monad and tetrad level [Ref-4].

	Chalky and limestone-derived free-draining and calcareous soils	Clay and slowly-impermeable soils (including calcareous clays)	Sandy loams, shale and free-draining soils
<b>European importance</b>	90+	70+	70+
<b>National importance</b>	45-89	30-69	35-69
<b>County importance</b>	30-44	20-29	20-34

## 2.3. Nomenclature

2.3.1. Vascular plant nomenclature in this report follows Stace (2021) [Ref.7] for native and naturalised species of vascular plant. Plant names have been presented using common names first (in capitals) followed by Latin names in brackets.

## 2.4. Constraints and limitations

2.4.1. The surveys were completed in early June. This is an early, but acceptable time for arable vegetation communities, as most plants will be present in a vegetative state at least. Some sites may lack certain late-flowering members of families such as Goosefoots (*Amaranthaceae*) and Docks (*Polygonaceae*), but the species in question were apparent and identifiable to species level during the survey.

2.4.2. The vast majority of vascular plants and bryophytes were confidently identified to species level. Most specimens were identified in the field, but in some cases voucher specimens were taken for lab identification.

2.4.3. The land surveyed is in active arable production, with a range of activities which might impact the future integrity and composition of the habitats sampled. Sugar beet fields had been sprayed with herbicide on 4 June 2024 and the estate office therefore recommended delaying surveys until 6 June 2024 – all plants were still in an identifiable state at this time.

2.4.4. Many of the communities sampled are transitory by nature. While all habitats will evolve over time, more rapid change is to be expected in communities dominated by ruderal and ephemeral plants as they succeed to grassland and scrub. The snapshot presented here is therefore time-limited.



- 2.4.5. Surveys were not accompanied by detailed analysis of soils and substrates, and therefore some assumptions have been made about current and historical conditions and processes onsite.
- 2.4.6. The surveys do not provide species lists for the entire area within the Order Limits, being limited to the particular habitat areas sampled.

## 3. Results

3.1.1. Tables showing Plantlife's 'Important Arable Plant Areas' (IAPA) scores **[Ref-4]** for each area surveyed and full species lists are detailed in **Appendix 1**. Survey locations and target notes are shown in **Figure 2**.

### 3.2. Sugar beet fields

3.2.1. Sugar beet field LF03, on clay-loam soils, had a limited arable flora restricted to common plants such as Barren-brome (*Anisantha sterilis*), Field Horsetail (*Equisetum arvense*) and Groundsel (*Senecio vulgaris*). No species on the IAPA list were found. Fields BCD084, BCD105 and BCD115 were located on more calcareous soils close to the A15, and contained a number of species in common, namely Small-flowered Geranium (*Geranium pusillum*), Bugloss (*Lycopsis arvensis*) and Grey Field-speedwell (*Veronica polita*).

3.2.2. Species of conservation concern were found on the southern margin of field BCD084, arising from a seed mix including species that were constituents of both wild bird seed mixes and wildflower mixes sown by the estate. These included:

- Corncockle (*Agrostemma githago*);
- Stinking Chamomile (*Anthemis cotula*);
- Black Mustard (*Brassica nigra*);
- Gold-of-pleasure (*Camelina sativa*);
- Cornflower (*Centaurea cyanus*); and
- Yellow-juiced Poppy (*Papaver lecoqii*).

3.2.3. As arable weeds often arise as crop contaminants, the scoring of such species in a seed mix presents a dilemma. However, upon investigation of other, older conservation strips within the survey area it became apparent that populations of many of these species can only be sustained by regular seeding. Without this they decline and disappear from planted areas – rapidly in the case of corncockle, but perhaps more slowly in the case of others. It was therefore decided to only allow species on this list to influence the score if they were recorded outside of planted conservation strips. Using this criterion excludes corncockle, black mustard and gold-of-pleasure entirely, as well as some records of Stinking chamomile, cornflower and yellow-juiced poppy.

3.2.4. When adjusted downwards to account for the presence of seed mixes, field BCD 084 achieved an IAPA score of 12, field BCD 105 achieved a score of 13 and field BCD 115 achieved a score of 14.

### 3.3. Maize fields

- 3.3.1. All four maize fields were located on clay-loam soils in the area north of Metherington. These fields were universally poor in arable species, containing only common plants such as Barren-brome, Soft-brome (*Bromus hordeaceus*), Creeping Thistle (*Cirsium arvense*) and Scented Mayweed (*Matricaria chamomila*), and the IAPA-listed species Black-grass (*Anisantha myosuroides*), Small-flowered Crane's-bill, Many-seeded Goosefoot (*Lipandra polysperma*) and Bugloss.
- 3.3.2. IAPA scores were therefore low - LF04: 2, LF05: 4, LF08: 4 and LF01: 1.

### 3.4. Target notes

- 3.4.1. The following target notes were recorded (Target note locations are shown in **Figure 2**):
- Target Note 1: Southern headland of an unmanaged barley field (at southern end of field Lf08). Arable species were resurging following the suspension of herbicide treatments. Charlock (*Sinapis arvensis*), Common Poppy (*Papaver rhoeas*) and Phacelia (*Phacelia tanacetifolia*) were locally frequent to locally abundant, with some Fat Hen (*Chenopodium album*), Field Penny-cress (*Thlaspi arvense*), Scentless Mayweed (*Tripleurospermum inodorum*) and Equal-leaved Knotgrass (*Polygonum aviculare*). IAPA-listed plants included Black-grass, Fig-leaved Goosefoot (*Chenopodium ficifolium*), Many-seeded Goosefoot and Yellow-juiced Poppy. The IAPA total score for this area was 8.
  - Target Note 2: A waterlogged area (at west edge of Lf04) with encroachment of species from the marginal watercourse, including Common Water-starwort (*Callitriche stagnalis*), Water-plantain (*Alisma plantago-aquatica*), Watercress (*Nasturtium officinale*) and Brooklime (*Veronica beccabunga*). No IAPA-listed species were present.
  - Target Note 3: A larger waterlogged area (at north edge of Lf04) with encroachment of species from the marginal watercourse, including Common Water-starwort, Brooklime, Fool's Watercress (*Helosciadium nodiflorum*) and Toad-rush (*Juncus bufonius*). No IAPA-listed species were present.
  - Target Note 4: A corner of the sugar beet field to the immediate east of BCD 084 (the corresponding north-eastern corner was also investigated but was lacking in botanical interest). Vehicle ruts here had eight plants of Maple-leaved Goosefoot (*Chenopodium hybridum*), while nearby Grey Field-speedwell (*Veronica polita*) and Small-flowered Crane's-bill were present. The IAPA total for this area was 8.

