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| <b>Report Title</b> | Proposed Biomass Plant, Land adjacent to Bryn Lane, Wrexham Industrial Estate - Ecology Report |
| <b>Client</b>       | Green Plan Energy Ltd                                                                          |
| <b>Date</b>         | June 2010                                                                                      |

this report was produced by



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| <b>Client</b>              | Green Plan Energy Ltd                                                                          |
| <b>Marches Ecology Ref</b> | C070/GPE/EcoRpt                                                                                |
| <b>Date issued</b>         | June 2010                                                                                      |
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*Figure 1 – Site Location and Butterfly Habitat Assessment Plan*

## 1 INTRODUCTION

### 1.1 Project Background

- 1.1.1 Marches Ecology was commissioned by Green Plan Energy Ltd to provide an ecology report in connection with a proposed biomass plant on land adjacent to Bryn Lane, Wrexham Industrial Estate, Wrexham (OS Grid Ref. SJ 390 501) (refer to *Figure 1* which indicates the boundary of the proposed development site). This report is further to surveys undertaken in 2008 as part of a proposal for an unconnected development which was reported in:

Marches Ecology (2008). *Kingmoor Park, Bryn Lane, Wrexham Industrial Estate – Ecological Surveys*. Unpublished report on behalf of Kingmoor Properties Ltd.

- 1.1.2 Marches Ecology (2008) reported on surveys undertaken to determine the presence/ likely absence of Lesser Silver Water Beetle (*Hydrochara caraboides*) and to assess habitat quality for two species of butterfly; Grizzled Skipper (*Pyrgus malvae*) and Dingy Skipper (*Erynnis tages*). The surveys were carried out in August 2008 in response to a request by the Countryside Council for Wales (CCW).
- 1.1.3 The proposed biomass plant which is the subject of this current report comprises part of the site referred to as 'Plot 1' within Marches Ecology (2008). It is understood that Kingmoor Park Properties Ltd has kindly authorised Green Plan Energy Ltd to utilise the data included within Marches Ecology (2008). As the location of the proposed biomass plant does not include any ponds, this report will concentrate on Grizzled Skipper and Dingy Skipper only and will not refer to Lesser Silver Water Beetle.
- 1.1.4 This report is provided in support of the planning application for the proposed biomass plant; it has three principal aims:
- to assess the quality of the habitat, and therefore its potential to support, Grizzled and Dingy Skippers (based on the 2008 survey data);
  - to detail further surveys that may be required; and
  - to identify potential development constraints relating to these species and outline potential mitigation.
- 1.1.5 Marches Ecology (2008) comprised an ecological background data search and review of information held by Marches Ecology, and a (2008) site visit to appraise the potential habitat value for the two butterfly species. This report reproduces the findings of this survey in relation to the proposed development site for the biomass plant. No further update visit has been undertaken subsequent to the 2008 habitat assessment.

### 1.2 Legislation and Policy

#### Introduction

- 1.2.1 This sub-section provides a brief summary of key relevant legislation. It should not be considered a comprehensive review and is not meant to be so. It is provided here for information only and is not intended to replace specialised legal advice. It does not replace the text of the legislation, but summarises the salient points.

**Grizzled Skipper**

- 1.2.2 The Grizzled Skipper (*Pyrgus malvae*) is listed as a 'Species of principal importance for the conservation of biological diversity in Wales' under *Section 42* of the *Natural Environment and Rural Communities Act 2006 (NERC Act 2006)*.
- 1.2.3 The Grizzled Skipper is included as a priority species in the UK Biodiversity Action Plan (UK BAP). It is also identified as 'Locally Threatened' on the Provisional List of Locally Important/Endangered Species in the Wrexham Biodiversity Action Plan (Wrexham County Borough 2003). Butterfly Conservation (a charitable non-governmental organisation) has produced a National Action Plan for Wales (Joy & Bourn, 1998). This plan identifies the Grizzled Skipper as a high priority species important in Wales.

