



Marsh Fritillary Survey

Land off Llwyncelyn Road, Glanamman, Carmarthenshire, SA18 2AE

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Summary

I & G Ecological Consulting Ltd were commissioned to undertake a Marsh Fritillary Survey on land at Cwmamman Road, Glanamman, (see Fig. 1). The land is proposed for a housing development, which is to be undertaken in 2 phases. The survey was undertaken on the whole field, which covers an area of approximately 3 hectares in size, on the western outskirts of the village of Glanamman, near Ammanford in Carmarthenshire.

The land consists entirely of Species-rich Purple Moor-Grass and Rush Pasture with a number of narrow drainage ditches running across the site. The habitat is deemed suitable for Marsh Fritillary as it supports populations of Meadow Thistle, Devil's-bit Scabious and Molinia, all vital components of Marsh Fritillary habitat.

The Marsh Fritillary Survey is to be read in conjunction with the supporting Preliminary Ecological Assessment (PEA I&G Sept 2022).

1. Introduction

- 1.1 I & G Ecological Consulting Ltd were commissioned to undertake a Marsh Fritillary Survey in connection with a proposed planning application to develop the site for residential units.
- 1.2 The site lies on the periphery of the Glanamman in the administrative county of Carmarthenshire. The proposed site for the new development is an area of agricultural pasture, bounded by native hedgerow. The site is approximately 3 hectares. See Figure 1 for location.
- 1.3 This Marsh Fritillary Survey Report is being produced in support of the PEA (I&G Sept.2022).
- 1.4 This report provides a summary of the Marsh Fritillary survey undertaken between June and September 2023 and includes recommendations on any ecological constraints/opportunities associated with development at the site.



Figure 1. Location of the site. Grid Ref: SN 66435 13082

2. Regulatory & Planning Framework

UK BAP: Priority Species

Fully protected under the 1981 Wildlife and Countryside Act (Sch.5)

2.1 Marsh Fritillary are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are protected under Section 5 of the Act.

2.2 Invertebrates are protected (under Section 5 of the Act):

- Sale, or offering / exposing for sale
- Possession
- Intentional taking, killing or injuring
- Intentionally / recklessly damaging or destroying its place of shelter / protection
- Intentionally / recklessly disturbing it whilst occupying its place of shelter / protection
- Intentionally / recklessly obstructing access to its place of shelter / protection

- 2.3 Where any works would affect this species, appropriate mitigation measures would be required to prevent killing or injury.
- 2.4 The legislation covers all life stages. Eggs, larvae and adults are covered equally by the legislation.
- 2.5 Under the National Planning Policy Framework (NPPF April 2012), the presence of any Protected Species is a material planning consideration. The ODPM 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System, provide additional advice and support the NPPF.
- 2.6 Marsh Fritillary are Listed on Section 7 of the Environment (Wales) Act 2016. This Act has replaced the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty. It came into force in May 2016.
- 2.7 Section 6 of the Act places a duty on public authorities to ‘seek to maintain and enhance biodiversity’ so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to ‘promote the resilience of ecosystems’. Under Section 6 public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience.
- 2.8 Section 7 of the Act places a duty on public authorities to take steps to maintain and enhance biodiversity. This section replaces the duty in section 42 of the NERC Act 2006. The Section 7 Priority Species under this act is a list of the living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. The Section 7 Priority Habitats is a list of the habitats of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.

3. Survey Methodology for Marsh Fritillary Monitoring

The British Butterfly Monitoring Scheme (*reference UKBMS Factsheet TR1*) states that “Marsh Fritillary populations are best monitored during the adult flight period and when larval webs are evident in late summer.” Both ‘On-the wing’ surveys and ‘Larval Web’ surveys were carried out during optimal months, and under favourable weather conditions.

3.1 Preliminary Preparation

A ‘walk-over’ of the entire site was carried out prior to the start of the surveying period, in order to identify any areas of suitable habitat: i.e., with potential for supporting the Marsh Fritillary in both adult and larval stages. Suitable habitat is identified by the

presence of Devil's-bit Scabious (*Succisa pratensis*) which is the larval food plant, growing within an appropriate sward height – i.e., from 5-15cm. It was determined that the most appropriate method of survey was Sample Transect Search, because patches of the host plant were found scattered throughout the site, with additional dense areas of the host plant.