- Target Note 5: A corner of a barley field (north of BCD 084) with some remnants of planted origin including Chicory (*Cichorium intybus*), Fodder Bird's-foot-trefoil (*Lotus corniculatus* var. *sativus*) and Sainfoin (*Onobrychis viciifolia*), and a few plants of the IAPA-listed Small-flowered Crane's-bill. The IAPA total for this area was 2.
- Target Note 6: The southern margin of a broad bean field (south-west corner of BCD 073) had a well-developed arable flora including Pineappleweed (*Matricaria discoidea*), Sun Spurge (*Euphorbia helioscopia*), Common Fumitory (*Fumaria officinalis* ssp. *wirtgenii*) and Field Pansy (*Viola arvensis*). An unusually large Field Pansy sharing many of the characters of Wild Pansy (*Viola tricolor*) was determined to be the hybrid *Viola x contempta*. This was given the same score as Wild Pansy on the IAPA list (6) as it was reasoned that it showed the likely presence of the listed plant in the vicinity (Wild Pansy was later found at TN10). Other IAPA-listed plants included Stinking Chamomile and Bugloss, and the IAPA total for this area was 16.
- Target Note 7: A field of 'green manure' (south-west of BCD 084) with abundant Sainfoin, as well as White Campion (*Silene latifolia*) Hybrid Campion (*Silene x hampeana*), Fodder Vetch (*Vicia villosa*) and a range of more common weed species such as Barren-brome, Hemlock (*Conium maculatum*), Creeping Thistle (*Cirsium arvense*) and Smooth Sow-thistle (*Sonchus oleraceus*). The only IAPA-listed plant found was Small-flowered Crane's-bill, giving a score of 2.
- Target Note 8: (North-west of BCD 093). A single plant of Hound's-tongue (*Cynoglossum officinale*), a plant on the International Union for the Conservation of Nature (IUCN) England Red List as 'near-threatened'.
- Target Note 9: The corner of a barley field (north-west of BCD 093) with a markedly calcareous character, as evidenced by the presence of Sheep's Fescue (*Festuca ovina*), Yellow Oat-grass (*Trisetum flavescens*) and Greater Knapweed (*Centaurea scabiosa*) at the field margin. A single plant of Night-flowering Catchfly (*Silene noctiflora*) was found within the cultivated area, along with over 20 plants of Venus's Looking-glass (*Legousia hybrida*). Other species included Bugloss and Grey Field-speedwell, giving an IAPA score of 15.
- Target Note 10: A well-established conservation strip with some encroachment of weedy species such as Bristly Oxtongue (*Helminthotheca echioides*), Spear Thistle (*Cirsium vulgare*) and Welled Thistle (*Carduus crispus*). One plant of Wild Pansy was found, alongside occasional Cornflower and Yellow-juiced Poppy of seed mix origin.

## 4. Evaluation and Conclusions

### 4.1. Value of habitats

- 4.1.1. Field BCD 105 scored 13 and BCD 115 scored 14 points, which are just under the IAPA threshold for sites of county importance (15-24 being Plantlife's threshold for County Importance) **[Ref-4]**. Field BCD 084 is also relatively close with 12 points.
- 4.1.2. Field margins at target note locations TN6 (south-west corner of BCD 073 – broad beans) and TN9 (north-west of BCD 093 - barley), scoring 16 and 15 respectively, are just over the threshold for sites of county importance.
- 4.1.3. While scores have been calculated for individual survey areas, it makes little sense to judge the Site at the scale of individual fields. Arable environments are harsh and many of these species are well-adapted to long persistence in the seed bank in order to appear when conditions are optimal. Therefore, the absence of a given species in one survey location during a single season is no guarantee that it is truly absent. It is also the nature of the farmed environment that crops rotate, and microhabitats such as wheel ruts change from one year to the next. The field which was inhospitable last year may become suitable next year.
- 4.1.4. Field clusters and surrounding target notes provide a more accurate picture of the diversity found within these habitats and microhabitats than survey of a single field under an intensive growing regime. For this reason it would be more appropriate to 'bundle' nearby fields and target notes into the following groupings:
- BCD 105, BCD 115, TN9 and TN10 – 32 points (county importance)
  - BCD 084, TN4-7 – 21 points
  - LF03, LF04, LF05, LF08, LF09, TN1-3 - 11 points
- 4.1.5. These areas have been scored using the higher thresholds for holdings, monads and tetrads shown in **Table 3**.
- 4.1.6. Seen in this way, it is clear that the areas in Springwell West and Springwell Central, between the A15 and B1188, contains land considered of County importance for its assemblages of arable plants.

### 4.2. Value of species

- 4.2.1. Of the species recorded, four are listed as Near Threatened or Vulnerable on the IUCN England Red List **[Ref-8]**:

#### 4.3. Stinking Chamomile (*Anthemis cotula*) - VU

- 4.3.1. An annual herb of arable crops which has undergone serious decline in recent years. Large populations of this species were found in conservation strips, where it is unlikely to be a constituent of seed mixes due to its toxicity and fetid odour, and on waste ground on field margins.

#### 4.4. Hound's-tongue (*Cynoglossum officinale*) – NT

- 4.4.1. A biennial herb of disturbed ground on calcareous soils, growing as an overwintering rosette in its first year, with a flowering stem forming in the second year. This species declined sharply in the latter decades of the 20<sup>th</sup> century. A single plant of this species was found at TN8.

#### 4.5. Night-flowering Catchfly (*Silene noctiflora*) – VU

- 4.5.1. An annual herb of cultivated land and waste ground on sandy or calcareous soils. While this species declined markedly in the later 20<sup>th</sup> century, it has recently been found in a number of sites, perhaps due to the success of agri-environmental measures. A single plant of this species was found at TN9. Other nearby plants in a vegetative state were discounted as likely examples of poorly-grown White Campion (*Silene latifolia*).

#### 4.6. Wild Pansy (*Viola tricolor*) – NT

- 4.6.1. An annual or perennial herb of sand dunes and arable land. Records suggest a widespread decline of this species since the 1960s. Reasons are thought to include agricultural intensification. One plant of this species was found at BCD115. The fertile hybrid of this species and Field Pansy (*Viola arvensis*), *Viola x contempta*, was found at TN6 and TN10. This plant has not been assessed by IUCN but is thought to be under-recorded, making trends in its distribution hard to pinpoint. Current records show it to be widespread in East Anglia, parts of Lincolnshire and the Wirral but absent from large parts of the country, but it is not known to what extent recorder bias plays a role in this.