**Dingy Skipper**

- 1.2.4 The Dingy Skipper (*Erynnis tages*) is listed as a 'Species of principal importance for the conservation of biological diversity in Wales' under *Section 42* of the *Natural Environment and Rural Communities Act 2006 (NERC Act 2006)*. It is also a UK BAP priority species. It is identified by Butterfly Conservation as a medium priority species important in Wales.

**1.3 Structure of this Report**

- 1.3.1 The remainder of this report is structured as follows:

*Section 2* describes the survey methodology;

*Section 3* describes the results;

*Section 4* outlines ecological issues including potential mitigation; and

*Section 5* contains the target notes.

A further section gives references.

## 2 METHODOLOGY

### 2.1 Contextual Information/ Ecological Background Data Search

2.1.1 Marches Ecology (2008) collated existing records for Grizzled and Dingy Skipper particularly from Wrexham Industrial Estate from Zara Lomax (Wrexham County Borough Council, Ecologist). The data supplied was supplemented by records held by Marches Ecology from other studies undertaken around the Industrial Estate. A general request for data within 1 km of the survey site was also submitted to Cofnod (the North Wales Environmental Information Service).

2.1.2 In addition widely available contextual information was consulted as follows:

- the National Biodiversity Network Gateway (<http://www.searchnbn.net>);
- UK Biodiversity Action Plan (UKBAP); and
- Wrexham Biodiversity Action Plan.

The data search has not been updated for this report.

### 2.2 Grizzled Skipper and Dingy Skipper Habitat Assessment

2.2.1 The main flight period for the Grizzled Skipper in North Wales is usually from late April/ early May up to mid-June. The main flight period of the Dingy Skipper in North Wales is usually from the first or second week of May up to the start of July. Survey of the proposed development site concentrated on assessing the potential quality of the habitat for these two species.

2.2.2 The habitat assessment survey was carried out on 4<sup>th</sup> August 2008 by Tom Knight and Max Ellson of Marches Ecology (Marches Ecology 2008). The weather was warm and sunny with occasional light showers and a light breeze. This survey included the proposed development site for the biomass plant (referred to as 'Plot 1' in Marches Ecology, 2008). Target Notes (provided in *Section 5*) describe vegetation types and other features of interest; the numbers used are as Marches Ecology (2008).

2.2.3 A simple qualitative scale (*Tables 1 and 2* below) was used to categorise habitat value so that it could be mapped (*Figure 1*). As a subjective survey tool it is entirely reliant on surveyor experience. The boundaries between different habitat categories shown in *Figure 1* are often arbitrarily drawn and should be treated as such when interpreting this map.

2.2.4 The habitat assessment scales have been adapted from parameters detailed in the following texts:

- Brereton, T.M., Bourn, N.A.D., Warren, M.S. (1998). *Species Action Plan – Grizzled Skipper Pyrgus malvae*. Butterfly Conservation, Wareham.
- Bourn, N.A.D., Jeffcoate, G.E. & Warren, M.S. (2000). *Species Action Plan – Dingy Skipper Erynnis tages*. Butterfly Conservation, Wareham.
- Ellis, J. (2006). *Brownfield Sites of Conservation Importance for Butterflies and Moths in the West Midlands – Butterfly Conservation Report S06-09*. Butterfly Conservation, East Lulworth. Unpublished report.

- Joy, J, & Bourn, N. (1998). *National Action Plan for Wales*. Butterfly Conservation, Wareham.

Although the Grizzled Skipper and Dingy Skipper often inhabit broadly similar habitat patches within brownfield sites (and can be found in the same area) there are certain habitat parameters that are preferential for each species. Such parameters include the Dingy Skipper's preference for shorter vegetation especially at egg-laying plants and more obviously the different larval host-plants. It was therefore felt that a separate assessment scale was required for each species.