3.2 Survey Approach

A desk study was carried out to determine the extent of Marsh Fritillary habitat in the surrounding area, and to what extent this supports known populations.

'On the wing' surveying was carried out during June and July, with two surveyors walking the site east to west, spaced at regular intervals, until the entire site had been observed. 'Larval Web' surveying was carried out during the months of mid-August and September focusing on areas of suitable habitat (*Molinia* and Devil's-bit Scabious) predominantly along ditches that cross the site east/west. See figure 4 for focused areas of surveying.

4. Results of the Desk Study

4.1 . Habitat Description

The site is an unmanaged grassland field, with native tree boundaries and lies adjacent to Cwmamman Road, Glanamman near Ammanford. The Site is flanked east and west by small areas of land with a similar Marshy Grassland habitat to that of the survey area. Beyond this, agricultural land dominates, with areas of Scrub and Woodland. There are three Sites of Special Scientific Interest within 2km of the Site: Caeau Pant-y-Bryn (c1.5km NW); Rhosydd Castell-du & Plas-y-bettws (c1.5km SW) and Caeau Nant Garenig (c1km SE). See figures 2 and 3 for aerial image of wider habitats.

The Preliminary Ecological Appraisal (I&G Ecological Consulting Ltd Sept. 2022) noted the presence of a number of features making the site potentially suitable for Marsh Fritillary. Habitats features present include the 3 key plant species typically required for breeding butterflies: Purple Moor-grass, Devil's-bit Scabious and Meadow Thistle.

Purple Moor-grass is mainly concentrated along the ditches running across the site, together with Devil's-bit scabious. Further patches of Scabious can be found scattered within the site, except in the far south where no plants were found.

4.2 Previous Habitat Suitability Surveys

The site and surrounding land were the subject of an assessment of suitability for Marsh Fritillary in 2015. The results were mapped and show that the site was unsuitable. See map extract at Figure 3. (Orange = suitable; black chequer spots = unsuitable whole field and solid grey = unsuitable parts of fields).



Figure 2. Aerial image showing habitats immediately surrounding Site

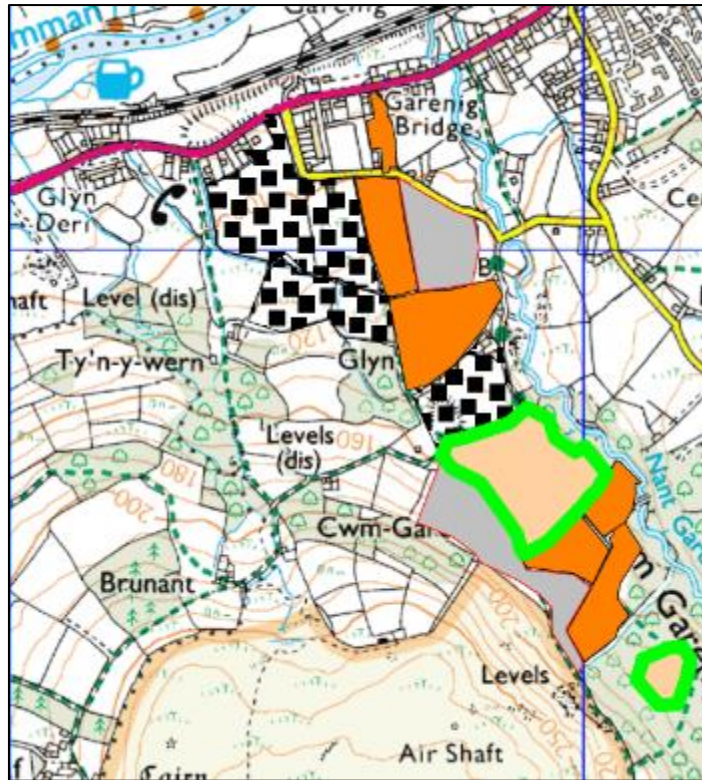


Figure 3. MF Habitat Map 2015 (courtesy of Richard Smith)

5. Site Survey Results

5.1 The aerial image below at Fig. 4 shows the two survey extents. The red area shows the preliminary planning extent (approx. 1.75 hectares), whilst the green area is the extent for the potential additional phase of development (approx. 1.29 hectares.)