#### 4.7. Conclusions

- 4.7.1. Any plan for the development of land at Springwell Solar Farm should include effective mitigation for arable plant assemblages, and the specific threatened species listed above. IAPA scores suggest a positive correlation between areas of lighter, more calcareous soils in Springwell West and Springwell Central with higher arable plant diversity, compared to Springwell East which has heavier clay soils. Mitigation efforts should therefore be concentrated in western and central areas.

- 4.7.2. Suitable mitigation for arable flora in solar farms is a subject which has received little study at present. Theoretically arable species require only bare ground and perhaps the control of competitive species. Relaxation of arable regimes of herbicide spraying will benefit these plants, as long as pernicious weeds do not become established. To this end a degree of cultivation of the ground will be necessary.
- 4.7.3. Notable arable species might thrive in an annual or short rotation conservation strip, but as many species are low-growing, ideally sowing rates would be reduced by at least 25% in order to provide plentiful bare ground. During the survey most arable species were found in headlands in a strip c. 1m wide running alongside the field margin.
- 4.7.4. The dominant pernicious weed of field margins within the survey area was Creeping Thistle, and this species may require spot control in places. Cotton Thistle (*Onopordum acanthium*) was locally abundant in field BCD 105, but is not thought to be quite so vigorous so will only need control if it out-competes arable species. Other weed species such as Prickly Sow-thistle (*Sonchus asper*) or Onion Couch (*Arrhenatherum elatius ssp. bulbosus*) may become problematic, and extreme infestations may require ploughing in order to break up rhizome networks.
- 4.7.5. The arable flora includes species which are both autumn-germinating (Cornflower and Corncockle) and species which are spring-germinating (Stinking Chamomile and Maple-leaved Goosefoot). It is therefore important that cultivation of the soil should occur both in autumn (mid-September to early November) and spring (March to mid-April).
- 4.7.6. In summary, a proportion of field margins or conservation headlands could therefore be managed for arable weeds with cultivation on rotation either in spring or autumn. If creating conservation headlands, sowing rates would be reduced by at least 25% to provide sufficient bare ground. A cultivated, unseeded strip of at least 1 m in width could be left between conservation headland strips and Solar PV modules. These areas would ideally be sited where shading from hedgerows or Solar PV modules is not an issue, such as on the southern margin of suitable fields. Monitoring would need to be carried out and injurious weeds controlled if necessary.
- 4.7.7. A second survey visit in the autumn was not deemed necessary as the survey data is considered sufficient to determine that arable weeds are of county importance and to inform mitigation required.

## References

- **Ref-1:** Plantlife, (2015a) Important Arable Plant Areas – Outstanding Assemblages. Plantlife, Salisbury. Available online at:  
[Redacted]
- **Ref-2:** Natural Environment and Rural Communities Act (2006). [Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents> - accessed 01/08/2023].
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[Redacted]



# Appendix 1 - IAPA Scores for Fields of Sugar Beet and Maize



Table 4: IAPA scores for fields of sugar beet and maize

Species	IAPA Score	BCD084	BCD105	BCD115	LF03	LF04	LF05	LF08	LF09
<b>Agrostemma githago (Corncockle)</b>	9	X							
<b>Alopecurus myosuroides (Black-grass)</b>	2					X	X		
<b>Anthemis cotula (Stinking Chamomile)</b>	7	X							
<b>Brassica nigra (Black Mustard)</b>	2	X							
<b>Camelina c.f. sativa (Gold-of-pleasure)</b>	5	X							
<b>Centaurea cyanus (Cornflower)</b>	8	X	X						
<b>Chenopodium ficifolium (Fig-leaved Goosefoot)</b>	2			X					
<b>Geranium pusillum (Small-flowered Crane's-bill)</b>	2	X	X	X			X	X	
<b>Lamium amplexicaule (Henbit Dead-nettle)</b>	1			X					
<b>Lipandra polysperma (Many-seeded Goosefoot)</b>	2							X	
<b>Lycopsis arvensis (Bugloss)</b>	1	X	X	X					X
<b>Papaver lecoqii (Yellow-juiced Poppy)</b>	2	X							
<b>Veronica polita (Grey Field-speedwell)</b>	2	X	X	X					
<b>Viola tricolor (Wild Pansy)</b>	6			X					
<b>Total score</b>		38	13	14	0	2	4	4	1
<b>Score excluding species present in sown nectar/seed forage strips</b>		12	13	14	0	2	4	4	1

Table 5: IAPA scores for selected target notes

Species	IAPA Score	TN1	TN4	TN5	TN6	TN7	TN9	TN10
<b>Alopecurus myosuroides (Black-grass)</b>	2	X						
<b>Anthemis cotula (Stinking Chamomile)</b>	7				X			
<b>Centaurea cyanus (Cornflower)</b>	8							X
<b>Chenopodium ficifolium (Fig-leaved Goosefoot)</b>	2	X						
<b>Chenopodium hybridum (Maple-leaved Goosefoot)</b>	3		X					
<b>Geranium pusillum (Small-flowered Crane's-bill)</b>	2		X	X	X	X	X	
<b>Legousia hybrida (Venus's-looking-glass)</b>	3						X	
<b>Lipandra polysperma (Many-seeded Goosefoot)</b>	2	X						
<b>Lycopsis arvensis (Bugloss)</b>	1		X		X		X	
<b>Papaver lecoqii (Yellow-juiced Poppy)</b>	2	X						X
<b>Silene noctiflora (Night-flowering Catchfly)</b>	7						X	
<b>Veronica polita (Grey Field-speedwell)</b>	2		X				X	
<b>Viola tricolor (Wild Pansy) (including Viola x contempta)</b>	6				X			X
<b>Total score</b>		8	8	2	16	2	15	16
<b>Score excluding species present as part of sown nectar/seed forage strips</b>		8	8	2	16	2	15	6