*Table 1 – Grizzled Skipper Habitat Assessment*

| Value    | Habitat Parameters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| None     | <p>The habitat includes at least two of the following parameters, including one of the first two listed.</p> <ul style="list-style-type: none"> <li>The vegetation is likely to be species-poor or have an unsuitable structure;</li> <li>There are no larval food-plants present;</li> <li>There is no bare ground or short/ sparse vegetation;</li> <li>The site may be very open or scrubbing over (may include barriers to dispersal).</li> </ul>                                                                                                                                                                                                    |
| Low      | <p>The habitat includes at least three of the following parameters, including both of the first two listed.</p> <ul style="list-style-type: none"> <li>Relatively species-poor vegetation with few nectar sources;</li> <li>The key larval food-plants are occasional at most;</li> <li>The vegetation structure is sub-optimal for the species (e.g. it may be too tall and rank);</li> <li>There are few larval food-plants located in suitable egg-laying conditions;</li> <li>Bare ground is infrequent at most;</li> <li>Little shelter is provided or scrub colonisation may be well advanced.</li> </ul>                                          |
| Moderate | <p>The habitat includes at least three of the following parameters, including both of the first two listed.</p> <ul style="list-style-type: none"> <li>Vegetation is moderately species-rich with few potential nectar sources;</li> <li>The key larval food-plants may be locally frequent but are not found throughout the area;</li> <li>The optimal height around larval food-plants may not always be achieved (e.g. due to lack of grazing or other management);</li> <li>Bare ground is present but may not be frequent;</li> <li>The vegetation may not provide a range of conditions;</li> <li>The site may or may not be sheltered.</li> </ul> |
| High     | <p>The habitat includes at least four of the following parameters, including both of the first two listed.</p> <ul style="list-style-type: none"> <li>Abundant spring (April to mid-June) nectar sources;</li> <li>Abundance of at least one of the following key larval food-plants: Agrimony, Creeping Cinquefoil, Wild Strawberry, or more infrequently Barren Strawberry and Tormentil;</li> <li>Larval food-plants are growing in short (&lt;10 cm), herb-rich vegetation;</li> <li>Bare ground is frequent with larval food-plants often adjacent;</li> </ul>                                                                                      |

| Value | Habitat Parameters                                                                                                                                                                                                                                                                                        |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | <ul style="list-style-type: none"> <li>• A vegetation mosaic exists whereby patches of taller vegetation (10-50 cm) are present;</li> <li>• Some taller vegetation with larger leaves (e.g. Bramble and larger cinquefoil leaves);</li> <li>• Sheltered, sunny site (by scrub/woodland edges).</li> </ul> |

Table 2 – Dingy Skipper Habitat Assessment

| Value    | Habitat Parameters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| None     | <p>The habitat includes at least three of the following parameters, including one of the first two listed.</p> <ul style="list-style-type: none"> <li>• The vegetation is likely to be species-poor or have an unsuitable structure;</li> <li>• There are no larval food-plants present;</li> <li>• There is no bare ground or short/ sparse vegetation;</li> <li>• The site may be very open or scrubbing over (may include barriers to dispersal);</li> <li>• The site may be heavily grazed in spring/ summer.</li> </ul>                                                                                                                                                                                                                                                                      |
| Low      | <p>The habitat includes at least three of the following parameters, including one of the first two listed.</p> <ul style="list-style-type: none"> <li>• Relatively species-poor vegetation with few nectar sources;</li> <li>• The key larval food-plant is occasional at most;</li> <li>• The vegetation structure is sub-optimal for the species (e.g. it may be too tall and rank);</li> <li>• There are few larval food-plants located in suitable egg-laying conditions;</li> <li>• Bare ground is very infrequent;</li> <li>• Little shelter is provided or scrub colonisation may be well advanced.</li> </ul>                                                                                                                                                                             |
| Moderate | <p>The habitat includes at least three of the following parameters, including both of the first two listed.</p> <ul style="list-style-type: none"> <li>• Vegetation is moderately species-rich with few potential nectar sources;</li> <li>• The key larval food-plant may be locally frequent but is not found throughout the area;</li> <li>• The optimal height around larval food-plants may not always be achieved (e.g. due to lack of grazing or other management);</li> <li>• Bare ground is present but may not be frequent;</li> <li>• The vegetation may not provide a range of conditions;</li> <li>• Suitable habitat covers an area of less than 2 hectares;</li> <li>• The site may or may not be sheltered;</li> <li>• Grazing regime may not be entirely appropriate.</li> </ul> |
| High     | <p>The habitat includes at least four of the following parameters, including both of the first two listed.</p> <ul style="list-style-type: none"> <li>• Abundant spring (April to mid-June) nectar sources;</li> <li>• Abundance of the key larval food-plant: Common Bird's-foot-trefoil (or sometimes Greater Bird's-foot-trefoil);</li> <li>• Larval food-plants are growing in short (&lt;5 cm) or sparse, herb-rich vegetation;</li> <li>• Bare ground/ rock is frequent, often large, with larval food-plants often adjacent;</li> </ul>                                                                                                                                                                                                                                                    |