Figure 4: Aerial image of the two survey extents surveyed

5.2 A Preliminary Walk-over Survey was carried out to assess the quality, extent and location of suitable habitat on Site. See figure 5, and Tables 1 and 2 for further details.

Table 1 Habitat Management Assessment

Vegetation Height	Abundance	Grazing	Burning	Mown/Cut	Unmanaged
Uniform short > 8cm	Patches	/	/	/	YES
Variable 8-25cm	Most of area	/	/	/	YES
Tussocky >25cm	Patches	/	/	/	YES

Table 2 Habitat Quality Observations

Key Habitat Feature Observations	Widespread & abundant	Frequent (in low density all across site)	Patchy (locally abundant)	Patchy Sparse	Rare
Devil's-bit Scabious			X		
Rushes		X			
Meadow Thistle			X		X
Purple Moor Grass			X		



Fig. 5 Adult Flight Survey - red line indicates route for observation

5.3 Adult ('on-the wing') Sample Transect Surveying was carried out under favourable conditions and during optimum timings. No Marsh Fritillary Butterflies were observed during any periods of surveillance.

Table 3. Adult ('on-the wing') Sample Transect Survey Results

Date	Time	Weather conditions	Results
09/06	9.30-11	17-23 degrees, moderate breeze	Nil
15/06	10-12	21-24 degrees, dry	Nil
08/07	10-12	18-20 degrees, dry, light breeze	Nil

5.4 Larval Web Sample Transect Survey was undertaken during favourable conditions and optimum timings. No larvae of the Marsh Fritillary Butterfly were noted during any periods of surveillance. See Figure 6. for transects.

Table 4. Larval Web Sample Transect Survey

Date	Time	Weather conditions	Results
15/08	10-11.30	19 degrees, gentle breeze, dry	Nil
04/09	11 - 12	23, moderate breeze, dry	Nil
25/09	11-12.30	19, dry, still	Nil