Table 6: Full species list of arable flora for sugar beet fields

Species	Field number/target note			
	BCD084	BCD105	BCD115	LF03
<b>a) Herbaceous species - grasses, sedges and rushes</b>				
<b>Agrostis stolonifera (Creeping Bent)</b>	X	X	X	
<b>Anisantha diandra (Great Brome)</b>	X	X		
<b>Anisantha sterilis (Barren Brome)</b>	X	X		X
<b>Arrhenatherum elatius (False Oat-grass)</b>	X	X	X	X
<b>Bromus hordeaceus (Soft-brome)</b>	X	X		
<b>Dactylis glomerata (Cock's-foot)</b>	X		X	X
<b>Festuca rubra (Red Fescue)</b>	X		X	
<b>Holcus lanatus (Yorkshire-fog)</b>	X			
<b>Lolium perenne (Perennial Rye-grass)</b>	X		X	
<b>Poa trivialis (Rough Meadow-grass)</b>	X			X
<b>Secale cereale (Rye)</b>	X	X		
<b>Schedonorus arundinaceus (Tall Fescue)</b>	X			
	<b>BCD084</b>	<b>BCD105</b>	<b>BCD115</b>	<b>LF03</b>
<b>Trisetum flavescens (Yellow Oat-grass)</b>			X	

Species	Field number/target note			
<b>Triticum aestivum (Bread Wheat)</b>	X			
<b>Vulpia myuros (Rat's-tail Fescue)</b>	X	X		
<b>b) Herbaceous species - other</b>				
<b>Achillea millefolium (Yarrow)</b>	X			
<b>Agrostemma githago (Corncockle)</b>	X			
<b>Anthemis cotula (Stinking Chamomile)</b>	X			
<b>Anthriscus sylvestris (Cow Parsley)</b>		X		X
<b>Arctium minus (Lesser Burdock)</b>	X	X		X
<b>Arenaria serpyllifolia (Thyme-leaved Sandwort)</b>	X	X		
<b>Artemisia vulgaris (Mugwort)</b>	X	X	X	
<b>Brassica napus ssp. oleifera (Rape)</b>	X	X		
<b>Brassica nigra (Black Mustard)</b>	X			
<b>Brassica oleracea var. acephala (Kale)</b>		X		
<b>Bryonia dioica (White Bryony)</b>		X		X
<b>Camelina sativa (Gold-of-pleasure)</b>	X			
<b>Capsella bursa-pastoris (Shepherd's-purse)</b>	X		X	
	<b>BCD084</b>	<b>BCD105</b>	<b>BCD115</b>	<b>LF03</b>

Species	Field number/target note			
<b>Centaurea cyanus (Cornflower)</b>	X	X		
<b>Cerastium glomeratum (Sticky Mouse-ear)</b>	X			
<b>Chenopodium album (Fat-hen)</b>	X	X	X	X
<b>Chenopodium ficifolium (Fig-leaved Goosefoot)</b>				X
<b>Chenopodium ficifolium (Fig-leaved Goosefoot)</b>	X			
<b>Cichorium intybus (Chicory)</b>	X	X		X
<b>Cirsium arvense (Creeping Thistle)</b>	X	X		
<b>Cirsium vulgare (Spear Thistle)</b>	X			X
<b>Convolvulus arvensis (Field Bindweed)</b>	X	X		X
<b>Crepis vesicaria (Beaked Hawk's-beard)</b>	X			
<b>Dipsacus fullonum (Teasel)</b>	X			
<b>Epilobium tetragonum (Square-stalked Willowherb)</b>	X			
<b>Fallopia convolvulus (Black-bindweed)</b>	X	X		
<b>Foeniculum vulgare (Fennel)</b>	X	X		
<b>Fumaria officinalis ssp. wirtgenii (Common Fumitory)</b>		X	X	
<b>Galium aparine (Cleavers)</b>				X
<b>Geranium dissectum (Cut-leaved Crane's-bill)</b>				X

Species	Field number/target note			
	BCD084	BCD105	BCD115	LF03
<b>Geranium molle (Dove's-foot Crane's-bill)</b>	X			
<b>Geranium pusillum (Small-flowered Crane's-bill)</b>	X	X		
<b>Glechoma hederacea (Ground-ivy)</b>		X		
<b>Helminthotheca echioides (Bristly Oxtongue)</b>		X		
<b>Heracleum sphondylium (Hogweed)</b>	X		X	
<b>Lactuca serriola (Prickly Lettuce)</b>	X			
<b>Lamium album (White Dead-nettle)</b>			X	
<b>Lamium amplexicaule (Henbit Dead-nettle)</b>			X	
<b>Lamium purpureum (Red Dead-nettle)</b>				X
<b>Leucanthemum vulgare (Oxeye Daisy)</b>	X			
<b>Linum usitatissimum (Flax)</b>	X			
<b>Lycopsis arvensis (Bugloss)</b>	X	X		
<b>Lysimachia arvensis (Scarlet Pimpernel)</b>	X	X		
<b>Matricaria chamomila (Scented Mayweed)</b>				X
<b>Matricaria discoidea (Pineappleweed)</b>			X	
<b>Medicago lupulina (Black Medick)</b>	X			

Species	Field number/target note			
<b>Medicago sativa ssp. sativa (Lucerne)</b>	X		X	
	<b>BCD084</b>	<b>BCD105</b>	<b>BCD115</b>	<b>LF03</b>
<b>Onobrychis viciifolia (Sainfoin)</b>	X			
<b>Onopordum acanthium (Cotton Thistle)</b>		X		
<b>Papaver lecoqii (Yellow-juiced Poppy)</b>	X			
<b>Papaver rhoeas (Common Poppy)</b>	X		X	
<b>Plantago lanceolata (Ribwort Plantain)</b>	X		X	
<b>Plantago major (Greater Plantain)</b>	X			
<b>Polygonum aviculare (Knotgrass)</b>	X	X		
<b>Raphanus sativus (Garden Radish)</b>	X	X		
<b>Rumex crispus (Curled Dock)</b>	X			
<b>Rumex obtusifolius (Broad-leaved Dock)</b>	X			X
<b>Senecio vulgaris (Groundsel)</b>		X		X
<b>Silene latifolia (White Champion)</b>	X	X		
<b>Silene x hampeana (Hybrid Champion)</b>	X	X		
<b>Sisymbrium officinale (Hedge Mustard)</b>	X	X		
<b>Solanum nigrum (Black Nightshade)</b>	X			