| Value | Habitat Parameters                                                                                                                                                                                                                                                                                                                                                             |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | <ul style="list-style-type: none"><li>• Bare ground is frequent;</li><li>• A vegetation mosaic exists whereby patches of taller vegetation (10-50 cm) are present.</li><li>• Suitable habitat covers an area in excess of 2 hectares;</li><li>• Sheltered, sunny site (by scrub/woodland edges);</li><li>• Absence of heavy grazing (particularly in spring/summer).</li></ul> |

### 3 RESULTS

#### 3.1 Contextual Information

##### Brief Summary of Grizzled and Dingy Skipper Ecology

- 3.1.1 The Grizzled Skipper occurs in several different habitats, all of which are characterised by short vegetation, warmth and shelter from prevailing winds. These include woodland edges and rides, chalk downs, where scrub encroachment has produced pockets of (largely unimproved) grassland and their food-plants thrive, sheltered hill-sides and valleys, and young coppice. It is frequently found on post-industrial brownfield sites, although it is more typical of woodland rides and chalk downland. The species typically lives in small (less than 50 individuals), self-contained colonies often in sheltered locations. On brownfield sites one of the main habitat requirements appears to be a plentiful supply of food-plants, patches of bare ground, and an abundance of spring nectar plants. The larval host-plants include *Agrimonia eupatoria* (Agrimony) and *Potentilla reptans* (Creeping Cinquefoil). The distribution of Creeping Cinquefoil is often linked to shallow surface disturbances and the occurrence of sparse, open swards.
- 3.1.2 Skippers are active usually only on warm days or in bright sunshine, when they can be seen darting from flower to flower or to and from perches on low vegetation. They usually keep low to the ground and rarely stray from their favoured habitats. Males are often fiercely territorial and spend much of their active lives perched on a vantage point, from which they assail other males and other small passing insects which pass within a few metres. Warm, sheltered positions are chosen in the hope that these will attract females. Adults usually roost in tall ungrazed or uncut vegetation (around 40 cm).
- 3.1.3 Unlike other British skippers, both the Grizzled and Dingy Skipper can have small second broods in hot years, but are usually univoltine. Eggs are laid singly or in small groups onto the food-plants. These include a variety of plants of the family *Rosaceae* including *Fragaria vesca* (Wild Strawberry), *Potentilla reptans* (Creeping Cinquefoil), *Agrimonia eupatoria* (Agrimony), *Potentilla erecta* (Tormentil) and *Potentilla anserina* (Silverweed). The species is also recorded as using *Rubus fruticosus* agg. (Bramble). Egg-laying principally takes place on plants in short vegetation (less than 10 cm) or bare ground.
- 3.1.4 The Dingy Skipper is found in a range of open habitats and favours areas of bare earth, with taller vegetation for roosting. The larval host-plant is *Lotus corniculatus* (Common Bird's-foot-trefoil) which is a common and widespread species. It similarly lives in small (less than 50 individuals), self-contained colonies.