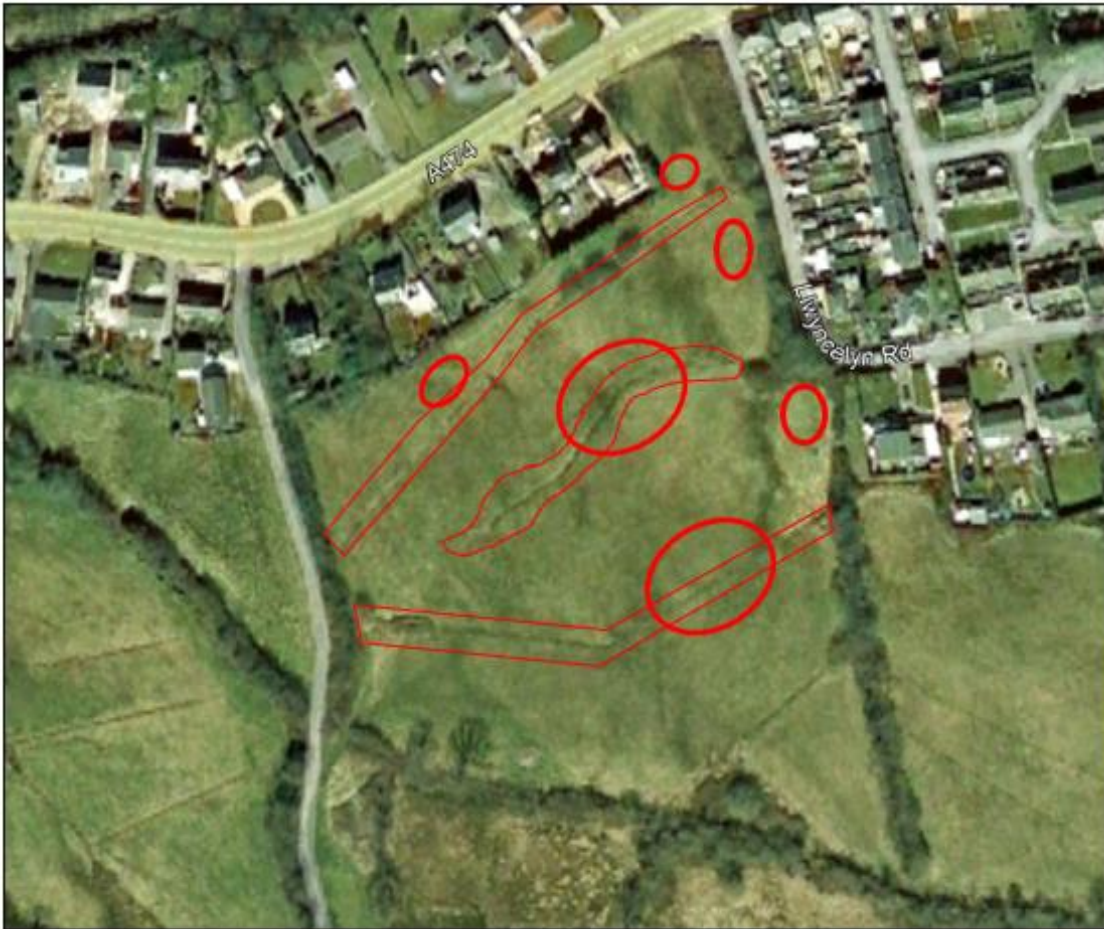


Figure 6. Larval web Transects and host plant populations

Key	
—	Linear Transect (Ditch lines, <i>Molinia</i> present)
○	Dense area of host plant (<i>Cirsium dissectum</i> , <i>Succisa pratensis</i>)

6. Mitigation & Enhancement Recommendations

- 6.1 The site does not appear to support a population of Marsh Fritillary currently, and the habitat suitability is low. However, with the right management (light grazing), the site has the potential to become more suitable. Given the proximity of fields supporting more suitable habitat, this Site could be part of a larger area and support a population or be a stepping stone for meta populations in the area.
- 6.2 The PEA (Sept 2022) states at 5.10.1 “The habitat on site is deemed suitable for marsh fritillary butterfly, with similarities in vegetative composition to that of Rhos pasture, however a general sward more in keeping with semi-improved neutral grassland. Loss

to marsh fritillary habitat should be mitigated via the provision of replacement habitat nearby, or on parts of the site that are to remain undeveloped.”

And recommends at 5.10.2 *“Any mitigation habitat should aim for a varied sward, with a patchwork of short and tall vegetation between 5 and 30cm in height. Devil’s-bit scabious should be replanted in the same density as the current grassland habitat, with year-round grazing by cattle or ponies the preferred means of growth management”.*

- 6.3** If adjacent suitable land (as identified at Figure 3.) is under the control or ownership of the Applicant, then an agreement can be reached to manage the sward for Marsh Fritillary, supported by suitable monitoring, in-line with current best practice.
- 6.4** If the Site Layout occupied only the area outlined red at Figure 4 (Phase 1 of the development) or less, the remainder of the site could contribute to Local projects run by Initiative for Nature Conservation Cymru (INCC), or species targeted schemes run by NRW for Marsh Fritillary.

7. Conclusion

- 7.1** The survey results show that the habitat on site has suitable elements to support a population of Marsh Fritillary however the Adult Flight survey and Larval Web Surveys resulted in no evidence of a population of Marsh Fritillary on the site.

8. References

<https://www.natureconservation.wales/projects/> - INCC website accessed 16/11/23

<https://butterfly-conservation.org/> - Website accessed 10/10/23

Llewellyn, D. Ecological Appraisal Report (Sept. 2022)

9. Legal Disclaimer

I&G Ecological Consulting Legal Disclaimer

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We confirm that in preparing this Report we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work and prevailing site conditions.

Advice in this report is based on the judgment of I&G Ecological Consulting and the interpretation of data gathered during the course of their survey on the property named in this document.

The findings and advice given during the course of this survey is provided by employees of I&G Ecological Consulting acting only on behalf of I&G Ecological Consulting.

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