Species	Field number/target note			
	BCD084	BCD105	BCD115	LF03
<b>Sonchus asper (Prickly Sow-thistle)</b>	X	X		
<b>Stellaria media (Common Chickweed)</b>		X		X
	<b>BCD084</b>	<b>BCD105</b>	<b>BCD115</b>	<b>LF03</b>
<b>Taraxacum sect. Taraxacum (Common Dandelion)</b>	X			
<b>Trifolium incarnatum ssp. incarnatum (Crimson Clover)</b>	X			
<b>Tussilago farfara (Colt's-foot)</b>	X			
<b>Urtica dioica (Common Nettle)</b>	X	X	X	X
<b>Urtica urens (Small Nettle)</b>	X	X		
<b>Veronica arvensis (Wall Speedwell)</b>	X	X		
<b>Veronica chamaedrys (Germander Speedwell)</b>		X		
<b>Veronica persica (Common Field-speedwell)</b>	X	X	X	
<b>Veronica polita (Grey Field-speedwell)</b>	X	X		
<b>Vicia sativa ssp. segetalis (Common Vetch)</b>			X	
<b>Vicia villosa (Fodder Vetch)</b>	X			
<b>Viola arvensis (Field Pansy)</b>	X	X	X	
<b>Viola tricolor (Wild Pansy)</b>			X	
<b>c) Ferns and horsetails</b>				

Species	Field number/target note
<b>Equisetum arvense (Field Horsetail)</b>	X

Table 7: Full species list for maize fields

Species	Field number/target note			
	LF04	LF05	LF08	LF09
<b>d) Trees, shrubs and woody climbers</b>				
<b>Rosa canina (Dog-rose)</b>		X		
<b>Rubus fruticosus agg. (Bramble)</b>		X	X	X
<b>e) Herbaceous species - grasses, sedges and rushes</b>				
<b>Agrostis stolonifera (Creeping Bent)</b>	X			X
<b>Alopecurus myosuroides (Black-grass)</b>	X			X
<b>Anisantha sterilis (Barren Brome)</b>	X	X	X	
<b>Arrhenatherum elatius (False Oat-grass)</b>	X	X	X	X
<b>Bromus hordeaceus (Soft-brome)</b>	X	X	X	X
<b>Bromus c.f. secalinus (Rye Brome)</b>				X
<b>Carex riparia (Greater Pond-sedge) (seedling)</b>	X			
<b>Dactylis glomerata (Cock's-foot)</b>	X	X	X	X
<b>Festuca rubra (Red Fescue)</b>				X
<b>Holcus lanatus (Yorkshire-fog)</b>	X	X	X	X
<b>Juncus bufonius (Toad Rush)</b>	X			X

Species	Field number/target note			
	LF04	LF05	LF08	LF09
<b>Juncus effusus (Soft-rush)</b>	X			
<b>Poa annua (Annual Meadow-grass)</b>			X	X
<b>Poa trivialis (Rough Meadow-grass)</b>	X	X	X	X
<b>Schedonorus arundinaceus (Tall Fescue)</b>	X	X	X	X
<b>f) Herbaceous species - other</b>				
<b>Alisma plantago-aquatica (Water-plantain)</b>	X			
<b>Anthriscus sylvestris (Cow Parsley)</b>		X	X	X
<b>Aphanes arvensis (Parsley-piert)</b>			X	
<b>Arctium minus (Lesser Burdock)</b>		X		
<b>Artemisia vulgaris (Mugwort)</b>			X	X
<b>Ballota nigra (Black Horehound)</b>			X	
<b>Callitriche stagnalis (Common Water-starwort)</b>	X			
<b>Calystegia sepium (Hedge Bindweed)</b>				X
<b>Capsella bursa-pastoris (Shepherd's-purse)</b>				X
<b>Carduus crispus (Wetted Thistle)</b>		X		
<b>Cerastium fontanum (Common Mouse-ear)</b>			X	X

Species	Field number/target note			
	LF04	LF05	LF08	LF09
<b>Cirsium arvense (Creeping Thistle)</b>	X	X		X
<b>Cirsium vulgare (Spear Thistle)</b>	X	X		X
	LF04	LF05	LF08	LF09
<b>Conium maculatum (Hemlock)</b>	X			
<b>Convolvulus arvensis (Field Bindweed)</b>		X	X	
<b>Crepis vesicaria (Beaked Hawk's-beard)</b>				X
<b>Dipsacus fullonum (Teasel)</b>		X	X	
<b>Epilobium hirsutum (Great Willowherb)</b>	X			
<b>Epilobium tetragonum (Square-stalked Willowherb)</b>		X	X	
<b>Fallopia convolvulus (Black-bindweed)</b>			X	
<b>Galium aparine (Cleavers)</b>		X	X	
<b>Geranium dissectum (Cut-leaved Crane's-bill)</b>		X	X	X
<b>Geranium molle (Dove's-foot Crane's-bill)</b>	X	X	X	
<b>Geranium pusillum (Small-flowered Crane's-bill)</b>		X	X	
<b>Glechoma hederacea (Ground-ivy)</b>		X	X	
<b>Helosciadium nodiflorum (Fool's Watercress)</b>	X			
<b>Heracleum sphondylium (Hogweed)</b>				X

Species	Field number/target note				
	LF04	LF05	LF08	LF09	
<b>Hypochaeris radicata (Cat's-ear)</b>					X
<b>Jacobaea vulgaris (Common Ragwort)</b>					X
<b>Lamium purpureum (Red Dead-nettle)</b>			X		
<b>Lapsana communis (Nipplewort)</b>		X	X		
	LF04	LF05	LF08	LF09	
<b>Lepidium coronopus (Swine-cress)</b>	X	X	X	X	
<b>Leucanthemum vulgare (Oxeye Daisy)</b>		X	X		
<b>Lycopsis arvensis (Bugloss)</b>					X
<b>Lysimachia arvensis (Scarlet Pimpernel)</b>	X				
<b>Malva sylvestris (Common Mallow)</b>			X		
<b>Matricaria chamomila (Scented Mayweed)</b>	X				X
<b>Matricaria discoidea (Pineappleweed)</b>		X	X	X	
<b>Myosotis arvensis (Field Forget-me-not)</b>	X		X		
<b>Nasturtium officinale (Water-cress)</b>	X				
<b>Papaver rhoeas (Common Poppy)</b>			X		
<b>Plantago lanceolata (Ribwort Plantain)</b>	X				X
<b>Plantago major (Greater Plantain)</b>	X		X		X