##### Status of Grizzled and Dingy Skipper in (north) Wales

- 3.1.5 There are around 10-15 known colonies of Grizzled Skipper in Wales (Asher *et. al.* 2001) and approximately three in Clwyd (Brereton *et. al.* 1998). The Grizzled Skipper is generally thought to be under-recorded in Wales, and other colonies may be present within Wrexham Industrial Estate where suitable habitat exists (comprising a meta-population distributed across the Industrial Estate with occasional dispersal between sub-populations). Sub-populations within a meta-population can be subject to local extinctions and re-colonisations.

It is now known that Grizzled Skippers are present on several land parcels distributed across the Industrial Estate.

- 3.1.6 The Dingy Skipper remains relatively widespread in north Wales and can be found in large numbers at some sites. It is largely uncommon due to loss of habitat in recent years.

## 3.2 Ecological Background Data Search

- 3.2.1 Zara Lomax provided records of Grizzled and Dingy Skipper for two 10-km squares; SJ34 and SJ35 (Marches Ecology 2008). The proposed development site is located within SJ35. These records cover a period from 1995 to 2004 and are from a database held by Butterfly Conservation. They include nine records of Grizzled Skipper from three different sites and ten records of Dingy Skipper from three different sites. *Table 3* below provides a summary of these records.

*Table 3 – (2008) Records of Grizzled and Dingy Skipper supplied by WCBC*

| Species          | Grid Ref.                                        | No. of Records | Years     | Highest no. Seen |
|------------------|--------------------------------------------------|----------------|-----------|------------------|
| Grizzled Skipper | SJ386 493; The Oaks                              | 5              | 1998-2004 | 11               |
|                  | SJ381 488; Spectrum Industrial Estate (WAG land) | 2              | 2004      | 6                |
|                  | SJ380 502; Norish FP Ltd                         | 2              | 2004      | 2                |
| Dingy Skipper    | SJ386 493; The Oaks                              | 5              | 1995-2004 | 2-9              |
|                  | SJ381 488; Spectrum Industrial Estate (WAG land) | 3              | 2004      | 19               |
|                  | SJ380 502; Norish FP Ltd                         | 2              | 2004      | 4                |

- 3.2.2 Marches Ecology (2008) also provided records retained by Marches Ecology for both species from several sites around Wrexham Industrial Estate (obtained during the course of ecological studies for unrelated projects). Permission to reproduce these records was obtained in each case from the client (the data holder). These records are provided in *Table 4* below.

*Table 4 – Records Retained by Marches Ecology*

| Species          | Grid Ref.                                        | Years     | Highest no. Seen |
|------------------|--------------------------------------------------|-----------|------------------|
| Grizzled Skipper | SJ389 501; adjacent to Bryn Lane.                | 2007-2008 | 2                |
|                  | SJ381 488; Spectrum Industrial Estate (WAG land) | 2008      | 4                |
|                  | SJ385 496; adjacent to Abbey Road                | 2008      | 1                |
| Dingy Skipper    | SJ389 501; adjacent to Bryn Lane.                | 2007-2008 | 3                |

- 3.2.3 The land adjacent to Bryn Lane detailed in *Table 4* was the subject of a mitigation programme for both species of butterfly (as well as other, mainly legally protected, species). It is currently subject to ongoing habitat management for these butterflies.

- 3.2.4 Cofnod provided no records of Grizzled Skipper or Dingy Skipper within 1 km of the survey site. A review of species records on the NBN website for the wider area provided no further records.