Species	Field number/target note			
<b>Polygonum aviculare (Knotgrass)</b>				X
<b>Potentilla reptans (Creeping Cinquefoil)</b>		X		
<b>Ranunculus repens (Creeping Buttercup)</b>	X			
<b>Reseda lutea (Wild Mignonette)</b>			X	
<b>Rumex conglomeratus (Clustered Dock)</b>	X	X	X	
<b>Rumex crispus (Curled Dock)</b>	X	X	X	
	<b>LF04</b>	<b>LF05</b>	<b>LF08</b>	<b>LF09</b>
<b>Rumex obtusifolius (Broad-leaved Dock)</b>		X	X	X
<b>Rumex x pratensis (Hybrid Dock)</b>		X	X	
<b>Scrophularia auriculata (Water Figwort)</b>	X			
<b>Senecio vulgaris (Groundsel)</b>	X	X		
<b>Silene latifolia (White Champion)</b>			X	X
<b>Sinapis arvensis (Charlock)</b>	X	X		
<b>Sisymbrium officinale (Hedge Mustard)</b>			X	
<b>Sonchus asper (Prickly Sow-thistle)</b>	X	X	X	
<b>Stachys x ambigua (Hybrid Woundwort)</b>	X			
<b>Taraxacum sect. Taraxacum (Common Dandelion)</b>				X

Species	Field number/target note				
	LF04	LF05	LF08	LF09	
<b>Thlaspi arvense (Field Penny-cress)</b>			X		X
<b>Trifolium dubium (Lesser Trefoil)</b>					X
<b>Trifolium repens (White Clover)</b>	X				X
<b>Tripleurospermum inodorum (Scentless Mayweed)</b>		X	X		X
<b>Urtica urens (Small Nettle)</b>			X		
<b>Verbascum thapsus (Great Mullein)</b>			X		
<b>Veronica arvensis (Wall Speedwell)</b>			X		
<b>Veronica beccabunga (Brooklime)</b>	X				
	<b>LF04</b>	<b>LF05</b>	<b>LF08</b>	<b>LF09</b>	
<b>Veronica catenata (Pink Water-speedwell)</b>	X				
<b>Veronica persica (Common Field-speedwell)</b>		X	X		X
<b>Viola arvensis (Field Pansy)</b>			X		
<b>g) Ferns and horsetails</b>					
<b>Equisetum arvense (Field Horsetail)</b>			X		X



Table 8: Full species list for target notes

Species	Target note							
	1	4	5	6	7	9	10	
<b>h) Trees, shrubs and woody climbers</b>								
<b>Rosa canina (Dog-rose)</b>							X	
<b>i)</b>								
<b>Agrostis stolonifera (Creeping Bent)</b>						X	X	
<b>Alopecurus myosuroides (Black-grass)</b>	X							
<b>Anisantha diandra (Great Brome)</b>		X	X					
<b>Anisantha sterilis (Barren Brome)</b>			X			X	X	X
<b>Arrhenatherum elatius (False Oat-grass)</b>			X				X	X
<b>Brachypodium pinnatum s.l. (Tor-grass)</b>							X	
<b>Bromus hordeaceus (Soft-brome)</b>					X			
<b>Bromus c.f. secalinus (Rye Brome)</b>							X	
<b>Dactylis glomerata (Cock's-foot)</b>			X	X	X	X		
<b>Festuca rubra (Red Fescue)</b>			X	X				
<b>Festuca ovina (Sheep's-fescue)</b>							X	
	1	4	5	6	7	9	10	
<b>Lolium perenne (Perennial Rye-grass)</b>			X				X	

Species	Target note							
<b>Poa annua (Annual Meadow-grass)</b>						X		
<b>Poa trivialis (Rough Meadow-grass)</b>	X		X	X	X	X	X	
<b>Schedonorus arundicaceus (Tall Fescue)</b>							X	X
<b>Secale cereale (Rye)</b>								X
<b>Trisetum flavescens (Yellow Oat-grass)</b>							X	
<b>Vulpia myuros (Rat's-tail Fescue)</b>			X					X
<b>j) Herbaceous species - other</b>								
<b>Achillea millefolium (Yarrow)</b>			X					
<b>Anthemis cotula (Stinking Chamomile)</b>					X			
<b>Anthriscus sylvestris (Cow Parsley)</b>					X		X	
<b>Aphanes arvensis (Parsley-piert)</b>	X						X	
<b>Arenaria serpyllifolia (Thyme-leaved Sandwort)</b>	X						X	
<b>Artemisia vulgaris (Mugwort)</b>			X			X	X	
<b>Ballota nigra (Black Horehound)</b>			X				X	
<b>Brassica oleracea (Wild Cabbage)</b>								X
<b>Capsella bursa-pastoris (Shepherd's-purse)</b>	X				X	X		
	1	4	5	6	7	9	10	
<b>Carduus crispus (Wetted Thistle)</b>						X		X

Species	Target note							
<b>Centaurea cyanus (Cornflower)</b>								X
<b>Centaurea scabiosa (Greater Knapweed)</b>							X	
<b>Cerastium fontanum (Common Mouse-ear)</b>	X						X	
<b>Cerastium glomeratum (Sticky Mouse-ear)</b>	X							
<b>Chenopodium hybridum (Maple-leaved Goosefoot)</b>			X					
<b>Chenopodium album (Fat-hen)</b>	X	X					X	
<b>Chenopodium ficifolium (Fig-leaved Goosefoot)</b>	X						X	
<b>Cichorium intybus (Chicory)</b>				X				X
<b>Cirsium arvense (Creeping Thistle)</b>	X					X	X	
<b>Cirsium vulgare (Spear Thistle)</b>						X		X
<b>Conium maculatum (Hemlock)</b>						X		
<b>Convolvulus arvensis (Field Bindweed)</b>							X	
<b>Crepis capillaris (Smooth Hawk's-beard)</b>						X		
<b>Epilobium hirsutum (Great Willowherb)</b>	X							
<b>Epilobium tetragonum (Square-stalked Willowherb)</b>	X							
<b>Euphorbia helioscopia (Sun Spurge)</b>					X		X	
	1	4	5	6	7	9	10	

Species	Target note				
<b>Fallopia convolvulus (Black-bindweed)</b>	X				X
<b>Fumaria officinalis ssp. wirtgenii (Common Fumitory)</b>			X		X
<b>Galium aparine (Cleavers)</b>	X				
<b>Galium verum (Lady's Bedstraw)</b>				X	
<b>Geranium dissectum (Cut-leaved Crane's-bill)</b>			X		
<b>Geranium molle (Dove's-foot Crane's-bill)</b>	X		X	X	X
<b>Geranium pusillum (Small-flowered Crane's-bill)</b>		X	X	X	X
<b>Geranium pyrenaicum (Hedgerow Crane's-bill)</b>				X	X
<b>Helminthotheca echioides (Bristly Oxtongue)</b>					X
<b>Heracleum sphondylium (Hogweed)</b>				X	
<b>Jacobaea vulgaris (Common Ragwort)</b>			X	X	
<b>Lactuca serriola (Prickly Lettuce)</b>	X			X	
<b>Lamium amplexicaule (Henbit Dead-nettle)</b>					X
<b>Lapsana communis (Nipplewort)</b>	X				
<b>Legousia hybrida (Venus's-looking-glass)</b>					X
<b>Lepidium coronopus (Swine-cress)</b>	X				
<b>Lipandra polysperma (Many-seeded Goosefoot)</b>	X				