### **3.3 Grizzled Skipper and Dingy Skipper Habitat Assessment**

#### **Habitat Description**

- 3.3.1 The proposed development site for the biomass plant extends to approximately 1 hectare (2.52 acres) (*Target Note 15*). It comprises part of a field unit that is characterised by a rank, species-poor sward of coarse grasses and tall herbs. The sward is generally between 0.4 m to 1 m and it has not been subject to recent grazing or management. The vast majority of the area is therefore unlikely to be of any potential value to the two target species. A small area in the south of the site does provide some low value potential habitat for Dingy Skipper (where scattered *Lotus corniculatus* (Common Bird's-foot trefoil) and associated bare areas occur adjacent to hard-standing).

### **3.4 Summary of Findings**

- 3.4.1 Available habitat within the proposed development site is largely unsuitable for either Grizzled or Dingy Skipper. A small area adjacent to existing hard-standing is considered to provide low potential value for Dingy Skipper. The size of the area concerned however is unlikely to be able to support a population of more than a few individuals at most. It is more likely that the habitat, if used at all by Dingy Skippers, may act as a stepping stone for the larger meta-population that inhabits suitable habitat patches throughout Wrexham Industrial Estate. However most Dingy Skippers stay within small discrete colonies. The Dingy Skipper is a sedentary species unlikely to colonise new areas unless suitable habitat is directly adjacent to an existing population. This may reduce the possibility of inter-change of individuals between the proposed development site and other populations within the Industrial Estate or the chance of colonisation in the first place. However observations of natural colonisations suggest that some individual Dingy Skippers can move several kilometres (Bourn *et al.* 2000).
- 3.4.2 The closest known populations of both species to the proposed development site are located immediately adjacent to Bryn Lane and directly east of the proposed development site. This land is located approximately 40 m from the boundary of the proposed development site at its closest point.

## **4 ECOLOGICAL ISSUES**

### **4.1 General**

- 4.1.1 The proposed development is illustrated on an Antonia Garcia Architecture plan entitled 'Green Plan Energy Ltd, Wrexham Industrial Estate Biomass Plant, Location Plan – Proposed' (drawing no. Li 56 86 - 1251, dated 23/11/09). Further detail is provided in a 'screening letter' (dated 01/12/09) sent to Wrexham County Borough Council by How Planning Ltd. The plan/ screening letter describes the proposed renewable energy generation facility. Two industrial B8 type buildings will be constructed and the facility will have an operating capacity of up to 3 MW and will be fuelled by clean wood-chip. The proposed throughput would be no more than 22,500 tonnes per annum. The site would receive approximately three articulated vehicles per day. The proposed facility will generate both electrical and heat energy. It is proposed to export the generated electricity to the National Grid via a sub station to be located within the proposed facility. The excess heat will be offered to existing operators on the Industrial Estate as well as being recycled within the site. It is proposed that the facility would be served by a new access off Bryn lane.
- 4.1.2 Drawing no. Li 56 86 – 1251 indicates that landscaped areas will be provided around the building/ associated infrastructure (particularly on the southern/ eastern sides), although no detailed landscape design has been reviewed for this report.
- 4.1.3 This information has been used to provide an assessment of ecological issues as follows:
- a brief assessment of the potential impacts of the proposed development on the Grizzled and Dingy Skipper;
  - further survey requirements; and
  - potential development constraints and associated mitigation requirements.

### **4.2 Brief Impact Assessment**

- 4.2.1 It has been confirmed by How Planning Ltd that the area identified as providing potentially low value habitat to Dingy Skipper is outwith the footprint of built infrastructure within the proposed development site. The area could therefore be retained within the landscaped areas, resulting in no loss of potential habitat for Dingy Skipper. The proposed development will therefore result in no impact on this species.
- 4.2.2 No impacts are predicted on potential habitat for Grizzled Skipper.

### **4.3 Further Survey and Mitigation**

- 4.3.1 No further survey is required for Grizzled or Dingy Skippers.
- 4.3.2 The small stand of vegetation in the south of the proposed development site (with low value potential habitat for Dingy Skipper) which will be retained should be protected during the construction period. It will be necessary to stop site personnel/ machinery entering this area of habitat in order to prevent accidental damage. This should be accomplished through the

use of appropriate fencing combined with signs. In addition site awareness should be achieved through tool-box talks or a site induction (for all site personnel) that incorporates the identification of this ecologically sensitive area that should not be accessed as well as 'best practice' working procedures.