Species	Target note							
	1	4	5	6	7	9	10	
<b>Lotus corniculatus (Common Bird's-foot-trefoil)</b>			X					
<b>Lycopsis arvensis (Bugloss)</b>		X		X		X		
<b>Matricaria chamomila (Scented Mayweed)</b>	X							
<b>Matricaria discoidea (Pineappleweed)</b>	X			X		X		
<b>Medicago lupulina (Black Medick)</b>			X			X		
<b>Myosotis arvensis (Field Forget-me-not)</b>					X			
<b>Onobrychis viciifolia (Sainfoin)</b>			X		X			
<b>Papaver dubium (Long-headed Poppy)</b>	X			X		X	X	
<b>Papaver rhoeas (Common Poppy)</b>	X	X		X	X	X	X	
<b>Persicaria lapathifolia (Pale Persicaria)</b>	X							
<b>Persicaria maculosa (Redshank)</b>	X							
<b>Phacelia tanacetifolia (Phacelia)</b>	X							
<b>Plantago lanceolata (Ribwort Plantain)</b>			X		X	X		
<b>Plantago major (Greater Plantain)</b>	X							
<b>Polygonum aviculare (Knotgrass)</b>	X	X		X		X		
<b>Polygonum depressum (Equal-leaved Knotgrass)</b>	X							

Species	Target note							
	1	4	5	6	7	9	10	
<b>Raphanus sativus (Garden Radish)</b>							X	
<b>Reseda lutea (Wild Mignonette)</b>			X			X		
<b>Rosa canina (Dog-rose)</b>						X		
<b>Rumex crispus (Curled Dock)</b>	X		X			X	X	
<b>Rumex obtusifolius (Broad-leaved Dock)</b>	X				X		X	
<b>Sagina procumbens (Procumbent Pearlwort)</b>	X							
<b>Senecio vulgaris (Groundsel)</b>	X			X	X	X		
<b>Silene latifolia (White Champion)</b>		X	X	X	X	X	X	
<b>Silene noctiflora (Night-flowering Catchfly)</b>						X		
<b>Silene vulgaris (Bladder Champion)</b>						X		
<b>Silene x hampeana (Hybrid Champion)</b>					X			
<b>Sinapis arvensis (Charlock)</b>	X					X		
<b>Sisymbrium officinale (Hedge Mustard)</b>					X	X		
<b>Solanum nigrum (Black Nightshade)</b>		X						
<b>Sonchus asper (Prickly Sow-thistle)</b>	X		X		X	X	X	
<b>Sonchus oleraceus (Smooth Sow-thistle)</b>					X			

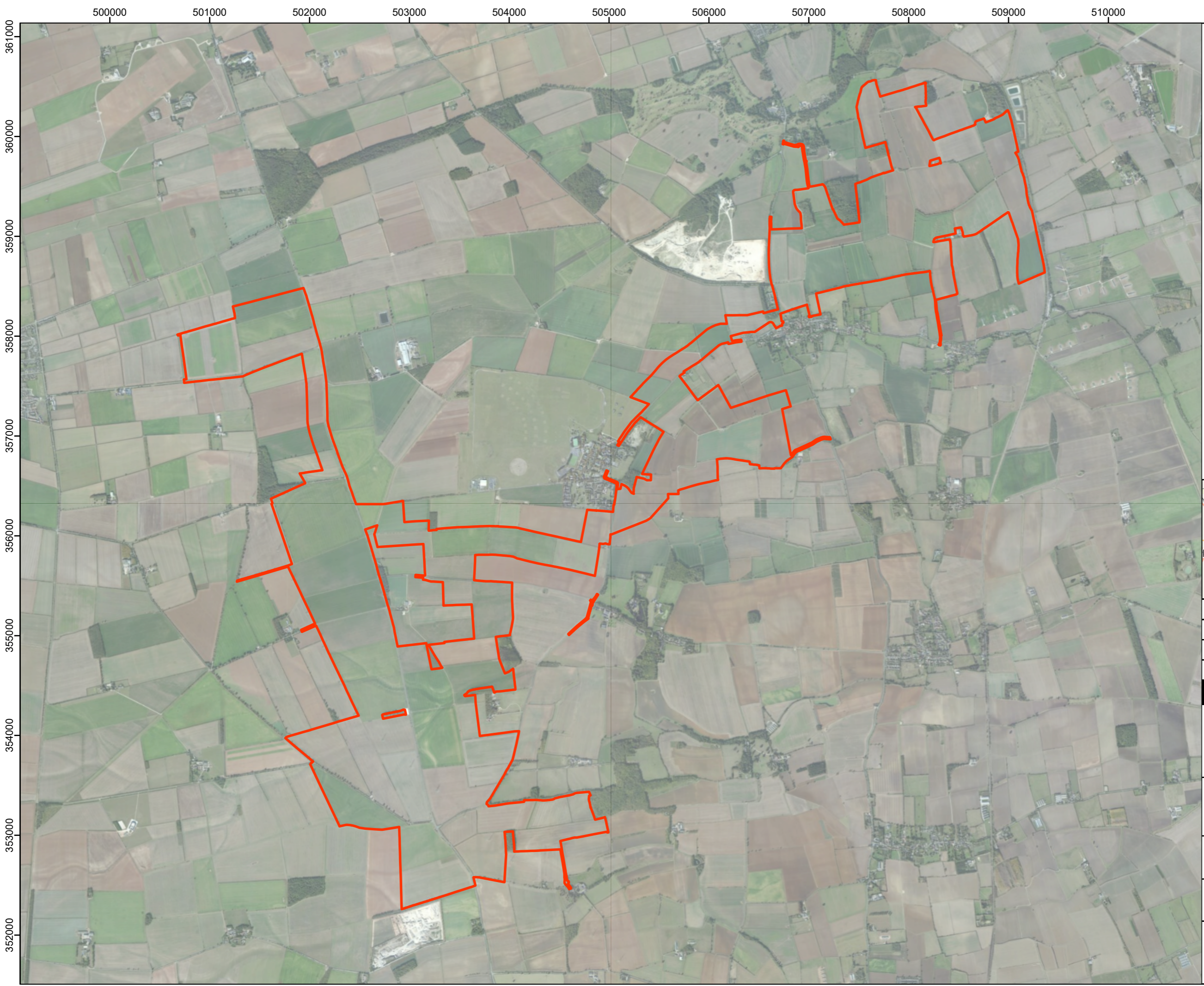
Species	Target note							
<b>Stellaria media (Common Chickweed)</b>	X				X	X		
<b>Taraxacum sect. Taraxacum (Common Dandelion)</b>					X	X	X	
	1	4	5	6	7	9	10	
<b>Thlaspi arvense (Field Penny-cress)</b>							X	
<b>Tragopogon pratensis (Goat's-beard)</b>							X	
<b>Trifolium pratense (Red Clover)</b>			X					
<b>Trifolium repens (White Clover)</b>	X		X				X	
<b>Tripleurospermum inodorum (Scentless Mayweed)</b>	X							
<b>Tussilago farfara (Colt's-foot)</b>		X						
<b>Urtica dioica (Common Nettle)</b>							X	
<b>Urtica urens (Small Nettle)</b>		X		X			X	
<b>Veronica arvensis (Wall Speedwell)</b>	X	X		X			X	
<b>Veronica chamaedrys (Germander Speedwell)</b>	X						X	
<b>Veronica hederifolia (Ivy-leaved Speedwell)</b>							X	
<b>Veronica persica (Common Field-speedwell)</b>	X	X	X	X	X	X	X	
<b>Veronica polita (Grey Field-speedwell)</b>		X					X	
<b>Vicia sativa ssp segetalis (Common Vetch)</b>	X		X				X	