- 4.3.3 The inclusion of landscaped areas around the proposed development footprint (as detailed on drawing no. Li 56 86 – 1251) provides the opportunity for biodiversity gain. Where possible grassland should be created for the potential benefit of the two butterfly species by creation of an appropriate substrate and subsequent seeding with a (British) native seed mix that incorporates a significant proportion of the key larval host-plants (e.g. Common Bird's-foot-trefoil, Creeping Cinquefoil and Agrimony). If possible the substrate should be created by utilising broken-up concrete mixed with under-lying sub-soil material. It is suggested that the sowing rate is low enabling natural colonisation wherever possible. Cultivation of sub-soil and concrete rubble is likely to provide ideal circum-calcareous nutrient-deficient conditions for the development of sparse but species-rich grassland that is likely to exhibit many of the characteristics of vegetation types recorded on brownfield land elsewhere on Wrexham Industrial Estate. Maintenance of the created habitat (as well as the extant resource) may require occasional mowing/ perturbation dependent on the levels of Rabbit grazing.

## 5 TARGET NOTES

*Target Note 15.* This field unit is predominantly characterised by a rank, species-poor sward of coarse grasses and tall herbs. There are no bare patches and the sward is generally between 0.4 m to 1 m. It has not been subject to recent grazing or management. The vast majority of the area is therefore unlikely to be of any potential value to the two target species. A small area in the south of the site does provide some potentially low value habitat to Dingy Skipper – here a small area of low-growing, species-rich unimproved neutral grassland, including scattered *Lotus corniculatus* (Common Bird's-foot trefoil) and associated bare areas occur adjacent to hard-standing.

## 6 REFERENCES

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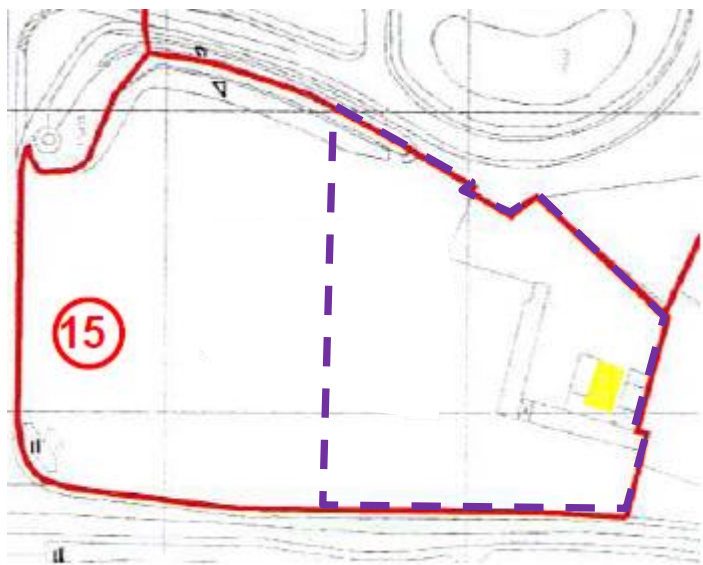
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#### Key – Potential Value of Habitat to Dingy Skipper

- None
- Low
- Medium
- High
- ① Target Note



#### Key – Potential Value of Habitat to Grizzled Skipper

- None
- Low
- Medium
- High

Mapping based on Marches Ecology (2008). Refer to report for reference.



**C070 Proposed Biomass Plant, Land adjacent to Bryn Lane, Wrexham Industrial Estate, Wrexham – Ecology Report**

**Figure 1 – Site Location and Butterfly Habitat Assessment Plan**

Drawn by: ME  
Checked by: TK  
Date: 16.06.10

#### Key

- Approximate proposed development site boundary (biomass plant)