Species	Target note							
<b>Vicia villosa (Fodder Vetch)</b>						X		
<b>Viola arvensis (Field Pansy)</b>		X			X		X	X
<b>Viola tricolor (Wild Pansy)</b>							X	
	1	4	5	6	7	9	10	
<b>Viola x contempta (Hybrid Pansy)</b>					X			

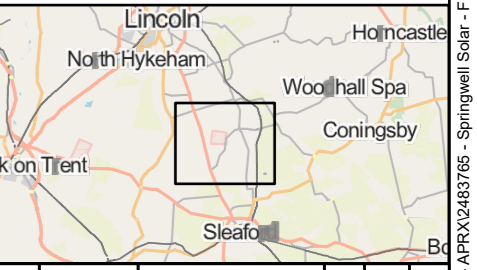


# Figure 1 - Site Location





LEGEND:  
 Order Limits



Rev	Date	Description	Drn	Chk	App
01	NOV 2024	DCO SUBMISSION	RSK	RSK	EDF

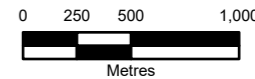
**Springwell Solar Farm**




DOCUMENT:  
 ENVIRONMENTAL STATEMENT  
 VOLUME 3, APPENDIX 7.8: NOTABLE  
 ARABLE FLORA SURVEY  
 REGULATION 5(2)(a)

TITLE:  
 FIGURE 1 SITE LOCATION

PINS REFERENCE NUMBER:  
 EN010149/APP/6.3



Scale: 1:35,000 @ A3



REV 01

# Figure 2 - Arable Survey Locations

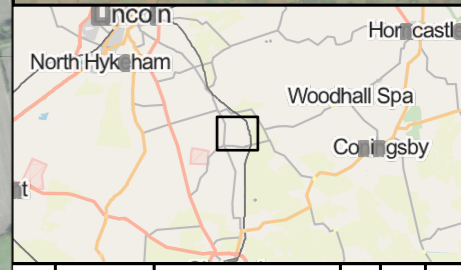
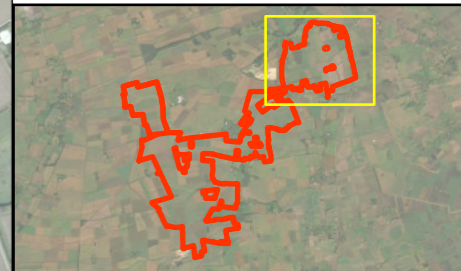


506000 506200 506400 506600 506800 507000 507200 507400 507600 507800 508000 508200 508400 508600 508800 509000 509200 509400 509600 509800 510000



**LEGEND:**

- Survey Area
- Sugar Beet Field
- Maize field
- Target Note



Rev	Date	Description	Drn	Chk	App
01	NOV 2024	DCO SUBMISSION	RSK	RSK	EDF

**Springwell Solar Farm**

**DOCUMENT:**  
 ENVIRONMENTAL STATEMENT  
 VOLUME 3, APPENDIX 7.8: NOTABLE  
 ARABLE FLORA SURVEY  
 REGULATION 5(2)(a)

**TITLE:**  
 FIGURE 2 ARABLE SURVEY LOCATIONS,  
 PAGE 1 OF 2

**PINS REFERENCE NUMBER:**  
 EN010149/APP/6.3

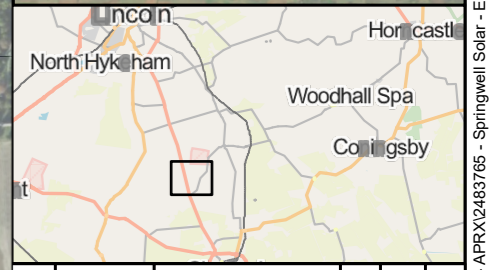
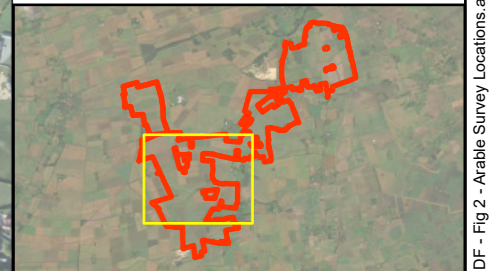
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REV 01



**LEGEND:**

- Survey Area
- Sugar Beet Field
- Target Note



01	NOV 2024	DCO SUBMISSION	RSK	RSK	EDF
Rev	Date	Description	Drn	Chk	App

**Springwell Solar Farm**

**DOCUMENT:**  
 ENVIRONMENTAL STATEMENT  
 VOLUME 3, APPENDIX 7.8: NOTABLE  
 ARABLE FLORA SURVEY  
 REGULATION 5(2)(a)

**TITLE:**  
 FIGURE 2 ARABLE SURVEY LOCATIONS,  
 PAGE 2 OF 2

**PINS REFERENCE NUMBER:**  
 EN010149/APP/6.3

Scale: 1:12,000 @ A3

REV 01



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